Query Details

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eMarketer, 2017. Worldwide Ad Spending: The eMarketer Forecast for 2017.

2. Ref. "Berners-Lee et al., 2006" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Shadbolt, N., Berners-Lee, T. and Hall, W., 2006. The semantic web revisited. IEEE intelligent systems, 21(3), pp.96-101.

3. Ref. "McAfee, 2009" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

McAfee, A., 2009. Enterprise 2.0: New collaborative tools for your organization's toughest challenges. Harvard Business Press.

4. Ref. "Huang and Benyoucef (2013)" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Huang, Z. and Benyoucef, M., 2013. From e-commerce to social commerce: A close look at design features. Electronic Commerce Research and Applications, 12(4), pp.246-259.

5. The citation “Naaman (2010)” has been changed to “Naaman (2012)” to match the author name/date in the reference list. Please check if the change is fine in this occurrence and modify the subsequent occurrences, if necessary.

Naaman (2010)

6. Ref. "Komito and Bates (2009)" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Komito, L. and Bates, J., 2009. Virtually local: social media and community among Polish nationals in Dublin. Aslib Proceedings, 61(3), pp.232-244.

7. Ref. "Kitman et al. (2011)" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Kietzmann, J.H., Hermkens, K., McCarthy, I.P. and Silvestre, B.S., 2011. Social media? Get serious! Understanding the functional building blocks of social media. Business horizons, 54(3), pp.241-251.

8. Ref. "Mason and Rennie, 2008" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Mason, R. and Rennie, F., 2008. Social networking as an educational tool. E-learning and social networking handbook: Resources for higher education, pp.1-24.

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O'Reilly, 2005

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Ellison et al. 2014

11. Ref. "Evans et al., 2015" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

Evans, M., Wensley, A. and Frissen, I., 2015. The mediating effects of trustworthiness on social-cognitive factors and knowledge sharing in a large professional service firm. Electronic Journal of Knowledge Management, 13(3), p.240.

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Ebner et al. (2010)

15. Ref. "Murphy (2016)" is cited in the body but its bibliographic information is missing. Kindly provide its bibliographic information in the list.

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19. References [Alexa.com, 2019b, Anderson, 2006, Boling & Robinson, 1999, Boutin, 2011, Bowers-Campbell, 2008, Bubaš et al, 2011, Cornelius et al, 2009, Debate: The Learning Management System Should Be Replaced B, Dholakia et al, 2004, Duggan et al, 2015, Eschenbrenner & Nah, 2007, Kaste, 2011, Koranteng & Wiafe, 2019, Leonardi et al, 2013, Liu et al, 2006, McKnight & Chervany, 2001, McNair, 2017, Omotayo & Babalola, 2016, Prensky, 2001, Rennie & Morrison, 2013, Ryan et al, 2011, Taylor, 2011, Tsai & Ghoshal, 1998] were provided in the reference list; however, this was not mentioned or cited in the manuscript. As a rule, all references given in the list of references should be cited in the main body. Please provide its citation in the body text.

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The challenges of internal social networking for higher education: a brief review of the literature

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Abstract

As social networks become increasingly popular, they have positively changed the business environment by encouraging and providing collaboration opportunities. Social media networks have also enhanced knowledge sharing, innovation, and relationship building, which is growing very fast among enterprises. Many enterprises are assessing the potential of exploiting the commercial opportunities of this technology, which could enhance employee engagement and provide a variety of effects on collaborative work (e.g., relational and personal benefits to organizations). Although these benefits are not only limited to commercial organisations, but also higher education

communities are benefiting, as they enable communication, collaboration, and knowledge exchange between individuals. The interest of academic research is in discovering whether the staff and scientific researchers use enterprise social networks as part of their work practices. This focus is motivated by an apparent schism between a need for researchers to exchange knowledge, collaborate, and the aversion to engaging their ideas by communicating through specific digital channels with other individuals. This literature review highlights the influencing factors on the adoption of social networking in higher education, and how these factors differ under different types of social networking, and diverse perspectives in different education levels.

Keywords

Social networking sites
Social relationships
Informal communication
Knowledge sharing
Education

1. Introduction

Social network sites (SNSs) increasingly attract the attention of academic and industry research. Social networks sites such as Facebook and twitter, in general, have attracted millions of users, many of whom have integrated these sites into their daily working and social practices (Alexa.com, 2019b). Recent studies have shown that the number of social networking sites' users has been reached up to 2.46 billion in the past year (eMarketer, 2017; McNair, 2017). There are hundreds of SNSs that support a wide range of interests and methods with various technological affordances (Boutin, 2011, Boyd and Ellison 2007). Social media or Collaborative social software are applications that support the engagement in a shared space around need, shared interests, and goals for collaboration, interaction, knowledge sharing, and communication. Thus, these features allow social networks to engage both real and virtual social worlds, as they involve both online and offline interactions and visual/ verbal connectivity (Boyd and Ellison 2007).

AQ1

Social media have been defined in a variety of ways (Wolf et al. 2018). Boyd and Ellison et al. (2007) describe social media as 'web-based services allowing persons to build a public or semi-public profile within a limited system, connect a list of other users with whom they share a connection, and view and navigate

their list of connections and those made by others within system.' Social media are defined as represented by a range of emerging tools (e.g., wikis and blogs) and platforms where users can share information and importantly, collaborate and create networks of communities (Berners-Lee et al., 2006; McAfee, 2009). The term "web 2.0" refers to the set of technologies and systems that facilitate and drive media-rich content creation on the internet (Kaplan and Haenlein 2010)."Web 2.0″ is established in the open-source ideology, whereby users work together freely using free tools and sharing their work and information (Bubaš et al, 2011).

AQ2

AQ3

Technological advances in Web 2.0 and open ideology supported the appearance of User Generated Content (UGC). The UGC – the ability to create and share content free of restriction and at low cost, contributed to the spread of social media (Wolf et al. 2018). There is a definitional issue about social media (Ouirdi et al. 2014). Many authors assert that there is no definite or exact classification for these platforms. However, many researchers admit the presence of a common ecology that contains categories such as social networking sites, professional networking sites, blogs, microblogging services, wikis, multimedia or media sharing sites, social news and bookmarking, and user-and message media (Ouirdi et al. 2014). Dredge et al. (2014) define social networking sites as follows: "a networked communication platform in which participants (Adu 2019) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and system-provided data; construct a public or semi-public profile within a bounded system, (Ahlqvist et al. 2010) can publicly articulate connections that can be viewed and traversed by others, and (Alexa.com 2019a) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site".

What makes social network sites irreplaceable is not that they let persons meet strangers, but instead that they allow users to connect and make visible their social networks. As a result, despite the connection made by individuals is often not the goal, and usually, these conventions are between "Latent ties" (Haythornthwaite 2005) who share some offline connection. On many of the large SNSs, members are not necessarily "networking" or looking to meet new people; instead, they are mostly communicating with people who are already a part of their extended social network (Boyd and Ellison 2007; Grant 2016). To highlight this integrated social network as a critical organizing feature of these sites, labeled them "social network sites" (Boyd and Ellison 2007). From this standpoint, social networks can provide a solution to the limitation of social communication tools, and these technologies describe online platforms for users

to profile themselves, interact with each other, share content and ideas and keep personal relationships (Anderson, 2006; Grant and Preston 2019).

