

Association for Information Systems AIS Electronic Library (AISeL)

2016 Proceedings

SIGED: IAIM Conference

2016

The University Pages Game: Gamified Use of the LinkedIn Student & Alumni Tool to Enhance Student Understanding of the Role of Social Media in Building Social Capital

Thomas Louis Case

Georgia Southern University, tcase@georgiasouthern.edu

Michael J. Cuellar

Georgia Southern University, mcuellar@georgiasouthern.edu

Follow this and additional works at: <http://aisel.aisnet.org/siged2016>

Recommended Citation

Case, Thomas Louis and Cuellar, Michael J., "The University Pages Game: Gamified Use of the LinkedIn Student & Alumni Tool to Enhance Student Understanding of the Role of Social Media in Building Social Capital" (2016). *2016 Proceedings*. 16.
<http://aisel.aisnet.org/siged2016/16>

This material is brought to you by the SIGED: IAIM Conference at AIS Electronic Library (AISeL). It has been accepted for inclusion in 2016 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

THE UNIVERSITY PAGES GAME: GAMIFIED USE OF THE LINKEDIN STUDENT & ALUMNI TOOL TO ENHANCE STUDENT UNDERSTANDING OF THE ROLE OF SOCIAL MEDIA IN BUILDING SOCIAL CAPITAL

Thomas Case
Department of Information Systems
Georgia Southern University
tcase@georgiasouthern.edu

Michael Cuellar
Department of Information Systems
Georgia Southern University
mcuellar@georgiasouthern.edu

Abstract:

Like many other academic disciplines, gamified learning environments are increasing in IS education. Creating and using gamified learning experiences contributes to “flipped classrooms” and is widely viewed as a mechanism for increasing course engagement among millennial students. This paper describes the creation and use of a social media module for a MIS course that uses game elements to introduce students to LinkedIn’s Student and Alumni Tool and how it can be used to build social capital. Because LinkedIn Student & Alumni tool is relatively unknown among students, the social media module, which we call the University Pages Game, also provides instructors with a vehicle for illustrating precepts of the Unified Theory of Acceptance and Use of Technology (UTAUT).

Keywords: Gamification, LinkedIn, social media, social capital, UTAUT

I. INTRODUCTION

Similar to many learning contexts, gamification is becoming more common in IS learning environments. Kapp [2012] describes games in learning contexts as systems “in which players engage in an abstract challenge, defined by rules, interactivity, and feedback, that results in a quantifiable outcome often eliciting an emotional reaction” [p. 7]. Kapp also describes gamification as “using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems” [p. 10].

Muntean [2011] also provides perspective on gamification. She observes that gamification boils down to using game play elements for non-game applications. She notes that game elements have been widely adopted by consumer-oriented web and mobile sites to encourage visitors to adopt their applications and to encourage them to engage in desired behaviors in connection with their applications.

While most students are likely to view games as highly immersive and interactive virtual environments, the ability to create such environments to provide instruction is beyond the capabilities and resources of most educators. However, there are multiple less elaborate steps that educators can take to engage students in the concepts they want students to master. As Muntean [2011] observes, gamification does not equate to creating a game. It simply means using game elements to make education more fun and engaging. A full-fledged game that is perceived as having the potential to undermine the credibility of education is not likely to be adopted by educators. However, educator can adopt and use game elements to increase student motivation to studying, and to push them forwards and become more interested and stimulated to learn.

Freeman and Freeman [2013] observe that educators in gamified learning environments need to serve as facilitators rather than teachers or lecturers, and students must take responsibility for learning. By placing the learner in control of learning, learning becomes a more self-directed experience [Brown, 2001]). In gamified learning environments, these shifts in educator and student roles can be achieved through the introduction of game elements to the learning environment and

in the design of the games that students might play. Freeman and Freeman [2013] contend that it is okay for student learning objectives in gamified learning environments to be somewhat fuzzy because the purpose of playing most games is the development of higher order learning skills where there are no exact answers. Hence, one of the most important responsibilities of the facilitator (educator) in gamified learning environments is to establish the rules of play.

II. GAMIFICATION AND SOCIAL MEDIA

Organizations are increasingly combining gamification and social media to extend their brands and relationships with stakeholders. The Nike+ Campaign is a good example of combining social media and gamification. Using GPS, the Nike+ Running app monitors distance, pace, time, and calories burned; it also includes an element of social competition by automatically uploading run results to nikeplus.com to enable run stats to be shared with friends and peers.

Donston-Miller [2012] describes the addition of game elements to its IBM Connections social networking site as a notable example of how to enhance user engagement by combining gamification and social media. Donston-Miller [2012] also lauds Gigya's social gamification products for providing guidance on how businesses can combine game elements and social media.

