



Managing relationships and communications in higher education efficiently through digital social networks: The importance of the relational coordination model

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Received: Febrero 22th, 2015. Received in revised form: November 12th, 2015. Accepted: January 10th, 2016.

Abstract

Digital social networks have proven to be of great support for organizations that are increasingly using new forms of social communication every day, seeking to improve their productivity and competitiveness. The main objective of this study is to explain how organizations, particularly Institutions of Higher Education, can improve their competitive position through the use of digital social networks from the perspective of relationship management and management of communications, in order to achieve better results in terms of teamwork satisfaction, relationship marketing and educational excellence. For this objective, the application of a relational coordination model, based on the sharing of objectives, optimal knowledge management, mutual respect and efficient communication mechanisms, is suggested.

Keywords: relational coordination, organizational practices, organizational results, university education, digital social networks.

Cómo gestionar las relaciones y comunicaciones de manera eficiente a través de las redes sociales digitales en instituciones de educación superior: Una propuesta desde el modelo de coordinación relacional

Resumen

Las redes sociales digitales han demostrado ser un gran apoyo para las organizaciones, que cada día las utilizan más en las nuevas formas de comunicación social en busca de mejorar su productividad y competitividad. Como objetivo principal de este estudio, se busca explicar cómo a través de la utilización de redes sociales digitales se puede mejorar la posición competitiva de las organizaciones, y en particular de las Instituciones de Educación Superior, desde la perspectiva de gestión de las relaciones y gestión de las comunicaciones, para conseguir mejores resultados en términos de satisfacción de los equipos, de marketing relacional y excelencia educativa. Para esto, se ha sugerido la aplicación del modelo de coordinación relacional que tiene sus bases en la compartición de objetivos, la óptima gestión del conocimiento, y el respeto mutuo unido a mecanismos eficientes de comunicación.

Palabras clave: coordinación relacional, prácticas organizativas, resultados organizacionales, educación universitaria, redes sociales digitales.

1. Introduction

In today's globalized world, production, coding and dissemination of information and knowledge have become the main pillars for technological innovation and economic growth. Simultaneously, the worldwide dissemination of information

and communications technology (ICT) has launched a process of connectivity, unprecedented in human history, which has increased the possibility of generating and socializing information and knowledge by progressively removing barriers of time and space. Perhaps the most outstanding phenomenon of these changes is the Internet, a network of networks that has

had a substantial impact on economic processes, culture and the generation of new forms of interaction, communication and exchange of experiences between different actors, institutions and social movements [1].

The way companies interact has changed due to the emergence of information and communication technologies (ICTs). Since the first implementation of ICTs as marketing strategies in companies, the evolution and development of these trends in different fields have been remarkable. Everyday people tend to be more connected in order to perform most of their online activities and spend more time surfing the Internet, which shows the exponential growth in the use of ICT [2].

Currently, most organizations provide strong support to the development of information and communication technology. ICTs are fundamental not only for their instrumental character in meeting information needs for decision making, but also because they have become a vehicle for generating distinctive capabilities, which, when combined with other valuable resources, can result in a constitutive source of competitive advantage [3]. Therefore, the application of ICT must be aligned with organizational strategic planning, and as such becomes a strategic factor behind the growth of the organization [4].

With the emergence of the Internet, society has radically changed the way people communicate, their leisure habits, and their ways of meeting and relating to each other. Thanks to the technologies derived from the second Internet generation, known as Web 2.0, the consumer has become the main figure of the network. The label 2.0 represents a more collaborative Web that allows users to access and participate in the creation of unlimited knowledge, and as a result of this interaction, new business opportunities are created for businesses [5].

Digital social networks are configured to be the best tools of Web 2.0 for business strategies focusing on customer orientation, and on customizing the message, interaction with the recipient and maintenance of two-way communication with the client in order to achieve their loyalty [6].

Through digital social networks, company employees may get to know each other, fostering a better relationship. Connecting people creates a greater degree of trust and responsibility between them [7]. Therefore, digital social networks are a means of communication, with the distinctive feature of enabling direct and quick relationships to be formed amongst a community of a few or millions of users and where each person can also make a contribution. Digital social networks are a powerful tool that, if properly used, can allow us to highlight our strengths, hide our faults and, in both cases, offer us a better understanding of our environment that allows us improve relationships at higher levels of exchange value [8].

The growth of digital social networks coupled with the ability to target consumers, making strategic use of demographic information such as gender, ethnicity, education and political or religious affiliations, which have been provided by participants through their profiles, make this tool really attractive for companies [9].

While users of digital social networks seek to connect with friends, organizations have taken the opportunity to

communicate through specific demographics. Digital social networks offer organizations several key advantages over regular Web sites, because they facilitate communication with users based on location, age and marital status using the information provided in their profiles. Organizations can also communicate with potential customers through different social networks [10].

Digital social networks are often managed from the area of marketing, facilitating communication and the exchange of information with clients, customers, prospects, suppliers, investors, candidates for vacant posts, competitors and any other relevant actors in the life of the company. Therefore they become useful tools for business and professionals; by enabling practices such as the use of phone, email or a corporate website. However, social networks add an extra feature in comparison with the rest of these media: "*the ability to create community*" [8].

In order to improve their online presence, higher education institutions have increased the use of digital social networks as a marketing strategy that will help them achieve better positioning and organizational growth [11]. A topic of interest in the field of educational organizations, since 2011, has been the use of digital social networks in order to analyze performance and as a way of building relationships and ensuring student loyalty and participation [12].

For effective communication with students, professionals in higher education must adopt new technologies and more importantly, explore opportunities to implement a social media marketing plan, which should be reevaluated to adjust to shifting trends and be adapted to the changing needs of students. Facebook, Twitter and YouTube are the preferred media for socializing and networking [13].