In the last decade, this trend has led scholars to conduct studies on SNS under different contexts that include, and not limited to, privacy, trust, information sharing, gender, and geographical distances (Qiu et al. 2012). These technologies have abilities to foster information sharing, and collaboration inside of companies due to the potentials of these tools provides complete affordances such as network clarity, relational bonds, and content flow and access (Boyd and Ellison 2007). The capability to exchange knowledge, besides cooperate and collaborate, is of interest not only enterprises but also higher education organizations (Boyd and Ellison 2007).

Therefore, they are specifically related to research institutions as a form of highly knowledge-intensive organizations whose main assets are academic matter, and most of their development is concerned with discovery, investigation, and exploitation, and reselling of skill and knowledge (Mazman and Usluel 2009).

While literature exists about the use of social networking technology by consultancy firms, there is a break in knowledge about academics' use of social networking technology precisely (Ortbach and Recker 2014). The appeal of social networking technology to support cross-disciplinary, cooperative research is tangible to the high demand for cross-disciplinary and cooperative academic inquiries. Moreover, scholars start to use this type of technology, such as Twitter or other community sources, before most enterprises launched as a part of their work practices. Many universities are indeed actively using enterprise social networking tools such as Microsoft Team, yammer or Jive, and etc. for improved communication, connection, collaboration and enhanced knowledge sharing (Ortbach and Recker 2014). However, the expected benefits of this social network placement have not been entirely realized due to the relative low usage among employees and academic staff.

This literature reviews most of the studies which aim to add to the theoretical understanding of the factors influencing the use of social networking sites into higher education, and how these factors differ under different types of social networking, and different perspectives such as teacher, faculties, and students in different education levels. In this manuscript, firstly, we discuss the previous related works that describe the factors influencing the use of social networking sites in the educational context and how much educators could harness the social support system of online communication. Secondly, we consider how these

factors differ under different circumstances, and we state the gap of literature at the final stage.

2. Review of relevant literature

2.1. Social media definitions

According to Diga and Kelleher (2009), social media have been cited as a "social media sites," or a set of information technologies which facilitate communications and collaboration (Wolf et al. 2018). Huang and Benyoucef (2013) define social media as "Internet-based applications built on Web 2.0, while Web 2.0 refers to a concept as well as a platform for ¨'harnessing collective intelligence". Facebook, Twitter, and Linked In allow people to connect with other people they know and whom they would like to know (Wolf et al. 2018).

AQ4

Ouirdi et al. (2014) examined existing scholarly definitions of the term 'social media' through a Lasswellian lens. They aimed to examine existing literature definitions of the term "Social Media" by conducting a qualitative content analysis to a sample of the most delegate academic definitions reclaimed from the critical papers on social media in the web of the knowledge database. Table 1 shows the most delegate definitions of social media from the top papers classified by Ouirdi et al. (2014).

Table 1

Social media definitions classified by Ouirdi et al. (2014)

Authors	Definitions
Kaplan and Haenlein (2010)	"Social Media is a group of Internet-based applications that build on the ideological and technological foundations of web 2.0, and that allow the creation and exchange of user-generated content."
Bertot et al. (2010)	"Social media are the 'content and interactions that are created through the social interaction of users via highly accessibly web-based technologies."
Greysen et al.(2010)	"Social media are the 'content created by Internet users and hosted by popular sites such as Facebook, Twitter, YouTube and Wikipedia and blogs."

Authors	Definitions
Kietzmann et al. (2011)	“Social media employ mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss and modify user-generated content.”
Yates and Paquette (2011)	“Social media consists of tools that enable open online exchange of information through conversation and interaction.”
Bertot et al. (2012)	“Social media refers to a set of online tools that are designed for and cantered around social interaction.”
Fischer and Reuber (2011)	“Social media channels are user-friendly, inexpensive, scalable internet- and mobile-based technologies that allow for the sharing of user-generated material.”
Finin et al. (2008)	“Web-based social media systems such as blogs, wikis, media-sharing sites and message forums have become an important a new way to transmit information, engage in discussions and form communities on the Internet. Their reach and impact are significant, with tens of millions of people providing content on a regular basis around the world.”
Howard and Parks (2012)	“Social media may be defined in three parts, consisting of (a) the information infrastructure and tools used to produce and distribute content; (b) the content that takes the digital form of personal messages, news, ideas and cultural products; and (c) the people, organizations, and industries that produce and consume digital content.”
Sui and Goodchild (2011)	“Social media can be defined as social interaction via the use of Web-based and mobile technologies, to turn scalable communication into the interactive dialog.”
Sweetser (2010)	“Social media are ‘an increasingly popular means through which companies can communicate in online communities”.
McGowan et al. (2012)	“Social media websites and applications are online environments where users contribute, retrieve, and explore content primarily generated by fellow users.”
Zeng et al. (2010)	“Social media refers to a conversational, distributed mode of content generation, dissemination and communication among communities.”
Berthon et al. (2012)	“Social media is the product of Internet-based applications that build on the technological foundations of Web 2.0.”

Authors	Definitions
Dabner (2012)	"Social media can be described as Internet and mobile-based tools and devices that integrate technology, telecommunications and social interaction enabling the construction, co-construction and dissemination of words, images (static and moving) and audio."
Naaman (2012) AQ5	"Social media channels are 'online sources of multimedia content posted in settings that foster significant individual participation and that promote community curation, discussion and re-use of content."
Tang and Liu (2011)	"Social media, such as Facebook, Myspace, Twitter, BlogSpot, Digg, YouTube, and Flickr has streamlined ways for people to express their thoughts, voice their opinions, and connect anytime and anywhere."
Rheingold (2010)	"Social media—networked digital media such as Facebook, Twitter, blogs, and wikis—enable people to socialize, organize, learn, play and engage in commerce."
Ahlqvist et al. (2010)	"Our definition of social media is built on three key elements: content, communities and Web 2.0. First, content refers to the user created content which may be of very different types (…). Second, social media is based on communities and social interaction among users."
Komito and Bates (2009) AQ6	"Social media are 'internet applications [that] enable greater interaction between user and application through user-generated content."
Bonsón et al. (2012)	"Social media are 'applications that offer services to communities of on-line users: blogs, social bookmarking, wikis, media sharing and social networks that promote collaboration, joint learning and the speedy exchange of information between users."
Fotis et al. (2011)	"Social media are 'a group of online software platforms that enable and facilitate sharing of user-generated content."
Eckler et al. (2010)	"Social media are forms of new media that eclipse the traditional static Web site and allow online users to interact with one another."

However, providing a single definition that includes all the technologies and activities associated with social media is particularly tricky, somewhat because scholars not defined by any scope, format, topic, audience, or sources. Social

media defines in three parts, (a) an online communications networking platform used to generate and disseminate content, (b) the content which are the digital form of individual messages, posts, images, audios and videos, which (c) the individuals and communities generate and employ digital content. We define the term “Social Media” as web-based communication tools that facilitated online interaction between individuals and communities by exchanging information.