LinkedIn, the social networking site for professionals, has incorporated multiple game design elements to increase user engagement [Heger, 2013]. LinkedIn gamification elements include:

- A profile completeness bar to encourage users to reach 100% by appealing to achieve a sense of completion.
- "Who's viewed your profile" statistics to provide feedback on the number of profile views.
- A Who's viewed your profile-dashboard that displays the last five LinkedIn members who viewed the profile.
- A group contribution level bar that indicates how relevant a member's contributions to a LinkedIn group are and the level of impact. This indicator is designed to encourage competition with oneself to reach a higher contribution level.

It is not difficult to envision how an IS educator might leverage the game elements that already exist on LinkedIn to develop an engaging professional social media learning experience (or assignment) for students. For example, leaderboards could be created and used to monitor student progress toward 100% profile completion and rewards (e.g. bonus credit) might accrue to the student who is the first to reach 100% completion. "Profile Impact" awards could be based on the number of profile views on the last day of the semester and/or on the "connectedness" (combined number of connections) of the last five LinkedIn members viewing the profile. Similarly, rewards could be given to the student in the class who makes the greatest level of contributions to a specified, course-relevant, LinkedIn group. Any or all of these things be used in educationally meaningful ways once students have LinkedIn profiles. However, since research summarized in Section VI suggests that a minority of university students have LinkedIn profiles, game elements may also be gainfully used by educators to encourage students to create LinkedIn profiles and begin building professional social capital.

III. SOCIAL CAPITAL

Social capital has been defined as "the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" [Bourdieu and Wacquant, 1992, p. 14]. Social capital is generally viewed as a positive result of interaction among participants in a social network [Helliwell & Putnam, 2004].

Social capital enables individuals to draw on resources from other members of the networks to which he or she belongs. These resources can take the form of useful information, personal relationships, or the capacity to organize groups [Paxton, 1999]. Access to individuals outside one's close circle can also result in benefits such as employment connections [Granovetter, 1973].

IV. SOCIAL CAPITAL AND THE INTERNET

The Internet has been linked both to increases and decreases in social capital. Some have argued that because Internet use detracts from face-to-face time with others, using the Internet may diminish an individual's social capital [Nie, 2001]. Others [e.g. Bargh & McKenna, 2004] reject this argument and counter that online interactions can replace or supplement in-person interactions and thereby mitigate any social capital loss from time spent online [Wellman, Haase, White, & Hampton, 2001].

Researchers have also noted the importance of Internet-based linkages in the formation of weak ties, which function as the foundation of "bridging social capital". Because online social networks are often supported by photo directories and search capabilities, they facilitate new forms of social capital and relationship building [Resnick, 2001]. Donath and Boyd [2004] speculate that social networking sites greatly increase the number of weak ties an individual can form and maintain, because their technologies enable users to maintain such ties cheaply and easily. So, social networking sites that support loose social ties can increase bridging social capital by allowing users to develop and maintain larger and more diffuse networks of relationships from which they could potentially draw resources [Donath & Boyd, 2004; Resnick, 2001; Wellman et al., 2001].

V. LINKEDIN AND PROFESSIONAL SOCIAL CAPITAL

A recent study by Utz [2015] provides evidence that social media use can increase social capital in the professional domain. Utz argues that professionals who strategically add relevant people as LinkedIn connections are more likely to realize professional informational benefits than those who do not. Working professionals are more likely to follow colleagues, former colleagues, and important people in their field on LinkedIn or other business social networks than on Facebook [Utz and Muscanell, 2014]. Working professionals are also more likely to add higher numbers of weak contacts to their business networks than to their Facebook account [Utz and Muscanell, 2014]. This makes LinkedIn a potential source of professional informational benefits.

VI. LINKEDIN UNIVERSITY PAGES AND ALUMNI TOOL

The LinkedIn database is a valuable information repository that has been mined by LinkedIn data scientists to develop new services such as University Pages and Field of Study Explorer [Powerformula, 2014]. University Pages and Field of Study Explorer were marketed on their ability to help prospective students choose a university to attend, to help both current and prospective students choose a major, and to help current students find internships and jobs. These LinkedIn Higher Education tools work by scraping the metadata of university alumni that have LinkedIn profiles

University Rankings was added to LinkedIn's Higher Education services and was quickly observed to have the potential to be a university rankings game changer [Chouda, 2015]. This was based on the fact that University Pages and the Field of Study Explorer could be used to filter university alumni profiles on dimensions such as: where they work, what they do, and what they studied and thereby could have the potential to drive prospective students' enrollment decisions. These

capabilities could also be exploited by currently enrolled students to build social networks and capital that could be used to find internships, co-ops, or permanent employment.

In 2016, LinkedIn revised its LinkedIn Higher website, created two sections (one for higher education professionals, and one for students) and rebranded several tools and capabilities associated with the website. Both sections include a wide-range of resources (including videos and tutorials) and explanations for how to beneficially leverage a university's Student and Alumni page, which is a key component of LinkedIn's Alumni Tool. Example videos and tutorials for students are illustrated in Figure 1. The student video and tutorial on the LinkedIn Alumni Tool is illustrated in Figure 2.