The quality of communication is a key factor in achieving effective organizational relationships by building relationships that enable higher education organizations fulfill their corporate mission [14].

However, communication is not the only factor to measure teamwork quality. This can be measured by many different factors, such as those raised in the relational coordination model proposed by Gittel [15], which has been applied in this research as a framework for analyzing the use of digital social networks as tools for achieving better results in the field of relational marketing, in terms of teams' satisfaction and educational excellence.

This model has been applied to different types of organizations, with promising results, and it explains that relational coordination occurs through relationships of shared objectives; shared knowledge; mutual respect; and frequent, timely, accurate and solution focused communication. Thus it is achieved by managing relationships in an efficient manner and ensuring the achievement of organizational goals [15,16].

The main objective of this paper is to describe how the use of digital social networks from a model-based approach of relational coordination can be applied to better explain educational excellence.

2. Using digital social networks in the education sector

It is increasingly evident that digital social networks are being used in different sectors to achieve their marketing

goals and the education sector is no exception. Institutions of higher education make use of this tool to meet their marketing goals but also for recruitment, admissions, interacting with students and stakeholders, fundraising, student-teacher relationships, and primarily to improve their competitiveness in the sector [17].

Digital social networks can be useful tools in recruiting efforts and very beneficial to improve the competitiveness of higher education institutions [18], disseminating humanizing stories of students and graduates, which promote student retention and help achieve marketing goals [19].

The president of Southwestern College recognizes that digital social networks have become fundamental and strategic tools for institutions of higher education for the purpose of recruitment, development, and public relations, to build relationships with students and graduates, and finally to improve their competitiveness, moving these institutions into a leadership position [20].

According to the American company Digital ZOG [21], dedicated to research on social media and new technologies, one of the benefits of the evolution of digital social networks is the ability to reach a lot of people. Educational institutions can reach not only potential students but also current students, alumni, colleagues in the industry and the community in general; position achieving a good reputation of the institution through the integration of digital social networks within their strategic planning. As previously mentioned, the use of digital social networks contributes to improving the competitiveness of higher education institutions.

According to Kaplan and Haenlein [22], although many colleges still only make use of traditional media, a noticeable growth in the number of institutions that are integrating technological tools and strategies, including digital social networks, to communicate and build relationships with students and other stakeholders is evident.

Thanks to the popularity of digital social networks among students, institutions of higher education have begun to implement strategies to attract prospective students, communicate with current students and maintain their relationships with alumni [23-25].

94% of institutions of higher education in the United States use Facebook to connect with their stakeholders. Other social media such as Twitter, LinkedIn and YouTube, are also used for relationship marketing strategies, although at a slower rate. In addition, almost 60% of institutions have placed their different social media accounts on their institutional websites, confirming the importance of these platforms and the institutionalization of digital social networks [25].

According to research conducted by Pearson [26] that surveyed approximately 8,000 schools from a variety of disciplines and institutions of higher education in the United States on the use of social media, 78.9% of respondents considered that the use of digital social networks increased the level of communication with an institution's students and stakeholders. Similarly, respondents felt that sharing information through these means helped in creating better learning environments.

Digital social networks are popular as an information

search tool, where comments and content can be shared and communicated, and are also used for other activities. Therefore, they represent a great opportunity for higher education institutions to interact, discuss and listen to different stakeholders, in a context of globalized higher education but are also a challenge [27].

Currently, the fact that young people make frequent use of the Internet and, particularly digital social networks, should not be considered as a waste of their time, because they are acquiring technological and communication skills useful in the modern world. The potential to use digital social networks as communication channels, as well as a source of information and entertainment, is great for higher education institutions. This is confirmed by the favorable attitude of students in relation to the academic use of this type of media.

Digital social networks promote firstly, self-learning; secondly, teamwork through information sharing; thirdly, access to other information sources that facilitate collaborative learning, and finally, communication amongst students, between students and teachers and also between students and administrative staff. All these advantages enable higher education institutions practice an interactive approach and promote a more dynamic learning environment, ensuring a better quality education.

3. Importance of the relational coordination in institutions of higher education

Gittell [28] defines the relational coordination model as a "mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration".

Gittell [16] explains how this model differs from other ones, due to the fact that the proposal is based on three specific dimensions of relationship that are required for effective coordination. While other theories stress the importance of shared knowledge, the relational coordination model explains that although this is required, it is not a sufficient condition. According to this model, to achieve effective coordination, the agents that take part in the process must also be connected via shared objectives and a relationship of mutual respect.

The relational coordination model focusses on the relationships that emerge from the various roles that shape a process, more than on the relationship that some individuals maintain with each other during work [29].

The model is structured upon two kinds of relationships: relationship ties and communication ties.

Some of the relational dimensions that can be mentioned are shared goals, shared knowledge and mutual respect.

3.1. Shared objectives

In order to ensure teamwork quality it is important that each member shares his/her knowledge and experience of relevant tasks with the team [30]. Whenever different members of a team share the same objectives and values, inter-personal relationships are reinforced [31].

At a team level, establishing a set of objectives is considered to be the main factor in guaranteeing the

completion of tasks [32]. The quality and the degree of acceptance of the ideas generated by the members of the team increases whenever the members cooperate [33]. Therefore, sharing objectives is important to achieve quality teamwork and it is necessary if team objectives are to be met. The greater the support provided to the members of a team, the more effective the final results will be, and team moral can be improved too [34].

Shared objectives become an essential element for teamwork quality. Competition between members of a team can have a positive influence on their motivation and on returns derived from individual tasks, however, cooperation or support amongst team members is more important [35].

In a team, having shared objectives, instead of promoting competition between members, improves productivity amongst them when undertaking different tasks. Besides, when members share the same mission or vision, it increases the probability of being able to prioritize team tasks and of sharing a similar interpretation of work rules [36].