3. Typology of social media and social media dimensions

Based on present ideas, there are some social media typology attempts. According to Kaplan and Haenlein (2010), social media classified in media theories (social existence and media richness) and social processes theories (self-exposure and self-performance). Kaplan and Haenlein (2010) claimed that the social presence/media richness in blogs is low, but the blogs are high in self-exposure/ self-performance. Besides, Kitman et al. (2011), for a better understanding of the functionality of social media sites, showed a framework of seven social media building blocks, which is identity, conversations, sharing, presence, relationships, reputation, and group. The identity refers to the extent to which users reveal their identities on social media settings; the sharing refers to the extent to which users chat, distribute, and receive content; and the groups refers to the extent to which users can form communities and sub-communities (Kietzmann et al. 2011). However, these two classifications by these authors are helpful for other researches, further work on social media classification is still required.

AQ7

Ouirdi et al. (2014) aimed to examine the existing scholarly definitions of the term ‘Social media’ from top papers cited by Lasswellian’s model of communication, which is one the most influential communication models. This model describes an act of communication by defining who said it, what was said, in what channel it was said, to whom it said. Therefore, the coding scheme was derived from Laswell’s (1984) work on the communication act, and one major theme appeared from units of analysis, namely the function or purpose of social media. While this category was in line with the ‘Why’ dimension added by another scholar to Lasswell’s (1984) model, in order to investigate the purpose of the communication act happens on social media. From using Lasswewllian Coding categories in analyzing the definitions of social media, Ouirdi et al. (Ouirdi et al. 2014) expand a taxonomy of social media from the channel’s perspective based on three dimensions:

> Users (Who/ 'to whom') who can be from the micro or macro-levels.
>
> Content ('What') take several layouts such as text, images, videos, audio, or games.
>
> Function ('Why') Namely exchanging, collaborating, networking, Geo-Location.

Moreover, this classification can use for many social media sites, and in the following table, there are examples of different social media sites based on Lasswelian classification. For instance, Facebook, it can be used at the micro-level by individuals, at the meso-level by companies and the macro-level by governments such as the US federal government (Ouirdi et al. 2014). The micro-level attend to the concrete, small-scale of reality, and mostly belongs to features of individuals or communication among individuals. The Meso Level connects macro and micro levels and runs at an intermediate level, and direct to companies, communities, or groups. The macro-level direct to large scale and broad-scope aspects of social reality such as social institutions, entire societies (Ouirdi et al. 2014). Table 2 shows many social media sites with this specific taxonomy, although the subcategories of each dimension are not equally limited.

Table 2.

Examples of Social Media Websites in with Lasswellian taxonomy

	User			Content Format					
	Micro-Level	**Meso-level**	**Macro-Level**	**Images**	**Text**	**Video**	**Audio**	**Games**	**N**
Facebook	✓	✓	✓	✓	✓	✓			✓
YouTube	✓	✓	✓			✓			
Wikipedia	✓			✓	✓				
Twitter	✓	✓	✓	✓	✓	✓			✓
Linked In	✓	✓	✓		✓				✓
Flickr	✓	✓		✓					

4. Social learning and social tools for education

Web 2.0 and social networking tools are changing the environment and possibilities for education. Technologies like blogs, wikis, media-sharing services, collaborative editing tools are harnessing the “collective intelligence” of students and teachers, promoting collaboration and the sharing of knowledge (Mason and Rennie, 2008; McCarroll and Curran 2013). The use of Laptops and the Internet has created the technological conditions for teachers, and students can benefit from the variety of online knowledge sharing, communication, and collaboration (De-Marcos et al. 2017; McCarroll and Curran 2013). Modern pupils are already involved with Web 2.0 technologies and surely use social networking tools and online social spaces in their personal lives (O’Reilly 2005). Thus, students can take advantage to harness this enthusiasm for technology and use these resources through an educational scheme (Mason and Rennie, 2008).

AQ8

AQ9

The use of technologies had made significant changes in education, which means that classrooms are not teacher-centered anymore, and teachers try to focus on students and find out the areas in which they could shine (Prensky, 2001). The focus is more on the intellectual capacities of the students (De-Marcos et al. 2017; McCarroll and Curran 2013). The use of teaching tactics such as learning partnerships for pupils through online learning can motivate pupil participation in activities to result in enhanced learning and understanding (Subramanian et al. 2014; Beldarrain 2006). Lecturers and students need to hold this new strategy and provide a groundwork to support the construction rather than the transfer of knowledge. They are allowing students to take over their learning shifts the role of the teacher from lecturer to learning partner (Rennie and Morrison, 2013).

Giving pupils ownership of their learning supports a deeper understanding of concepts (McCarroll and Curran 2013), Phillips et al. (2012) said that facilitating active participation and collaboration by students in problem-solving and data creation is the key to success in changed models of online teaching and learning. Although it is crucial to know how to use the internet, students will spend time and surf on the internet without enough information and lack of proper caution (De-Marcos et al. 2017) (McCarroll and Curran 2013). Moreover, the flood of technological novelties can be overpowering and requires the careful consideration of which technologies are the most effective and provide the highest cost or profit ratio to the organizations using them (Subramanian et al. 2014).

Social software allows individuals to build groups of interest on different topics for collaboration. Wikis and blogs are two network technologies that simplify the conception of user-generated-content (Beldarrain 2006). Multi-participation

in wikis that allow a community of users to add and update content collaboratively, cause to rapidly developing content and helps to lessen incorrectness and misinformation (McCarroll and Curran 2013). Wikis endorse collaboration, and pupils gain critical team-work skills by exchanging the creation of information (Kussmaul 2011). Blogs can comprise links to other sites or articles of interest, and other users can post comments and enabling discussions and exchanging the relevant information (Mason and Rennie, 2008). Instructors can use blogs to support subjects that have been covered in the classroom and spread knowledge with additional data and addresses to resources. Some of these instructors believe that students should have an assessment of the authenticated digital content (Mason and Rennie, 2008).

5. Social networks and student motivation

Social networking can also be considered as an academic motivation tool for students to promote self-efficiency between students (Bowers-Campbell, 2008; Conole and Culver 2010). Social networks come in many different shapes and forms from the more specific to the more general (Conole and Culver 2010; Grant 2016). Some social networks specifically intended to support two-way communication while others, like Twitter, are intended for broadcast or multicast subscription-based communication (Conole and Culver 2010). There are several desired features of social networks that can affect both educational and commercial activities. Here, some desirable features of social network sites in the technical context are provided (Gannod and Bachman 2012; Beer 2008).

> Status Updates - the ability to post a message that is broadcast or multicast to a set of participants in a network.
>
> Commenting - ability to comment on status updates or other posts within a network.
>
> Positive Reinforcement - ability to indicate like or approval and disapproval or dislike of some post.
>
> Social Tagging - ability to mark content with keywords in order to show relevance to a topic.
>
> Linking - ability to provide hyperlinks to content, including video.
>
> Video and Teleconferencing -ability to communicate with one or more members of a network via video.

