Enhancing Social Networking Learning by Using Enterprise Social Networks

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Abstract

Social networking learning is emerging in light of the European Skills Agenda and technological development. This aims to incorporate learning techniques in social networking environments to foster formal and informal learning. However, the classical customer-oriented social networks provide an essential learning environment that does not include assessment tools and pedagogical perspectives. The enterprise social networks could fill this gap since they are more flexible, easy to customise, and highly efficient in the organisational learning context. This research, with its practical implications, aims to bring forward the enterprise social networks that can answer higher education demands and the selection criteria that could be considered. An emic approach is employed, and a conceptual design is developed. The results present a multi-criteria decision model that can be used by higher education teachers who want to move forward to social networking learning. The current approach has theoretical and practical implications; it extends the literature on educational technologies and helps teachers decide which enterprise social network they can use in their activities.

Keywords: enterprise social network; higher education institution; students; knowledge sharing; informal learning.
JEL classification: O32; O33; A23; I23

Paper type: Research article
Received: 24 January 2023
Accepted: 21 March 2023

DOI: 10.54820/entrenova-2023-0036

Acknowledgments: The research reported in this paper is supported by the Universitat Politècnica de Valencia, Instituto de Ciencias de la Educacion, for the project "Desarrollo de un entorno de aprendizaje colaborativo y lúdico para fomentar la CT de innovación, creatividad y emprendimiento", Ref.: PIME/22-23/344.

Introduction

The new European Skills Agenda focuses not only on developing people's skills and preparing them to cope with green and digital transitions brought forward by Industry 5.0 and Society 5.0 but also on empowering them to embark on lifelong learning (European Commission, 2023). To support this goal, educational institutions must switch from using socio-constructivism learning theories (Bandura, 1986) to connectivism learning theory (Siemens, 2005) and social network learning (Krouska et al., 2019).

According to Krouska et al. (2019, p.170), social network learning "refers either to the use of social networks in education or to e-learning systems incorporating social networking characteristics". This approach fosters both formal and informal learning, and it takes advantage of the fact that both students and teachers are accustomed to communicating and collaborating through social media. Some attempts have been made to use Facebook, Twitter, and Google+ for educational purposes, and the results are contradictory. Some researchers note an improvement in students' learning skills, especially their self-knowledge, social skills, responsibility, and consciousness of belonging to a group (Krouska et al., 2017, 2019; Pilli, 2014). Others point out that students are reluctant to use the aforementioned social networks due to issues related to privacy and data integrity (Boruzie et al., 2022; Greenhow & Galvin, 2020).

None of these issues is emphasised when it comes to enterprise social networks, which are "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd & Ellison, 2008, p.211). Furthermore, previous analyses show how enterprise social networks influence directly and indirectly organisational learning (Olfat et al., 2022; Qi & Chau, 2018), employees' psychological well-being (Cai et al., 2018) and their professional development (Zhang et al., 2019).

Although enterprise social networks are more flexible and secure than the classical customer-oriented social networks and they bring several advantages to individuals, teams, and organisations, none of the previously developed studies considers their use in the educational environment. Scholars from the educational management area try to adapt to the educational context of the classical social networks, which companies usually use for marketing purposes, and neglect the value-added of the enterprise social networks. In the business area, the latter has proved to be an excellent tool for supporting employees' development (Sasidharan, 2019; Zhang et al., 2019), creativity (Ding et al., 2019; van Osch & Bulgurcu, 2020), business process improvement (Leon et al., 2020) and organisational learning (Olfat et al., 2022; Qi & Chau, 2018). Each one of these is critical for educational institutions to cope with the new European Skills Agenda and also for actually preparing future graduates for the labour market and continuous learning.

Within this framework, the current article aims to fill these gaps at two levels. First of all, it highlights the main enterprise social networks that are used in the business environment. By knowing the tools used by the business agents for fostering employees' development and organisational learning, teachers can get a better view of the market demands and identify which digital skills they should focus on. Furthermore, a multi-criteria decision-making model is proposed in order to help teachers select the most appropriate enterprise social network for their pedagogical activities.

The current article is divided into four sections. Section 2 presents the research strategy and techniques employed to achieve the research goal. Section 3 illuminates the main findings and presents a multi-criteria decision-making model. Section 4

concludes this article by drawing several conclusions and presenting some potential future research avenues.