According to Gittell [16], thanks to the existence of a set of shared objectives in their work, stakeholders are able to develop ties that allow them to reach conclusions that are compatible with the different ways of thinking and acting, as new information is made available.

3.2. Shared knowledge

The knowledge found in work teams is considered to be shared knowledge or team knowledge [37-39]. The concept of shared knowledge consists in the fact that team members have compatible or similar knowledge that leads them to share expectations for team tasks [40,41]; these expectations allow the team to coordinate and forecast the behavior and needs of team members [37].

The generation of knowledge can appear at individual or team level, and it is the result of a communication process at an individual and team level, it is often the result of a bi-directional communication process in which information is shared with other people [42-44,36]. This process of communication serves to develop the spirit of work too [43].

The interchange of knowledge in teamwork is important to generate trust and improve teamwork effectiveness. Storck [45] and Herbsleb and Moitra [46] reinforce this observation, by affirming that with a lack of effective information interchange, projects can suffer from coordination problems that drive them to fail. Team interaction is more productive when information shared is relevant, accurate and useful [36].

Knowledge exchange is required in order to integrate the different disciplines represented on a team along with the ideas, knowledge and information held by team members as well as to ensure frequent communication [37,47,48]. When knowledge is not integrated, the process will be slower and more complex [49].

Shared knowledge refers to the provision of information and *know-how* that is required to help others to better undertake their work and fulfill obligations [50,51]. It can be offered by means of written or verbal communication, through the creation of networks with other experts or by documenting, organizing and obtaining knowledge from

others [50,51].

Shared knowledge becomes the main way in which employees in a company can contribute to the application of knowledge, innovation and competitive advantage [52].

Gittell [16] shows that when the different members of the work group know how their objectives are related to the rest of the objectives of the group taking part in the same process, a dynamic is created in which everyone knows the implications that each change will have over any other task or role.

3.3. Mutual respect

A key aspect of teamwork quality is that team members openly share information [53,54]. Lack of respect amongst the members of a team becomes a barrier to teamwork that is the integration of a team's knowledge and experience in common tasks.

The members of a team that work towards a common objective must show each other mutual respect and help each other to develop the ideas and contributions of other team members whenever it is required, instead of fighting each other [36].

Mutual respect is "key to maintain a healthy labor climate" [55]. Therefore, an essential factor for teamwork quality is that contributions are made based on respect [36].

A leader must not treat any other member badly. In teamwork there are different levels and positions, but the contribution of skills and values to the team by all members is equally important [55].

Work teams based on mutual respect amongst members are more productive and maintain a positive work climate [55]. Productive interactions require mutual respect, a shared language and a willingness to participate in the teamwork necessary to resolve conflicts [56].

Mutual respect between people ensures that all the members of the team can express their ideas. In this way, the team will benefit from each other's talent [57]. The respect for another member's ability, implied in the process, establishes a powerful link that is applied holistically to the whole process, resulting in an effective coordination between team members [16].

Gittell's model includes several communication dimensions, some of these are: frequent communication, timely communication, accurate communication and problem solving communication.

3.4. Frequent communication

Teamwork members need to be connected continually, by making frequent and solid communication channels possible so as to increase feedback, and allow for the correction of errors, the generation of ideas and problem solving [58,59]. This frequent interaction would produce more and new ideas and improves the decision making process [31,35,60].

According to the theory of information processing, frequent communication is required to decrease the levels of uncertainty often found in complex processes [61].

Additionally, frequent communication lays the foundation for other factors that then determine the outcomes

of teamwork. For example, communication is needed to coordinate the efforts of team members and knowledge [62]; so as to understand the collective mission of the team [63], to be sure that the team shares the same mental model over time [44], and to facilitate trust in the team [64]. Team performance can be defined as the extent to which the team is able to deliver on quality, costs and the established objectives on time [65].

Frequent communication is needed (a process where participants create and share information amongst themselves to reach a mutual understanding) and the team leader must coordinate and facilitate this communication [66], to help establish the relationships amongst different roles through the proximity generated as a consequence of repeated interaction [16].

3.5. Timely communication

Delays in communication can have negative implications on final organizational goals. Therefore it is important to have communication in the precise moment that it is required to have success in the organizational goals [67].

Communication is a key factor to achieve quality teamwork. It offers a means to exchange information, share ideas amongst the members of the team, coordinate efforts and offer feedback [54]. Today, information exchange is not only important but ensuring that the right information is offered to the right person at the right moment is very much desired [54,68,69]. Communication refers to the capacity of team members to understand information, network exchange, and the use of these networks to improve the interchange of information [70]. Communication serves as a mechanism for the interaction of the members of a team. [71].

The communication style of an organization is related to its business growth, so a style based on open and accurate communication increases the interest and trust of employees [72].

3.6. Accurate communication

There is great evidence that the different aspects of an effective communication, such as frequency and precision over policies and organizational routines are positively related with an employee's productivity [73-76].

Accurate communication in terms of the relevant information plays a critical role in the effectiveness of group work performance [74].

It is important for team members to communicate directly to each other, since the interchange of information by means of intermediaries demands more time, and runs the risk of errors appearing in the message when it is sent [30,54]. To achieve this, it is extremely important that members of a team are open to the other members and avoid hiding important information, since it can damage the integration of knowledge and experience of the team members, this being the main function of teamwork [36].

The effective application of organizational strategies and human resources policies depend on the accuracy of information exchange amongst team members [77]. The lack of precise communication between managers can create strategic misalignment [78].

3.7. Problem solving communication

Effective communication requires commitment from the stakeholders that take part in the task to a communication policy oriented at solving problems that appear in groups characterized by high interdependence. Blaming other workers or avoiding one's own responsibilities can lead to negative consequences that have an impact on the final results [79].