> IM Support - ability to “chat” with one or more members of a network.
>
> Document Support - ability to create and share documents.
>
> Video Support - ability to share video content.

Public social network sites are more purely recreational or “social,” the potential benefits go beyond establishing Contacts and keeping relationships. Thus, the technical feature of social network sites such as updating status and commenting allowing students for communicating about technical information, sharing contextual needs information, and guiding information flow based on relevance, facilitate users to communicate with each other by posting information comment messages and images in real-time (Gannod and Bachman 2012). Bowers-Campbell (2008) used Facebook as an academic motivation tool in a developing reading course and introduced a virtual gift system (reward system) to recognize the student’s effort on the course in order to enhance the connectedness among students an educator (Cornelius et al, 2009) . Mazer et al. (2007) studied the impact of the level of educator exposure on college students via Facebook. They found that the students’ positive perception of their educator’s enthusiasm to use the features of Facebook had a positive impact on their enthusiasm to employ the features creating a positive classroom environment (Duggan et al, 2015; McCarroll and Curran, 2015).

The study by Conole and Culver (2010) has shown that there is a schism in the potential technology application in education and their actual practical use. However, They emphasized that educational systems are failing to exploit the real affordances of web 2.0 technology fully and they uphold the educators themselves lack knowledge about these emerging technologies, needed to use these technologies fully and even the awareness of their potential as learning tools (Conole and Culver 2010). They believed that a lack of support and education for our educators could only result in such technological developments entirely losing their impact (Conole and Culver 2010). Moreover, they demonstrate their argument by outlining the social networking site Cloud works, which aims to provide a dynamic environment to assist teachers in sharing and discussing teaching ideas and designs (Conole and Culver 2010). While Conole and Culver (2010) claim that all these webs 2.0 tools are more operative in the educational context than other social uses. These tools’ functions focus on communication in our everyday lives, although this is not reflected in education correctly. Conole and Culver (2010) have aimed to identify the new patterns of

web 2.0 user behavior that are evolving and use them to realize more about learning activities design.

Student interaction is at the core of constructivist learning environments, and Social Networking Sites provide a platform for building collaborative learning communities (McCarroll and Curran 2013). Utilizing these multimedia technological advances helps make learning more available and more responsive (McCarroll and Curran 2013). The scholars found it challenging to find new ways of utilizing web 2.0 technologies in an educational context due to social and cultural barriers (Ryan et al, 2011; Conole and Culver 2010). The study by Koranteng et al. (2019) seek to validate the relationship between the use of social networking sites, academic Engagement, and Knowledge Sharing using websites solely designed for academic activities. They were conducting a deductive approach with looking at social capital factors, which is received less attention, especially in the educational context (Koranteng et al. 2019). The authors have considered as Knowledge that is gathered through an individual's interaction with others through online social networking sites (Koranteng et al. 2019).

Social capital supports the ability of people or groups to access resources rooted in their social network (Koranteng and Wiafe, 2019; Ellison et al. 2007). Social Capital is the resources accumulated through social interactions (Tsai and Ghoshal, 1998; Koranteng et al. 2019). Koranteng et al. (2019) investigate how pupils' online social networking relationships influence knowledge sharing and how the strength of knowledge sharing enhances pupils' engagement. For this purpose, they employed the social capital theory to measure the relationships between social network sites and student engagement in higher educations. Although there are many studies, they tend to explore the social capital theory from different perspectives. Valenzuela et al. (2009) suggest that the Social Capital Theory is most useful when treated as a multidimensional concept. Following this approach, the social capital theory has a multidimensional structure consisting of structural, relational, and cognitive dimensions (Tsai and Ghoshal, 1998; Koranteng and Wiafe, 2019).

AQ10

(Koranteng et al. 2019).

4.1. Structural dimension

The structural dimension defines the interpersonal relationship between members of a network. Social Interaction Ties consider as the indicator for structural dimension and the medium for knowledge sharing (Koranteng et al.

2019). The structural dimension presents the strength of relationships, frequency, and intensity of interactions between members of a network (Mu et al. 2008). When interaction frequency increases, the members of the network have more desires to share knowledge (Mu et al. 2008). Communication and information sharing in an online environment facilitate to create and keep social ties easily (Koranteng et al. 2019). Thus Koranteng et al. (2019) believed that Social Interaction Ties positively influences engagement on Academic Social Network sites.

- Relational dimension

The relational dimension presents an individual's beliefs and opinions based on the relationships they keep, and Trust, Identification, and Reciprocity are relational indicators (Dholakia et al, 2004; Koranteng et al. 2019). Many researchers believe that trust is the key to enhancing engagement. However, the lack of face to face communication affects participants in activities on social network sites platforms because the users do know each other physically (Kwon et al. 2014). Trust defines as" a willingness to rely on an exchange partner in whom one has confidence" (McKnight and Chervany, 2001; Moorman et al. 1993). Some trust issues such as harassment and cyber-bullying are not expected to be associated with academic social network sites (Koranteng et al. 2019). Furthermore, Koranteng et al. (2019) proposed that trust positively influences engagement on Academic Social Network Sites.

Identification is a measure of a sense of belongingness and positive feeling towards a community (Koranteng et al. 2019). Bagozzi and Dholakia (2002) define that identification is an individual's perception of self-inclusiveness in a community or group. This sense of belonging among network members influences an individual's enthusiasm to participate in activities and raises adherence and faithfulness (Bagozzi and Dholakia 2002). Members follow each other's with similar interests and objectives, and the emotional and affective support that exists between groups on academic, social network sites facilitates the development of mutual faithfulness in communities (Koranteng et al. 2019). Reciprocity refers to the perception that knowledge exchanging among network members is common and fair. Reciprocity indicates that people are required to return reactions when they believe that others would return the same favours to them (Dholakia et al, 2004).

- Cognitive dimension

Cognitive dimension comprising shared vision and shared Language, are the components that allow the development of shared meanings and explanation

within a network (Koranteng et al. 2019). When members have common goals and objectives, shared vision established while shared language is the progress of shared understanding for verbal communication (Koranteng et al. 2019). Shared vision and shared language are relevant together. Shared language is a common vocabulary that enables actors to communicate with common understanding (Omotayo and Babalola, 2016; Evans et al., 2015), and share vision involves mutual goals and objectives of participants within a social network (Koranteng et al. 2019). Thus, Koranteng et al. (2019) proposed that academic, social network sites support shared language, and shared language positively influences engagement on Academic Social Network Sites(Omotayo and Babalola, 2016).

4.4 How These Dimensions Affect Students Engagement

AQ11

Many studies have shown that there is a significant relationship between social interaction ties and knowledge sharing. Social interaction ties represent the frequency and intensity of interactions among members of a network (Chiu et al., 2006). When network members are actively involved in knowledge sharing activities, they can showcase their abilities and integrity; Similarly, mutual exchange knowledge between users enables the formation of trust. Thus, Koranteng et al. (2019) assumed that there is a significant relationship between trust and knowledge sharing among students in a social network. Following this assumption, Koranteng et al. (2019) theorized that there is a significant relationship between the norm of reciprocity and knowledge sharing and students in the social network. Besides, Identification serves as a resource that effects ideas of value for knowledge sharing. Koranteng et al. (2019) hypothesized that there is a significant relationship between identification and knowledge sharing among students in a social network.