Research design

This research aims to advance enterprise social networks that could foster formal and informal learning and propose a multi-criteria decision-making model for selecting the most appropriate one based on teachers' objectives and higher education demands.

Within this framework, an etic-emic approach is employed, and a conceptual research design is developed. The etic approach generates "descriptions and analyses expressed in terms of conceptual schemes and categories regarded as meaningful and appropriate by the community of scientific observers" (Lett, 1990, p.130) while the emic perspective allows to "move away from the static and pre-determined notion that transcends time and place" (Tatli & Özbilgin, 2012, p.181) and frames the enterprise social network as a dynamic construct that could be used not only in the organisational business context but also in the educational process for developing students' skills.

Given the fact that there are no previous studies regarding the use of enterprise social networks in the educational context, a conceptual research design is developed. As stated by Leuzinger-Bohleber and Fischmann (2006, p.1375), this "is not defined by a method but by a topic", and it is frequently used for developing new concepts or reinterpreting the current ones. Xin et al. (2013, p.69) go further and present it as "a preliminary stage in a wider research process, used to clarify research questions and hypotheses and as a reference point for interpreting empirical data". Thus, in light of the subjectivism-interpretivist paradigm that characterises this research strategy, the current article treats the concept of "enterprise social networks" as the object of research and investigates their use in the educational context.

Thus, from 2011 till 2022, 208 articles that include the concept of "enterprise social network" in the title, abstract and/or keywords have been published in international journals indexed on the Web of Science. Among these, 63 are conceptual papers and literature reviews and 145 present empirical studies. The latter represents the starting point in identifying the enterprise social networks that capture scholars' and practitioners' attention and with which the future graduates are expected to work once they enter the labour market. Based on this, a list of potential alternatives is obtained.

Further, the specialized literature is analysed to identify the main criteria used for selecting learning management platforms. This approach is adopted because an enterprise social network must be able to satisfy educational demands just like a learning management platform, and no previous studies indicate which criteria could be used for selecting enterprise social networks.

Last but not least, the two pieces of information are put together, and a multi-criteria decision-making model is built. This brings forward the alternatives available for the teachers who want to use enterprise social networks in their pedagogical activity and the criteria they can consider when selecting the most appropriate one.

Main findings

In the specialised literature regarding enterprise social networks, two lines of research can be found. The first one concentrates on employees' reactions to enterprise social networks and brings forward the motivators and barriers that affect users' behaviour (Chin et al., 2020; Di Tommaso et al., 2021). The second one focuses on the benefits generated by the use of enterprise social networks in managing a company's

relationships with internal and external stakeholders (Azaizah et al., 2018; Leon et al., 2020; Qi et al., 2021). Although both lines of research provide valuable insights, most of them are based on data collected through interviews and surveys (Chin et al., 2020; Qi et al., 2021), which are exposed to various subjective biases like current moment, anchoring effect or heuristic effects (Leon et al., 2017). As presented in Table 1, only a few studies are based on the objective data provided by enterprise social networks, facilitating the identification of those social networks that capture academics' attention.

Table 1
The enterprise social networks mentioned in the specialised literature

Enterprise social network	References	Results
Yammer	Azaizah et al. (2018); Leon et al. (2017, 2020); Qi and Chau (2018)	It proves to be useful for inter- and intra-organizational knowledge sharing, influencing business process improvement and organisational learning,
Slack	Kusajima and Sumi (2018)	It supports online communication.
Chatter	Choudrie and Zamani (2016)	Bottom-up and top-down pressures influence its implementation.

Source: The authors

This list can be complemented by four more names, which Future Market Insights (2022) and Forbes (2019) mention when it comes to the major players in the enterprise social network market. These are Workplace by Meta, Zoho Workplace, VMware Socialcast, and Igloo.

However, deciding which one can cover the fundamental educational requirements and support efficient and effective learning may be a difficult task. Krouska et al. (2019) bring forward a set of evaluation criteria like (i) course management (content creation and delivery, assessment tool, tracing students' progress); (ii) social module (collaboration and communication, student groups, social network structure), (iii) pedagogical module (teaching strategies, learning outcome); (iv) personalisation (adaptive interface, advice generator, error diagnosis); and (v) usability (user interface friendliness).