Communication is a required component for coordination and teams perceive communication problems as a result of experiencing problems with coordination processes [71]. Communication is a required component to the collaborative solution of problems and teams will find it much more difficult to resolve an issue without it [80].

Often, some problems dealing with team work appear when the actions of one or more team members are non compatible with the rest of the team members [81], and they increase when the members feel that their different objectives cannot be reached at the same time as the rest of the members [82].

Problem solving communication allows team members to adapt in a more flexible way to unforeseen and negative circumstances that may appear. Therefore, this represents an important aspect of teamwork quality [83].

Quality relationships allow team members to coordinate an effective work process, based on frequent, accurate and timely communication oriented at the solution of problems [83].

A brief description of each of the dimensions is shown in Table 1.

The relational coordination model proposed by Gittel [28] can improve results for organizations or organizational processes where high levels of task interdependence [84], uncertainty [85], time restrictions [86] and tacit knowledge [87] exist.

The application of coordination mechanisms in upper educational institutions can improve their level of academic quality.

Effectiveness in teaching and learning processes depends on the ability to coordinate different agents properly in the exchange of ideas, knowledge, and objectives and by demonstrating mutual respect between all the stakeholders. [29]. This is how different relationships are managed efficiently, by allowing organizational objectives to be reached and ensuring team satisfaction [15,16].

The relational coordination model has been applied to different industries such as, health [15,16], and it has been applied to different medical units in hospitals. Those medical units that presented high degrees in terms of relational coordination were the ones that achieved better final results; López et al. [88], and De Pablos y López [3], have applied the model to show the organizational excellence of the Spanish Organ Transplant System; Haider [89] and de Pablos and Haider [90] have measured teamwork quality by making use of the relational coordination model and their research has been applied to the process of accurate myocardial infarction. De Pablos et al. [90] have applied this model to show best results in cloud computing practices and in education. De Pablos et al. [3] [90] have demonstrated how

higher degrees of relational coordination in upper education institutions lead to higher degrees of satisfaction in lecturers and students.

The need for coordinating is a prerequisite to achieving better results in companies [90]. Thompson [84] describes the importance of effective coordination amongst high interdependent tasks. De Pablos and Haider [90] observe how mutual adjustment improves coordination mechanisms at organizations, such as for example, routines, timetables, previous planning and task normalization.

Coordination is the integration of work in conditions of task interdependencies [91]. Lawrence and Lorsch [92], and De Pablos et al. [90], have studied the relationship between work coordination and final results in organizations, they have found that coordination is positively related with final competitive outcomes in organizations.

The relational coordination model focuses on understanding the importance of coordinating relationships and the dynamics of communication in organizations to achieve best results. [16]. This model has been applied to different kinds of organizations with promising results so far [3,88].

From the model it can be confirmed that relational coordination is produced by means of frequent high quality communication with the support of shared objectives and knowledge and mutual respect.

According to Gittell [16], relational coordination allows firms to obtain better levels of quality and effectiveness. It has to do with the sharing of objectives, values and the existence

of efficient communication mechanisms amongst workers in a firm. According to this model, the existence of high levels of relational coordination imply higher levels of excellence and competitiveness for upper educational institutions [90].

Although communication mechanisms are not a serious problem in educational ecosystems, the lack of shared objectives and mutual respect can become barriers when the search for excellence is a must [93].

A quality upper education system is key to creating value and it has become a priority for policy makers worldwide [94,95]. Therefore, the improvement of quality in education must also be oriented towards the increase in the degree of coordination between lecturers, the internal organization and the learning objectives. In this respect, Marengo and Dosi [96] and Brunner [97] indicate that the organizational systems and the government structures of upper education systems determine the success and the achievement of objectives in terms of upper education.

4. Application of relational coordination model in higher education institutions to optimize the use of digital social networks

In previous sections the literature review on the suitability of higher education institutions (HEI) using social media (HEIs) was discussed. The importance of relational coordination in these institutions in order to achieve organizational goals and interpret higher levels of academic quality has also been described. This section will explain how the model of Relational Coordination can be applied to optimize the use of digital social networks in HEIs.

Digital social networks are now fully established in our society. They have completely and quickly changed the way people relate on a personal and professional level [98]. The implementation and use of social networks must be a part of the strategic planning of HEIs. However, how can HEIs apply the Relational Coordination model to optimize the use of online social networks?

The relational coordination model, as has been explained, provides an organizational framework that can help HEIs optimize the use of social media in their internal and external relationships. Digital social networks have radically changed the way in which internal relationships are managed in HEIs, substantially improving the quality of the institutions. Rather than understanding them as a substitute for personal relationships, social media should be seen as an extension of these, allowing for an enrichment of human experience and making it possible to maintain daily contact with a wider circle of agents than would be physically possible using traditional methods [99], as well as becoming a new channel through which institutions can share strategies with employees.

The option to record sound and share videos via Vine or Instagram generates a climate of trust in teams, allowing members to exchange information with the entire community and also transmit how culture is lived in the institution [100]. For HEIs that have multiple branches located in different geographical areas where communication is difficult, digital social networks will be useful, becoming increasingly the main source of information for people and providing solutions to their problems through direct communication

Table 1.

Dimensions and elements for the Relational Coordination Model

Dimensions	Elements	Description
Relational Dimensions	Shared objectives	Shared objectives offer teamwork members strong linkages and facilitate the conclusions on how answering to new information.
	Shared knowledge	It is important that the members of a team own the global knowledge that it is required to better know how changes impact in the process.
	Mutual respect	The respect for the rest of the members of the team creates strong linkages amongst them.
	Frequent communication	Frequent communication helps to build relationships.
Communication dimensions	Timely communication	Communication can be frequent however of low quality. For certain work interdependencies, delays in the communication can be transformed into fatal errors.
	Accurate communication	Apart from frequent and on time, communication must be accurate. Otherwise, important mistakes can also take place.
	Problem solving communication	Interdependent tasks often generate problems that must be solved together.