Moreover, users must have a shared vocabulary to facilitate effective knowledge sharing, and it is expected from users to share a common language once they do knowledge sharing through the social network. They assumed that there is a significant relationship between the use of a common language and knowledge sharing among students in a social network. Koranteng et al. (2019) have all clarified that the existence of a common goal among members of a social network leads to sharing resources, and by continuing to share resources, members expected to build common beliefs and aims. They assumed that there is a significant relationship between shared vision a knowledge sharing among students in a social network. Also, investigating social capital theory, Koranteng et al. (2019) examines how the intensity of knowledge sharing enhances student

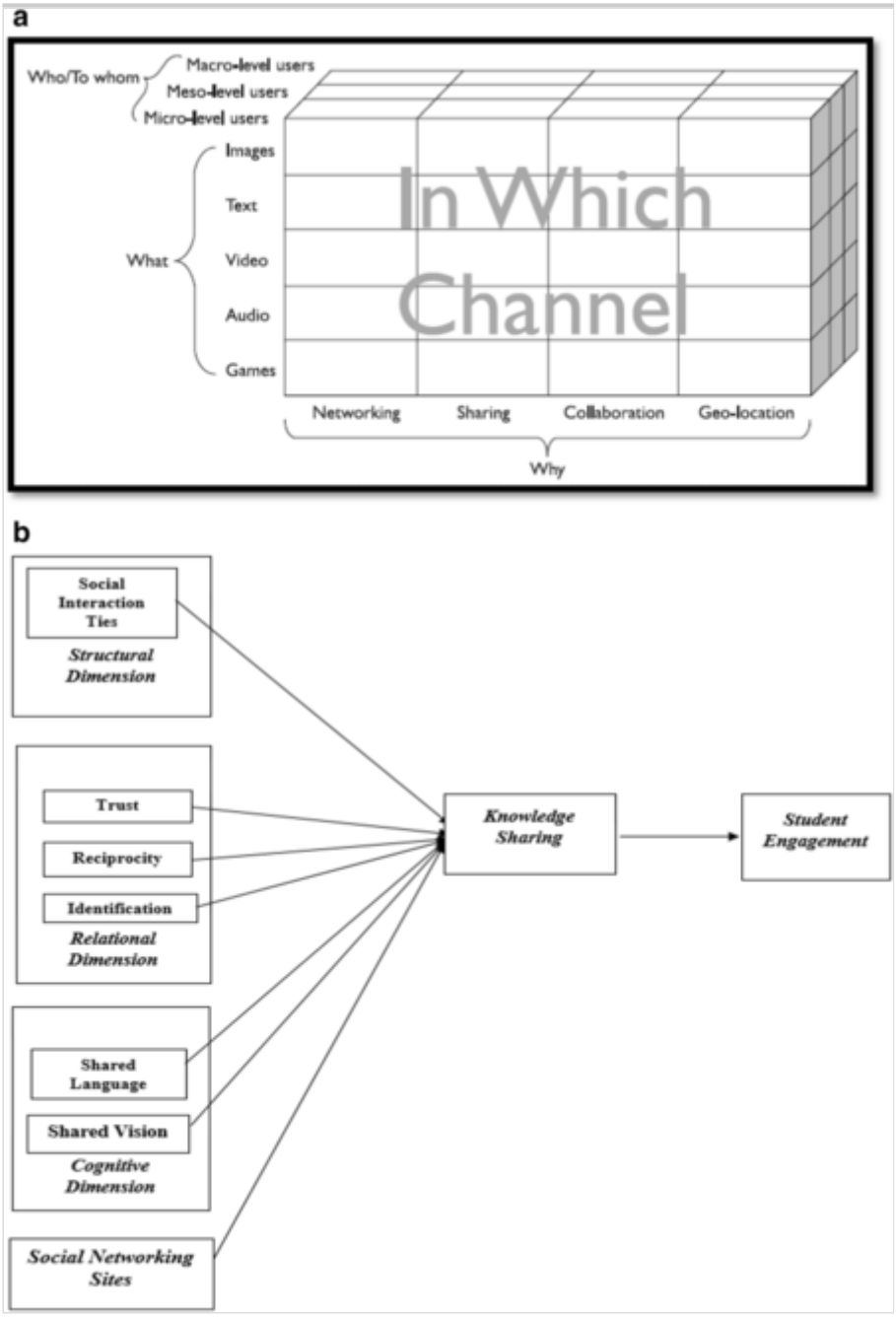
engagement by conducting a questionnaire available on social network platforms such as Facebook, Research Gate, Mendeley, and Academia.edu.

Figure 1a and b illustrates the research model indicating the relationship between social capital dimensions, knowledge sharing, and student engagement from Koranteng, Waife, and Kuada's study. The result has shown that males were 52% and women were 48%, and most of the respondent's age was between 25 and 40 years old that graduate students formed 58% of the 560 total responses. The research model assessed with Partial Least Square Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0 software for the analysis. Using this technique enables the observation of relationships among variables where their research goal is to extend an existing structural theory (Hair Jr et al. 2016). The average variance obtained in PLS-SEM observed that all the values were higher than 0.5, which is reliable. In their study, the findings indicate that academic, social networking sites such as the research gate, Academia.Edu, significantly affect all the Social Capital dimensions (Koranteng et al. 2019). This finding suggests that the facility of ASNS platforms for academics enables them to exchange ideas more willingly (Koranteng et al. 2019) because ASNS platforms provide a cheaper medium for the conversation of academic ideas and research work (Koranteng et al. 2019).

Fig. 1

a Social Media Cube to Help Classify Existing Social Media Platforms, and Identify Prospective Ones (Ouirdi et al. 2014), **b** Research model indicating relationship between constructs adopted from (Chiu et al., 2006)

AQ12



Consequently, Koranteng et al. (2019) observed that only a few of their hypothesis were supported and Shared language and shared vision had a significant effect on KS with values 4.815 and 2.399, respectively by using T-test. However, the relationship between trust and Knowledge sharing was significant, with a T statistic value of 2.039, and trust negatively impacted Knowledge sharing (Koranteng et al. 2019). The results have shown that the relationships between some of the proposed hypotheses are not significant, and social networking sites were found not to be a function of knowledge sharing. From the empirical evidence, The SNS platforms used in this study were generic and not specifically designed for academic work, and the findings attributed to the nature of the SNS used for the study. Although if a similar study is conducted using academically inclined SNS such as ResearchGate, different findings may be observed.