Still, suppose the general features and characteristics of enterprise social networks (Table 2) are considered. In that case, all of them have the capacity: (i) to create and deliver educational material to students, (ii) to create online assessments, and (iii) to record students' activity and progress. Since the enterprise social networks are built around the idea of collaborative working and co-creation, the collaboration features are designed to support teachers in creating and delivering educational material to students (either through file sharing or videoconferences). In contrast, the task and group management features foster the online evaluation of students' progress. Therefore, they can easily respond to the classical "course management" requirements. Furthermore, the communication and collaboration features are in line with the social module of the learning management systems, fostering group creation, chatting and content sharing.

Table 2
General features of the identified enterprise social networks

Features	Characteristics
Task and group management	- They support planning, tracking, and reporting on specific tasks. - They include scheduling capabilities. - They facilitate the creation and use of Gannt charts. - They include visual tools like pinboards, mind maps, and charts. - They allow users to search across files, discussion threads, and all the content of the social network using keywords and tags.
Communication	- They provide an instant messaging tool. - They notify the user about the latest activities and updates. - They support three types of communication, namely: forum style, small group/team style and one-to-one / private style. - They support survey creation and sharing. - They facilitate the creation of an internal knowledge base. - They easily integrate other applications like Gmail, Outlook, and GoToMeeting.
Collaboration	- They allow the sharing of text, video, and audio files. - They support document collaboration. - They allow users to control who can access or edit their files. - They provide advanced security features. - They allow device synchronisation.

Source: The authors

Given the fact that enterprise social networks can act as a learning management system, teachers could use the same criteria to select the most appropriate one. According to the specialised literature (Krouska et al., 2019; Luna-Urquinzo, 2019; Naveed et al., 2020; Spirin et al., 2022), the main criteria that are used for selecting and evaluating the learning management systems can be grouped into five categories, namely: (i) students' profile; (ii) teachers' profile; (iii) system's design; (iv) technological features, and (v) pedagogical features (Table 3).

The first two aspects concentrate on those involved in the learning process, while the latter aspects focus on the enterprise social network functionality. In other words, they emphasise three main components of the learning process: the knowledge provider (teacher), the knowledge receiver (student) and the learning components (for example, communication, collaboration, evaluation, etc.). Depending on the importance of each one of them, one enterprise social network can be more appropriate than another since they all provide almost the same components but do not focus on the same aspects. For example, while Yammer is light, easy to use and focuses on streamlined mechanisms, maintaining the classical social media interface, Slack concentrates more on bots and integrating various apps, making the communication and collaboration processes more challenging.