Source: Adapted from [29]

without geographical barriers [101]. Also, creating a corporate group on LinkedIn or Facebook where employees share their knowledge, create debates, etc. will promote a sense of belonging and also helps position the HEI network.

Internal relations are central to achieving the goals set by the HEI, to building a positive corporate culture and to improving the morale and productivity of employees [102] and digital social networks can be a great ally for management, when managed correctly and applied to the relationships between the different roles that shape the processes, as posed by the Relational Coordination model [15].

Digital social networks can also be useful tools in recruitment efforts and can improve the competitiveness of a HEI, allowing it to establish relationships not only with potential students, but also with current students, alumni and the community in general [17]. To do this, it is necessary to have a marketing plan on social media that contains strategies and action plans that are aligned with the objectives of the institution, but also with the individual goals of each department, study area or faculty. To implement the plan, coordination mechanisms between team members are needed. The team would consist of different profiles, one important one being the Community Manager, who would be the person in charge of building, managing and moderating communities around a brand, product or service on the Internet, in this case the HEI.

The HEI should have several Community Managers that help optimize the institutional use of digital social networks to strengthen relations and communications with users creating an active and participatory community [103]. One Community Manager should be responsible for communicating the institution's identity and should focus on general objectives, and there should also be one for each department, faculty or study area who is responsible for managing relationships with stakeholders, but also focuses on the general objectives of the institution. The scope of the general objectives of the HEI can be reduced if there is not proper coordination between the members that are part of this process. It is here that the application of the Relational Coordination model is useful to optimize the use of digital social networks, because, as mentioned earlier, the HEI have general goals and these will be shared by the different Community Managers, who in turn will have to exchange information frequently. Therefore we can say that the Relational Coordination model allows team members to work together in achieving the individual and overall objectives of the HEI.

5. Conclusions

The use of social media by Higher Education Institutions (HEIs) as a tool to enhance communications and relationships with its stakeholders provides multiple opportunities to understand the quality of education.

The main goals that HEIs wish to achieve with their digital social networks strategies are: to establish trusting relationships with their students and target audience, to strengthen corporate image, to achieve greater recognition, to promote the brand and to improve competitiveness in the sector.

The literature review suggests that HEIs can achieve all of these goals, but that while the use of ICT and particularly

digital social networks provides organizational benefits, it is not enough to just create an institutional account in all social media. HEIs should have a plan to optimize their use and develop mechanisms to address them, joining forces to share knowledge and objectives, promoting respect for the work of each team member, and also promoting effective communication mechanisms.

In conclusion, the usefulness of digital social networks in HEI cannot be questioned, it is a natural evolution in which institutions should be involved, as clear evidence exists of how it can improve key relationships and aspects of communication that directly enrich the competitiveness and reputation of the institution.

Additionally, the use of digital social networks in higher education institutions are very important not only in the formative stage, but also in their professional future, because companies now make use of these as a marketing and internal communication tool.

Finally, although the use of digital social networks provides a number of advantages to institutions of higher education, these are only tools, hence, success depends on the way in which these tools are used, which presents a big challenge to HEIs, who may use the relational coordination model to manage relationships and communications efficiently.

References

- [1] Yáñez, M. y Villatoro, P., Las nuevas tecnologías de la información y de la comunicación (TIC) y la institucionalidad social. Hacia una gestión basada en el conocimiento. Publicación de las Naciones Unidas, Chile: Publicación de las Naciones Unidas, 2005.
- [2] Grandí, C., González, F. y Segarra, M., ¿Cómo potenciar el uso de las redes sociales como estrategia de marketing en empresas del sector hostelero?, Tec. Empresarial, 2014.
- [3] De Pablos, C., López, J., Romo, S. y Medina, S, Organización y transformación de los sistemas de información en la empresa, España: Editorial ESIC, 2012.
- [4] Arango, M., Branch, J. y Londoño, J, Arquitectura empresarial como instrumento para gestionar la complejidad operativa en las organizaciones, Revista DYNA, 81(185), pp. 219-226, 2014.
- [5] Celaya, J., La empresa en la web 2.0., España: Gestión 2000, 2011.
- [6] Castelló, A., Estrategias empresariales en la web 2.0. Las redes sociales online, España: Editorial Club Universitario, 2010.
- [7] Keyes, J., Enterprise 2.0. Social networking tools to transform your organization, USA: Taylor & Francis group, 2013.
- [8] Carballar, J., Social media, marketing personal y profesional. Informática y comunicaciones en la empresa, España: RC Libros, 2012.
- [9] Steel, E. and Fowler, G.A., Big brands like Facebook, but they don't like to pay, The Wall Street Journal, 2011.
- [10] Warren, C., Time spent on social networks has tripled, 2009.
- [11] Griffith, S. and Liyanage, L., An introduction to the potential of social networking sites in education. Emerging technologies conference, 2008. [Online]. Available at: <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1008&context=etc08>.
- [12] Stoller, E., Using social media to enhance engagement, yield, and retention. Inside higher education, [Online]. 2011. Available at: http://www.insidehighered.com/blogs/student_affairs_and_technology/using_social_media_to_enhance_engagement_yield_and_retention.
- [13] Ratliff, A., The journal of technology in students affairs. University of Alabama, 2011.
- [14] Scott, C., Allen, C. and Glen, B., Manual de relaciones públicas eficaces, Barcelona, España: Ediciones Gestión 2000, 2006.
- [15] Gittel, J., High performance healthcare: Using the power of relationships to achieve quality, efficiency and resilience, Nueva York, USA: Mc Graw-Hill, 2009.