4.5 More Empirical Pieces of Evidence on SNS in Education

As argued by Papacharissi (2009), SNSs such as Facebook, LinkedIn, SmallWorld, and so on differ in terms of members' behavioral norms. Facebook is more publicly open with weaker behavioral norms as compared to LinkedIn, which is strict because Facebook is designed mainly to support and maintain friendly interactions, whereas LinkedIn primarily used for professional networking. Further research should investigate specific SNS that are designed for academics or students to measure the relationship between SNS use and their engagement. The study by Menkhoff et al. (2015), incorporating microblogging in higher education and promote a capability- enhancing social networking tool which offers a solution for the difficulty that students are not participating in a class. Menkhoff et al. (2015) believed that twitter is a useful tool to engage students by taking up questions during in-class and out-class discussions advice on their assignments. They believed that they could create their learning context and take advantage of collaboration knowledge design (Liu et al, 2006).

AQ13

Multiple sources and methods of data collection were utilized, such as expert interviews, consultations with professional mobile learning specialists, and narratives to add value to the paper (Eschenbrenner and Nah, 2007; Menkhoff et al. 2015). The data were collected from the relevant secondary literature, the feedback from participants, classmates, a numerical student twitter survey and, the observation during student's learning activities (Menkhoff et al. 2015). The result has shown that instructors believed that using twitter can help to monitor whether students have fully understood the course content or not. Thus, instructors can find the knowledge gap and address them on the spot (Menkhoff et al. 2015). The reflections about tweeting in class 1, it indicates the potential range of benefits of tweeting in terms of stimulating student's reflection and learning processes among what they have classified as evaluative and critical comments; knowledge related questions' and 'knowledge enhancing comments' by students (Menkhoff et al. 2015).

From the survey, the result has shown that students found twitter as the most useful mode of knowledge sharing tool utilized to communicate with tutors and colleagues. Around 95% of all respondents agreed that tweeting enabled them to make the course more interesting. Moreover, from the reflection of earlier comments, Students' respondents showed that tweeting increases participation, interaction, sharing, and engagement. One of the students stated that "it is innovative and helpful for participation, especially when our class size is getting bigger and bigger allows more opportunity to share our thoughts and views.

Also, it allows us to link and share websites that are useful to expand our knowledge about the topic with real-life news" (Menkhoff et al. 2015).

Ultimately, both face-to-face and online classroom conversations have known as necessary in increasing the educational experience of students and their learning curve (Menkhoff et al. 2015). Menkhoff et al. (2015) believed that these tools are beneficial in the framework of mobile learning. These tools help students to engage in collaborative learning and to challenge existing knowledge and competency gaps both individually and in a group with the help of their peers (Boling and Robinson, 1999). These tools enable students to create positive, relative learning results about educational objectives and encourage them to tweet any query they might have about the subject matter, which can then be addressed by the teacher. They support the assurance of learning as they appeal to their technological know-how and learning cultures (Menkhoff et al. 2015).

Ebner et al. (2010) have done a research study on the use of a microblogging platform for process-oriented learning in Higher education. In order to conduct research, students of the University of Applied science of Upper Austria used the tool during their course. In 2007 the University of Applied Sciences of Upper Austria launched the master's program "SCM – Supply Chain Management," focusing on both Economics and Management. During the winter semester, they offered an elective subject for students called "New Media and Multi-Channel Management" (Menkhoff et al. 2015). Since students had a heavy workload as they took up to five parallel KEU course subjects with different lecturers and including different case studies, the university offered the e-learning platform ILIAS in order to communicate, collaborate and complete their documents during the course (Ebner et al. 2010). This alternative approach intended to stimulate more intensive engagement with microblogging and wiki and using these two new media enabled them to closely track the student's progress (Ebner et al. 2010).

AQ14

Blog and MediaWiki were all introduced in the first lecture but not in detail, and students asked to try out the microblogging platform and learned to manage all its features to develop their strategies for effective and efficient use. Around 34 students and two lecturers worked with the microblogging facility for 6 wks, and 11,214 posts were tracked and analysed during this period (Ebner et al. 2010). The result has shown a surprisingly high number of posts on the microblogging platform. Per students wrote 315 posts on average for 70 days; this resulted in 4.5 posts per calendar day on average. Moreover, the result has shown that there was an intensive communication between students or students and teachers. This

high volume of communication mainly between students leads us to conclude that there is an excellent potential for informal learning –learning through communicating on different topics (Ebner et al. 2010).

Although the students had completed the documentation of their learning process and did not obtain any additional benefits in terms of their grade, the application was still increasingly used (Ebner et al. 2010). To sum up, the use of a microblogging tool in a course to foster informal and process-oriented learning led to exciting results. At the end of the course, the result showed that microblogging is indeed a new form of communication. It is not the transfer of information or status messages that are crucial factors but rather the opportunity to be a part of someone else's process by reading, commenting, discussing, or simply enhancing it (Ebner et al. 2010). Gannod and Bachman (2012), said that the effective use of social networking, especially in corporate and educational contexts by students for having informal communication, becomes a crucial skill for attaining competence and efficiency.

Junco et al. (2011) conducted a study to determine if integrating Twitter into the classroom could impact engagement and academic achievement. The study included 125 students, of which 70 participants are part of the experimental group, and 55 participants are part of the control group (Junco et al. 2011). The platform they used by the experiment group as twitter for various academic-related discussions such as class questions, book discussions, class reminders, and organizing study groups (Junco et al. 2011). The result has shown that engagement by the experimental group has risen impressively and had a higher semester grade point averages compared to the control group (Junco et al. 2011). Gannod and Bachman (2012) conducted the use of several types of public social networking sites consisting of Facebook, Twitter, Google Plus, and other open sources of social networking called Elgg. In this study, they have main goals; firstly, they attempt to enhance the engagement by using these social networking sites between students, between teachers and students, and between students and faculty and project stakeholders (customers) (Gannod and Bachman 2012).

Furthermore, they aimed to transfer email as a communication medium to these platforms. They applied social media tools for four courses: data structures, service-oriented computing, software architecture, and design. Outside of class, students were working on programming assignments and the recorded course material by instructors (Gannod and Bachman 2012). During class time, students have done hands-on learning doings. Moreover, social networking enables group work by using services such as Facebook groups (Gannod and Bachman 2012).

Google plus was the platform used in the context of data structures and data abstraction at Miami University (Gannod and Bachman 2012). As stated earlier, a status update is one of the main features of social networks and is used to share a short message with people in the network (Gannod and Bachman 2012). The updated status for broadcast purposes such as reminders to students about the covered upcoming subjects in next class session, assignment statements and commentaries which support students about insight and suggestions on how to complete assignments, and also sharing online relevant course contents (Gannod and Bachman 2012).

Also, we have used twitter to post messages to pupils with hashtags to specific contexts (Gannod and Bachman 2012). Although there were some issues with using this approach, there are few regular active users on twitter. Secondly, it is challenging to save important messages, and messages have a short lifetime. Finally, it is difficult to follow a thread of discussion about questions or other posts by students (Gannod and Bachman 2012). Usually, students used status updates for asking foundational and implementation questions, which were answered by the instructor, teaching assistant, or students (Gannod and Bachman 2012). However, during their experiment, they found exciting aspects such as the discussion that happened in the context of the questions asked by students that commonly students failed to answer to these kinds of questions, and it helps learners to understand the course concept much better (Gannod and Bachman 2012).