Table 3
Criteria for selecting learning management systems

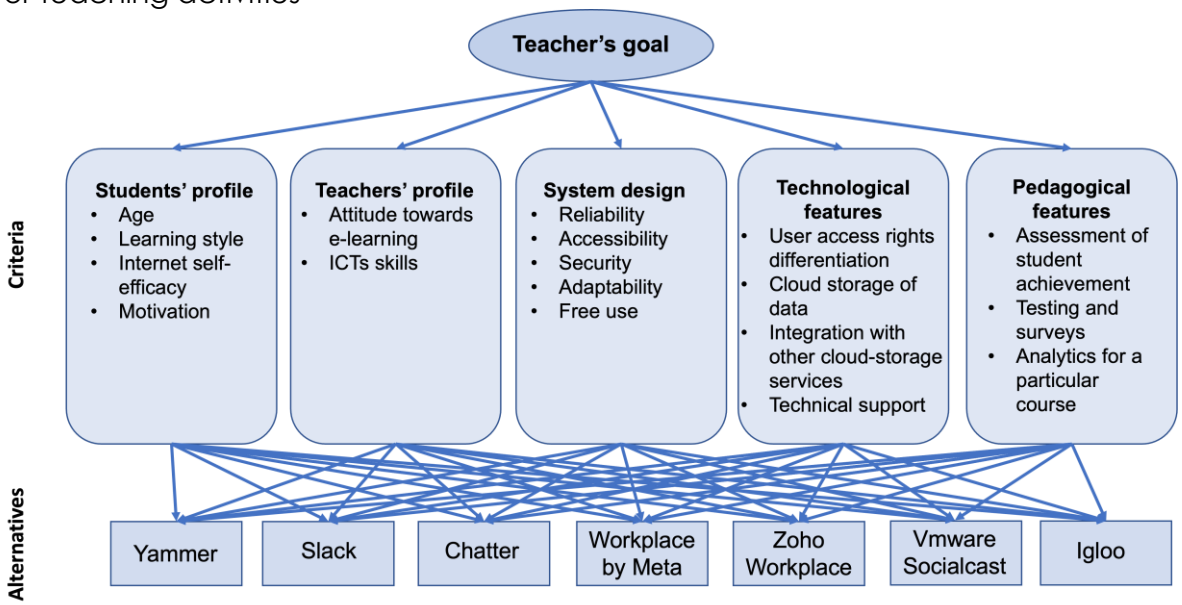
Category	Criteria	References
Students' profile	Age	Luna-Urquinzo (2019)
	Learning style	Luna-Urquinzo (2019)
	General Internet self-efficacy	Naveed et al. (2020)
	Motivation	Naveed et al. (2020)
Teachers' profile	Attitude towards e-learning	Naveed et al. (2020)
	ICTs skills	Naveed et al. (2020)
System design	Reliability	Naveed et al. (2020); Spirin et al. (2022);
	Accessibility / User-friendly	Naveed et al. (2020); Spirin et al. (2022)
	Security	Spirin et al. (2022)
	Adaptability	Spirin et al. (2022)
	Free use	Spirin et al. (2022)
Technological features	User access rights differentiation	Spirin et al. (2022)
	Cloud storage of data	Spirin et al. (2022)
	Integration with other cloud-storage services	Spirin et al. (2022)
	Technical support for users	Naveed et al. (2020)
Pedagogical features	Assessment of student achievement	Spirin et al. (2022)
	Testing and surveys	Spirin et al. (2022)
	Analytics for a particular course	Liu et al. (2020); Spirin et al. (2022)

Source: The authors

Based on the above findings, a multi-criteria decision-making model based on an analytic hierarchy process is developed (Figure 1). According to Saaty (1996), the analytic hierarchy process is a general theory that represents the real-world decision problem using a loose network structure. Based on dependence and ratio scale, it brings forward the decision-ranking priorities, and it facilitates the identification of the most appropriate alternative. So far, the analytic hierarchy process has been successfully applied to risk assessment (Li & Wang, 2022), quality evaluation of health and safety services (Alp et al., 2022), performance management evaluation (Aslan, 2022), and also corporate social responsibility performance evaluation (Li et al., 2021). In the educational sector, the analytic hierarchy process was previously used to evaluate teaching quality (Li, 2021; Mohammed & Daham, 2021) but not to select teaching strategies and/or techniques.

Thus, the proposed multi-criteria decision-making model starts with the pedagogical goal that the teacher is pursuing and continues with the criteria that usually influence the teaching strategy and how the learning activities are designed. Further, based on every one of the criteria above, the seven enterprise social networks that capture academics' and practitioners' attention can be compared.

Figure 1
Proposed decision model for selecting the most appropriate enterprise social network for teaching activities



Source: Author's illustration

The proposed model presented in Figure 1 provides a valuable decision-making tool for teachers who want to switch from classical socio-constructivism learning to a connective learning approach. On the one hand, it brings forward the enterprise social networks with which students may have to work after graduation. On the other hand, it facilitates their selection based on the capabilities provided by the well-established learning management systems.

Conclusion and further research avenues

Current research emphasizes enterprise social networks that could foster formal and informal learning. It proposes a multi-criteria decision-making model for selecting the most appropriate one based on teachers' objectives and higher education's demands.

This approach provides both theoretical and practical implications. At the theoretical level, it extends the educational technologies literature since no previous studies concentrate on the use of enterprise social networks in the educational context. This paper suggests that these can be viable tools since they have the same features as learning management systems. Thus, their collaboration features can support the creation and distribution of educational material, while the task and group management features concentrate on students' assignments and evaluations. Last but not least, the communication and collaboration features are in line with the social module of the learning management systems, fostering group creation, chatting and content sharing. At the practical level, this article proposes a viable decision-making tool that could help teachers decide which enterprise social network is the most appropriate one for their pedagogical activity.

Nevertheless, it must be mentioned that the value-added of this research is limited by its conceptual design. Therefore, further research is needed to test the model in the real educational environment and prioritize not only the enterprise social networks based on teachers' objectives but also the main influence factors.

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