- [16] Gittel, J., Relational coordination: Guidelines for theory, measurement and analysis, [Online]. 2010. Available at: www.jodyhoffergittel.info/content/rc.html.
- [17] Wilson, C., Making connections: Higher education meets social media, Change: The magazine of higher learning, 2013.
- [18] Noel-Levitz, I., e-Expectations class of 2007 report: Building an e-recruitment network: 7, 2007.
- [19] Solis, B., Customer service: The art of listening and engagement through social media, 32, 2008.
- [20] Nolan, J., Social media in the business of higher education, 2012. [Online]. Available at: http://www.huffingtonpost.com/dr-james-michael-nolan/social-media-in-the-busin_b_1607245.html.
- [21] Zog Digital., The benefits of social media for higher education, [Online]. 2013. Available at: <http://www.business2community.com/social-media/the-benefits-of-social-media-for-higher-education-0445218#!byajid>.
- [22] Kaplan, A. and Haenlein, M., Users of the world, unite! The challenges and opportunities of social media, business horizons, 53(1), pp. 59-68, 2010.
- [23] Education Insider., Admissions offices turn to social media to connect with prospective students, 2010.
- [24] Pearson., Social media in higher education, [Online]. 2011. Available at: <http://www.pearsonlearningsolutions.com/higher-education/social-media-survey.php>.
- [25] Slover-Linett, C. and Stoner, M., Succeeding with social media: Lessons from the first survey of social media in advancement, 2011.
- [26] Pearson., Social media for teaching and learning. Annual survey of social media use by higher education faculty, 2013.
- [27] Smith, A., Rainie, L. and Zickuhr., College students and technology. Pew internet & american life project, 2011. [Online]. Available at: <http://www.pewinternet.org/2011/07/19/college-students-and-technology/>
- [28] Gittel, J., Coordinating mechanisms in care provider groups: Relational coordination as a mediator and input uncertainty as a moderator of performance effects. *Manag. Sci.* 48, pp. 1408-1426, 2002. DOI: 10.1287/mnsc.48.11.1408.268
- [29] Smith, A., Rainie, L. and Zickuhr., College students and technology. Pew internet & american life project, 2011. [Online]. Available at: <http://www.pewinternet.org/2011/07/19/college-students-and-technology/>
- [30] Hackman, J., The design of work teams. In: Lorsch, J.W. ed. *Handbook of organizational behavior*, Prentice-Hall, Englewood Cliffs, NY, 1987. pp. 67-102.
- [31] Hackman, J., *Groups that work (and those that don't)*, San Francisco, 1990.
- [32] Vinagre, J., Del Llano, J., De Pablos, C. and Nuijten, M., Relational coordination and healthcare management in lung cancer. *World Journal of Clinical Cases*, 2(12), pp. 757-768, 2014. DOI: 10.12998/wjcc.v2.i12.757
- [33] Cooke, R. and Szumal, J., The impact of group interaction styles on problem-solving effectiveness, *Journal of applied behavioral science*, 30(4), pp. 415-437, 1994. DOI: 10.1177/0021886394304005
- [34] Heaney, C., Price, R. y Rafferty, J., Increasing coping resources at work: a field experiment to increase social support, improve work team functioning, and enhance employee mental health, *Journal of organizational behavior*, 16(4), pp. 335-352, 1995. DOI: 10.1002/job.4030160405
- [35] Tjosvold, D., Cooperation theory, constructive controversy, and effectiveness: Learning from crisis. In: Guzzo, R.A., Salas, E. and Associates Eds., *Team effectiveness and decision making in organizations*, San Francisco, 1995, pp. 79-112.
- [36] Hoegl, M. and Gemuenden, H., Teamwork quality and the success of innovative projects: Theoretical concept and empirical evidence *organization science*, 12(4), pp. 435-499, 2001.
- [37] Cooke, N., Cannon-Bowers, J. and Stout, R., Measuring team knowledge, *Human Factors*, 42, pp. 151-173, 2000. DOI: 10.1518/001872000779656561
- [38] Ensley, M. and Pearce, C., Shared cognition in top management teams: Implications for new venture performance, *Journal of Organizational Behavior*, 22(2), pp. 145-160, 2001. DOI: 10.1002/job.83
- [39] Rentsch, J. and Klimoski, R., Why do 'great minds' think alike?: Antecedents of team member schema agreement, *Journal of Organizational Behavior*, 22, pp. 107-120, 2001. DOI: 10.1002/job.81