In virtual office hours or in the inverted classroom model, any questions or issues asked were immediate feedback or responses for students to proceed on a project or other learning activity (Gannod and Bachman 2012). However, in the network, status updates and comments are asynchronous forms of the message and need contributors to wait indeterminately for responses from other users. However, Google + has a unique feature called “hangouts” that let many users in a social network converse by video chat in virtual office hours during even evening hours (Gannod and Bachman 2012). Moreover, the activity used in the social network was to ask students to find movies or demo programs and other online content on different subjects, especially for data structures to identify relevant content that was useful for studying course subjects (Gannod and Bachman 2012). Group pages on Facebook and Google + used to facilitate the conversation between group members and communication between project customers (Kaste, 2011; Gannod and Bachman 2012). In project-oriented courses, students asked questions usually emphasized on discovering some technology used to implement a project solution. Also, students used the social network to share their progress with external customers and post images, videos,

and other relevant content that displayed the current state of a deliverable and to increase feedback from customers (Gannod and Bachman 2012).

All these activities aimed to support communication among users, and this engagement with technology offers a little barrier to adoption. Although using the social network for increasing communication was positive, there were some potential issues, especially for raised cheating between students in the course (Gannod and Bachman 2012). Moreover, google plus and google apps used for communication except for posting grades and homework submissions by students, which became clear that these apps are not a suitable Learning Management Systems (Gannod and Bachman 2012). Furthermore, we found that students can take advantage of the use of the social network If they must actively participate in its usage (Gannod and Bachman 2012). To sum up, they recommend establishing guidelines for using social media within a student's course and having guidelines could direct students on how to seek answers to questions with the existence of social networks (Gannod and Bachman 2012). Moreover, by defining acceptable use policies help to provide restraints or limitation to students about the types of discussions that might happen in the network (Gannod and Bachman 2012).

4.6 Internal Social Networking: A New Phenomenon

Enterprise social networking, comparatively new phenomena, has positively improved the commercial world by encouraging and providing a variability of impressions on collaboration and managerial novelty, which growing very fast and becoming very popular among large enterprise organizations (Leonardi et al, 2013; Kazemian 2018). Using internal social networking is not limited to the commercial world, but also Higher Educational Communities started to use these new phenomena lately (Kazemian 2018). Regarding one of the social networking debates, using social networking sites in education is different from free social networking tools such as Facebook, Twitter, and Instagram. The debater believed that free social networking tools are not suitable for use in an education context with the purpose of student engagement because it is more about nodes and network learning, and it takes the collaborative and ubiquitous approaches of social media (Debate: The Social Networking Site, 2017 Should replace the Learning Management System).Some research may support the fact that the LMS and the free social networking tools such as Twitter or Facebook may not be as flexible as compared to today's social networking sites (Taylor, 2011). SNS may also take and a collaborative and present approach towards Student centre constructivist participation and collaboration (Debate: A Social Networking Site, 2017 Should replace the Learning Management System).

According to McAfee (2006), ESN is a part of the E2.0 phenomenon. Social networking platform connects organizational people (i.e., management, employees and external stakeholders) by building and keeping social relationships and facilitating interactions and collaborations through content creation (van Osch and Coursaris 2013; Chin et al. 2015). Current leading ESN providers in the market include Yammer, IBM Connection, Jive, Tibbr, and Chatter (Drakos et al. 2010). Besides, higher education communities have implemented this E2.0 phenomenon in order to increase knowledge sharing and to enhance the collaboration among academic staff, scholars and students recently, the use of internal social networking in higher education communities, especially among academic staff is remaining low and only a few studies are looking to use of social networking among academic staff (Kazemian 2018).

According to Corcoran and Duane (2018), Management has the most significant role to play in shaping a knowledge-sharing environment, and this involves facilitating the promotion and creation of virtual communities of practice (Rowley 2000; Wohlmuther 2008). Community leaders also are essential to the success of adopting and developing internal social networking in the educational context. In order to ensure the sustainability of internal social networking, academic staff must also be suitably motivated to participate in a knowledge exchanging environment (Corcoran and Duane 2018). Corcoran and Duane (2018) seek for the drivers and barriers of employing social networks in higher education, and they found that Organizational culture and structure are significant barriers to staff knowledge sharing and this result intensified because of the division between faculty and other staff (Corcoran and Duane 2018). There is a recent longitudinal study about using enterprise social network application Yammer for collaborative learning among MBA students. The study by Murphy (2016) aimed to investigate the specific ways in which MBA students utilized a social and whether if there were any distinct changes in MBA student's use of Yammer over the 8 months. Yammer is an example of an enterprise social network, a "Freemium" application specially designed for organizations. Purchased by Microsoft in 2011 Yammer provides a Facebook-style interaction space for exposing to establish an internal social network (Riemer et al., 2012).The methodology used includes genre and Thematic analysis to analyse empirical data from blogs and posts via The Yammer to categorize the various interactions observed involving 31 users over 8 -month period.

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The results uncover a set of emerging practices that support both information and knowledge exchange, but which are mainly driven by organizational factors such as Faculty role. The study by Murphy (2016) has provided several insights for educators wishing to use a tool such as Yammer. The first, users tend to adopt Yammer to suit their own needs, with clear indications that users will utilize the tool in a variety of diverse ways over an extended period. Secondly, by guiding correctly, it is suggested that such a platform provides a mechanism whereby users can genuinely collaborate, share work, provide peer feedback and collectively raise awareness as to their academic requirements and beliefs, all in the one environment. Moreover, supporting and promoting student work, encouraging the sharing of material, and reassuring student involvement in the use of the tool are necessitate for succeeding the user adoption. Based on the result, the role of the faculty member tends to transition towards a facilitating role, rather than a highly directive role. There is a growing awareness between actioners and researchers that the implementation of social media in the organization has given a new motivation to knowledge management (Corcoran and Duane 2018). These studies examined how internal social network tools can enable staff knowledge sharing in a virtual community of practice. Higher education institutions will be the base for future research, and this new area of research will undoubtedly be of interest to scholars undertaking similar projects in the future (Corcoran and Duane 2018).

6. Discussion

Social network sites have attracted the attention of both practitioners and academics, and we believe that the uses and impacts of social networking sites in both industry settings and academic contexts are becoming increasingly prevalent. This paper reviewed some major journal articles published from 2009 to 2019, assessing the impact of technology on collaboration in the educational context. Critically there appears to be a consensus on the view that the young generation is excited to learn via the sharing of online communal spaces and peer to peer communication. The younger generation has been the most prolific users of social media to date. Using social networking sites facilitate collaborative sense-making among individuals. Although, before initiating the use of social networking sites in education, instructors could use blogs or wikis to support subjects covering in the classroom and spread knowledge with extra data and addresses to resources. It is evident from the data analysis that research activities on SNS have increased significantly after 2010.