- [40] Cannon-Bowers, J., Salas, E. and Converse, S., Shared mental models in expert team decision making. In: Castellan, N.J., Jr. (Ed.), *Individual and group decision making: Current issues*, England: Lawrence Erlbaum Associates, 1990, pp. 221-246.
- [41] Kozlowski, S. and Ilgen, D., Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7, pp. 77-124, 2006. DOI: 10.1111/j.1529-1006.2006.00030.x
- [42] Safón-Cano, V., Creación y desarrollo del conocimiento en la organización, *Revista Europea de Dirección y Economía de la Empresa*, 6(2), pp. 115-126, 1997.
- [43] Mickan, S. and Rodger, S., Characteristics of effective teams, *Australian Health Review*, 23(3), pp. 201-207, 2000. DOI: 10.1071/AH000201
- [44] Salas, E., Burke, C. and Cannon-Bowers, J., Teamwork: Emerging principles, *International Journal of Management Reviews*, 2(4), pp. 339-356, 2000. DOI: 10.1111/1468-2370.00046
- [45] Storck, P. and Lettenmaier, D., Trees, snow and flooding: an investigation of forest canopy effects on snow accumulation and melt at the plot and watershed scales in the pacific northwest, water resources series, technical report 161, university of Washing, 2000.
- [46] Herbsleb, J. and Moitra, D., Global software development. *IEEE Software*, 2001. DOI: 10.1109/52.914732
- [47] Edmondson, A. and Nembhard, I., Product development and learning in project teams: The challenges are the benefits. *Journal of product innovation management*, 26(2), pp. 123-138, 2009. DOI: 10.1111/j.1540-5885.2009.00341.x
- [48] Ratcheva, V., Integrating diverse knowledge through boundary spanning processes – The case of multidisciplinary project teams, *International Journal of Project Management*, 27(3), pp. 206-215, 2009. DOI: 0.1016/j.ijproman.2008.02.008
- [49] Sapsed, J., Bessant, J., Partington, D., Tranfield, D. and Young, M., Teamworking and knowledge management: A review of converging themes, *International Journal of Management Reviews*, 4(1), pp. 71-85, 2002. DOI: 10.1111/1468-2370.00077
- [50] Pulakos, E., Dorsey, D. and Borman, W., Hiring for knowledge-based competition. In: Jackson, S.E., Hitt, M.A. and Denisi, A.S. (Eds.), *Managing knowledge for sustained competitive advantage: Designing strategies for effective human resource management*, 2003, 155 P.
- [51] Cummings, J., Work groups, structural diversity and knowledge sharing in a global organization, *Management Science*, 50(3), pp. 352-364, 2004. DOI: 10.1287/mnsc.1030.0134
- [52] Jackson, S., Chuang, C., Harden, E., Jiang. and Joseph, J., Toward developing human resource management systems for knowledge-intensive teamwork. In: Joseph, J.M. (Ed.), *Research in personnel and human resources management*, 25, pp. 27-70, 2006.
- [53] Gladstein, D., Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29(4), pp. 499-517, 1984. DOI: 10.2307/2392936
- [54] Pinto, M. and Pinto, J., Project team communication and cross-functional cooperation in new program development, *Journal of Product Innovation Management*, 7(3), pp. 200-212, 1990. DOI: 10.1016/0737-6782(90)90004-X
- [55] Weinbach, R., *The social worker as manager: A practical guide to success*, Boston: Pearson Education, inc, 2003.
- [56] Palinkas, L., Aarons, G., Chorpita, B., Hoagwooh, K., Landsverk, J. and Weisz, J., Cultural exchange and the implementation of evidence-based practices: two case studies, *Research on social work practice*, 2009. DOI: 10.1177/1049731509335529
- [57] Ferguson., *Teamwork skills. Third edition*, USA, 2009.
- [58] Tushman, M. and Nadler, D., Information processing as an integrating concept in organizational design, *Academy of Management Review*, 3, pp. 613-624, 1978. DOI: 10.2307/257550
- [59] Katz, R. and Tushman, M., Communication patterns, project performance, and task characteristics: An empirical evaluation and integration in an R&D setting. *Organizational Behavior and Human Performance*, 23(2), pp. 139-162, 1979. DOI: 10.1016/0030-5073(79)90053-9
- [60] Moyer, N. and Langfred, C., Effects of task autonomy on performance: An extended model considering motivational, informational and structural mechanisms, *Journal of Applied Psychology*, 89(6), pp. 934-945, 2004. DOI: 10.1037/0021-9010.89.6.934
- [61] Souder, W. and Moenaert, R., Integrating marketing and R&D project personnel within innovation projects: An information uncertainty model,