However, this review does not claim to be comprehensive, but it does provide a moderate amount of insight into the SNSs research work. The result illustrated in

this have some implications to the future research: There is no doubt that research works on using SNSs in education will proliferate in the future. With the growth of social networking sites, they become a valuable resource to support their educational communications and collaboration. The use of social media tools presents a new set of challenges to organizations and educational establishments that are not used to managing knowledge and information transfer in this way, though (Grant 2016). The lack of empirical studies showing the impacts of these tools, other than superficially is problematic. Furthermore, many existing studies have not fully accounted for the drivers or motivators of use. Understanding what factors drive and motivate users to engage becomes a critical precursor to educational management strategies.

Some widespread public SNSs such as Facebook and Twitter have widely used by most students in the United Kingdom, United States, Australia, and Africa. Some authors have found that students employ SNSs to discuss academics and Drawing from these studies, we believe that SNSs have high capability in connecting people and building a knowledge-sharing environment in organizations in the same manner (Conti and Passarella, 2017). With learning management systems, educators and learners can plan learning processes and collaborate through knowledge sharing. Although Learning Management System is more suitable for the administration, documentation tracking reporting, and delivery of educational courses or training programs that help the instructor deliver material to the students, some scholars believed that Social networking sites should be replaced with LMS. Knowledge is a critical asset to the individual as an organization to succeed in an increasingly competitive environment (Cheng et al. 2009; Grant, 2015).

AQ17

AQ18

Recent evidence shows that organizations, as well as higher education institutions, are beginning to consider Web-based “social networking” as community-building platforms (Grant 2016; Annabi et al. 2012). It could provide opportunities for unstructured information and knowledge to utilize to potentially deliver a massive set of efficiencies and opportunities for learners. Many studies tend to measure the impact of social networking in the education context. Although some scholars believe the educational system is failing to exploit the real affordances of web 2.0 technology fully. Because instructors have a lack of knowledge about emerging technologies and this issue is rooted in organizational factors affecting collaboration such as organizational culture and lack of administrative support (Zidane et al. 2016; Grant, 2015). Conole and Culver (2010) believed that all these webs 2.0 tools are more operative in the educational context than other social uses.

The study by Koranteng et al. (2019) seek to validate the relationship between the use of social networking sites, academic Engagement, and Knowledge Sharing using websites solely designed for academic activities. The results have shown that the relationships between some of the proposed hypotheses are not significant because their study has shown that the nature of SNS used for the study can be associated. The tools used in the study did not design for academic work. Other authors such as Boyd and Ellison et al. (2007) believe that the use of a microblogging tool in a course to foster informal and process-oriented learning led to exciting results. However, the research was conducted with a small sample size, removing generalisability. Moreover, most of the studies in many areas of social sciences (e.g., health care, nursing, education) and in business disciplines conducted a quantitative approach (Srnka and Koeszegi 2007).

6.1. Conclusion and future research directions

What the literature has shown is that there appears to be a gap in understanding the drivers to social media networking usage. Given the growth of these tools in recent years, it would seem critical to understanding what motivates users to use or engage with them. We summarised the key recent studies and highlighted the motivators and prohibitors influencing the use of social networking sites in the following table (Table 3). Moreover, social scientists still work mostly within the positivistic paradigm and its requirement that hypotheses tested with rigorous statistical methods. Acting successfully in today's business environment requires a better understanding of human behavior in complex contexts and Arguing that qualitative research provides discovery and theory-building, several authors insist more qualitative methods in the business and management sciences (Srnka and Koeszegi 2007).

Table 3

Summarizing the major studies about factors influencing the use of SNSs in higher educatio

Authors & years	Aims	SNSs tool	Application Context	Research method	Methods or tools
Koranteng et al. (2019)	Investigating the impact of SNS on student engagement	Academia.edu ResearchGate Mendeley	Higher education	Quantitative approach	Survey

Authors & years	Aims	SNSs tool	Application Context	Research method	Methods or tools
Corcoran and Duane (2018)	Examining how enterprise social networks can enable staff knowledge sharing in communities of practice in higher education	Yammer	Higher education	Qualitative approach	Focus group Observation
Menkhoff et al. (2015),	Examining Twitter's engagement power in the classroom	Twitter	Higher education	Mixed Method	Observation, Interview, Survey
Liao et al. (2015)	Examining the influential factors in students' use of social networks to Learn and evaluating the student's learning attitudes and usage effects.	Google + learning platform	Higher education	Quantitative approach	Survey
Gannod and Bachman (2012)	Investigate the use of microblogs in Higher Education	Google Plus Twitter, Facebook	Higher education	Qualitative Approach	Observation

Nevertheless, despite increasing interest in theory-enriching qualitative studies, social scientists still work mostly within the positivistic paradigm and its requirement that hypotheses tested with rigorous statistical methods. Combining the strength of both approaches and are apt to reveal what neither qualitative not quantitative research alone may have found and advocated the systematic combination of both qualitative and quantitative methods becomes increasingly

popular in social sciences (Srnka and Koeszegi 2007). Also, theories and constructs emerged over the past decade, with a focus on the individual and social aspects explaining social media adoption (Grant 2016). In contrast, research into organizational factors that determine social media usage remains limited (Grant 2016).

Therefore, mixed method has been suggested to resolve the conflicting demands of theory development and the application of rigorous research techniques (Srnka and Koeszegi 2007). One of the most significant challenges is understanding the drivers of social media networking usage. By conducting a mixed-method study, a researcher can look insight into behaviours or intensions to adopt social networking across higher education for knowledge-sharing purposes. Not only a researcher investigates the relationships between communication practices and technologies within the organization, but also from the result gained from the qualitative approach, a researcher can create hypotheses or create an instrument for subsequent quantitative measurement or provide explanations. In general, mixed methods studies provide special opportunities for improving both the quality and explanatory power of data (Domínguez and Hollstein 2014). In combining different perspectives on social phenomena, mixed methods studies support the enhancement of measurement and improvement of implementation, the validation and confirmation of results, and contribute to a more comprehensive picture by giving a more complex social incident (Domínguez and Hollstein 2014).

The social sciences literature describes several models for combining qualitative and quantitative approaches (Srnka and Koeszegi 2007). Implementing Sequential exploratory design which aim to Investigate under researched field, to develop hypotheses or create instruments for subsequent quantitative measurement, or provide explanations is considered the most typical form of combined research in social sciences (Srnka and Koeszegi 2007). It is common to apply qualitative techniques in an initial stage, thus allowing the researcher to develop a conceptual framework, to create hypotheses, or to establish the necessary tools for quantitative analysis. Otherwise the researcher can collect qualitative data to clarify puzzling quantitative findings and to support interpretation (concurrent design) (Srnka and Koeszegi 2007). Researchers taking this approach, separately collect and analyse qualitative and quantitative data on the same subject and then Merging the results provides an overall picture of the research problem (Srnka and Koeszegi 2007). However, it all depends on the topic and contribution to knowledge to the field. In mixed method studies, a researcher uses and combine both Qualitative and quantitative method to see what is going on and this is considered a great contribution to the knowledge.

Therefore, before conducting the mixed method, it is important to consider what kind of contribution going to make if you do a mixed method study (Adu 2019).

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AQ19

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