- Journal of Management Studies, 29(4), pp. 485-512, 1992. DOI: 10.1111/j.1467-6486.1992.tb00675.x
- [62] Hans, H., Lee, J. and Seo, Y., Analyzing the impact of a firm's capability on outsourcing success: A process perspective. *Information & Management*, 45(1), pp. 31-42, 2008. DOI: 10.1016/j.im.2007.09.004
- [63] O'Connor, M., The human capital era: Reconceptualizing corporate law facilitate labor-management cooperation, *Cornell Law Review*, 78(5), pp. 899-965, 1993.
- [64] Jarvenpaa, S.L. and Leidner, D.E., Communication and trust in global virtual teams, *Journal of Computer-Mediated Communication*, vol. 3(4), 2006. DOI: 10.1111/j.1083-6101.1998.tb00080.x
- [65] Schrader, S. and Goepfert, J., Structuring manufacturer-supplier interaction in new product development teams: An empirical analysis, *Institut für Innovationsforschung und Technologiemanagement, Universität München*, 1996.
- [66] Rogers, E. and Kincaid, D., *Communication networks: Toward a new paradigm for research*. New York: Free Press, 1981.
- [67] Waller, M., The timing of adaptive group responses to non-routine events. *Acad. Manag. J.*, 42, pp. 127-137, 1999. DOI: 10.2307/257088
- [68] Brodbeck, F., Communication and performance in software development projects, *European Journal of Work and Organizational Psychology*, 10(1), pp. 73-94, 2001. DOI: 10.1080/13594320042000043
- [69] He, J., Butler, B. and King, W., Team cognition: Development and evolution in software project teams, *Journal of Management Information Systems*, 24(2), pp. 261-292, 2007. DOI: 10.2753/MIS0742-1222240210
- [70] Stevens, M. and Campion, M., The knowledge, skill, and ability requirements for teamwork: Implications for human resource management, *Journal of Management*, 20, pp. 503-530, 1994. DOI: 10.1177/014920639402000210
- [71] Marks, M., Mathieu, J. and Zaccaro, S., A temporally based framework and taxonomy of team processes, *The Academy of Management Review*, 26, pp. 356-376, 2001. DOI: 10.2307/259182
- [72] Nelson, C., Communication styles and business growth, *Journal of Financial Planning*, third quarter, pp. 8-11, 2010.
- [73] O'Reilly, C., Superiors and peers as information sources, work group supportiveness, and individual decision-making performance, *Journal of Applied Psychology*, 62, pp. 632-635, 1977. DOI: 10.1037/0021-9010.62.5.632
- [74] Roberts, K. and O'Reilly, C., Some correlates of communication roles in organizations, *Academy of Management Journal*, 22, pp. 42-57, 1979. DOI: 10.2307/255477
- [75] Snyder, R. and Morris, J., Organizational communication and performance, *Journal of Applied Psychology*, 69, pp. 461-465, 1984. DOI: 10.1037/0021-9010.69.3.461
- [76] Kacmar, K., Witt, L. and Gully, S., The interactive effect of leader-member exchange and communication frequency on performance ratings, *Journal of Applied Psychology*, 88, pp. 764-772, 2003. DOI: 10.1037/0021-9010.88.4.764
- [77] Goggin, M., Bowman, A., Lester, J. and O'Toole, L., *Implementation theory and practice: Toward a third generation*. Glenview, IL: Scott, Foresman/Little, Brown Higher Education, 1990.
- [78] Tourish, D., Critical upward communication: Ten commandments for improving strategy and decision making. *Long Range Planning*, 38(5), pp. 485-503, 2005. DOI: 10.1016/j.lrp.2005.05.001
- [79] Deming, W., *Out of the crisis*. MIT press, 1986. 507 P.
- [80] Laughlin, P., Collective induction: Group performance, social combination processes, and mutual majority and minority influence, *Journal of Personality and Social Psychology*, 54, pp. 254-267, 1988. DOI: 10.1037/0022-3514.54.2.254
- [81] Forsyth D., *Group Dynamics*, 2nd ed. Pacific Grove, CA: Brooks/Cole, 1990.
- [82] Levine, J. and Moreland, R., Progress in small group research. *Annual review of psychology*, 41, pp. 586-634, 1990. DOI: 10.1146/annurev.ps.41.020190.003101
- [83] Kyriakidou, O. and Özbilgin, M., Relational perspectives in organizational studies: A research companion. Edward Elgar Publishing, 2006. DOI: 10.4337/9781781950548
- [84] Thompson, J., *Organizations in Action*, New York: McGraw-Hill, 1967.
- [85] Argote, L., Input uncertainty and organizational coordination in hospital emergency units, *Administrative Science Quarterly*, 27, pp. 183-197, 1982. DOI: 10.2307/2392320
- [86] Adler, C., Malhotra, A., Elman, I., Goldberg, T., Egan, M., Pickar, D., and Breier, A., Comparison of ketamine-induced thought disorder in healthy volunteers and thought disorder in schizophrenia, *Am J Psychiatry* 156(10), pp. :1646-1649, 1999.
- [87] Nokata, I. and Takeuchi, H., *The knowledge-creating company: How Japanese companies create the dynamics of innovation*, Publisher: Oxford University Press, 1995, 304 P.
- [88] López, D., De Pablos, C., De La Puerta, E. and Fernández, C., Productivity in service systems: Towards a managerial framework, *Service Science*, 3(3), pp. 223-238, 2011. DOI: 10.1287/serv.3.3.223
- [89] Haider, S., An organizational framework for the implementation of evidence based practices to reduce door to balloon time in patients undergoing primary angioplasty, Tesis. Universidad Rey Juan Carlos. Spain, 2013, 183 P.
- [90] De Pablos, C., Haider, S. and Garcia, A., Relational coordination as an indicator of teamwork quality: Potencial application to the success of e-learning at Universities. *International Journal of Emerging Technologies in e-Learning*, 10(2), pp. 4-8, 2015.
- [91] Faraj, S. and Xiao, Y., Coordination in fast response organizations, *Management Science*, 52(8), pp.1155-1169, 2006. DOI: 10.1287/mnsc.1060.0526
- [92] Lawrence, R. and Lorsch, P., *Organization and environment: Managing differentiation and integration*. Boston: Harvard Business School., 1967.
- [93] Torres, D., Moreno, J., Robinson, N., Delgado, E. and Herrera, F., ISI rankings of Spanish universities according to fields and scientific disciplines, *Revista Profesional de la Informacion*, 20(6), pp. 701-709, 2011.
- [94] Brown, L., *Securing a sustainable future for higher education in England*, Report, 2010.
- [95] Horizon, *The new media consortium*, UE, Report, 2012.
- [96] Marengo, L. and Dosi, G., Division of labor, organizational coordination and market mechanisms in collective problem-solving, *Journal of Economic Behavior & Organization*, 58, pp. 303-326, 2005. DOI: 10.1016/j.jebo.2004.03.020
- [97] Brunner, J., University governance: Typology, dynamics and trend., *Revista de Educación*, 355, pp. 137-159, 2011.
- [98] Saffko, L., *The social media bible. Tactics, tolos & strategies for business success*, Innovative Thinking, 2010.
- [99] Mainar, H., *Tu empresa en la Web 2.0 aumenta tus beneficios gracias a Facebook, Twitter y otras redes sociales*, Bubok Publishing S.L., 2011.
- [100] Noor, H. and Allen, J., *Social media and strategic communications*, USA: Editorial Matter, 2013. DOI: 10.1057/9781137287052
- [101] Schroeder, J., Snapshot aesthetics and the strategic imagination, in *visible culture*, 2013.
- [102] Brown, D., Internal communications should be of vital importance to any business, *The Business Review*, 2002.
- [103] Guzmán, A., Del Moral, M., Gonzáles, F. y Gil, H., Contribución de Twitter a la mejora de la comunicación estratégica de las universidades latinoamericanas, *Revista de Universidad y Sociedad del Conocimiento (RUSC)*, 10(2), pp. 236-251, 2013.

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