Figure 1: Examples of Student-Oriented Resources on LinkedIn Higher Education



Figure 2: Student Video/Tutorial on the LinkedIn Alumni Tool

LinkedIn also launched a LinkedIn Student app designed to assist current students in choosing majors, building social networks with university alumni, and landing a job upon graduation. The LinkedIn Alumni Tool is a key component in this app and a university's Student and Alumni page (such as the one illustrated in Figure 3) plays a central role in helping students build professional social capital by connecting with university alumni who align with their career aspirations.

A university's Student and Alumni page includes multiple pre-existing filters (such as where alumni live, who employs them, what they do, what they studied, and what skills they possess) that can be used to isolate subsets of alumni profiles that satisfy particular search criteria (such as live in San Francisco, work for Cisco, and studied computer science). These can be coupled with filters for graduation year and a general search function to enable users to isolate more precise and granular alumni profile subsets. No matter how much detailed filtering is used, profiles of alumni that are likely targets for inclusion in personal social networks can be quickly identified and social capital building can be initiated by sending connection requests.

Despite LinkedIn's potential to assist students in building social capital, research on student use of LinkedIn suggests that its potential has not been realized. Hall [2013] found that university students underutilize LinkedIn when searching for a job. Dach [2015] observed that a small majority of the students in her sample used LinkedIn (and a wide range of LinkedIn services) in job searches, but also observed that the rest of her sample did not have LinkedIn accounts and perceived little utility in getting one. So, the availability of LinkedIn job search capabilities, the LinkedIn Student app, the

LinkedIn Alumni Tool, and university Students and Alumni pages has not translated into high levels of student use of LinkedIn for building professional social capital.

Limited awareness and use of the LinkedIn Alumni Tool and university Student and Alumni pages provides the opportunity for IS educators to use their university's Student and Alumni page as a social media "greenfield" to illustrate the precepts of technology adoption models such as TAM [Davis, 1989] and UTAUT [Venkatesh, Martin, Davis, and Davis, 2003]. Student perceptions of the usefulness and ease of use of the LinkedIn Students and Alumni page for their university can be measured and assessed against expressed intentions to use the LinkedIn Alumni tool in the future. A simplified model of the relationships that could be explored is provided below in Figure 3.

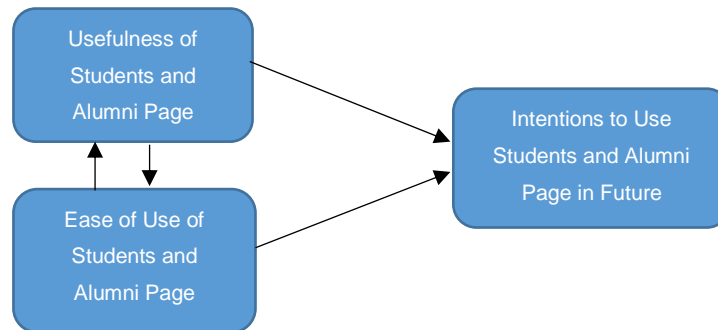


Figure 3: Simplified UTAUT Model for LinkedIn Students & Alumni Page

VII. THE UNIVERSITY PAGES GAME

The University Pages Game is part of an instructional module on social media information systems that was created to support a Management Information Systems course at a mid-sized public university in the Southeast U.S. Specially, it was created to be instructional supplement for the Social Media and Information Systems chapter in the McKinney & Kroenke [2015] textbook used in the course. The social media chapter in this textbook includes a section on social capital and discusses how social media can be used to build social capital.

The overall goal of this instructional module include increasing student awareness, understanding, and appreciation of the business social networking sites like LinkedIn and how they can be used by individuals to build professional social capital. The most important component of the learning module is a multi-part individual assignment that includes:

- The creation (or refinement) of a LinkedIn profile (since many university students do not have a LinkedIn Profile [Dach, 2015]).
- Exposing students to the student-oriented videos and tutorials at the LinkedIn Higher Education Web site (<https://university.linkedin.com/linkedin-for-students>)
- Exploring features and capabilities of the LinkedIn Alumni Tool and the university's LinkedIn Student and Alumni page (<https://www.linkedin.com/edu/alumni?id=18160>)
- Playing the University Pages Game
- Completing an online survey on the perceived usefulness and ease of use of the LinkedIn Alumni Tool in building professional social capital (that includes items adapted from the TAM [Davis, 1989] and UTAUT [Venkatesh et al, 2003]).

The instructional module could be easily adapted for use in MIS courses at other universities. IS educators would direct their students to their university's Student and Alumni page which can be found via the following link: <https://www.linkedin.com/alumni>.

University Pages Game Overview, Rules, and Mechanics

The University Pages Game is essentially a timed quiz which requires students to use their university's LinkedIn Students and Alumni page to find answers to specific questions. The primary game element is the timed, beat-the-clock quiz where the "winner" is the student who provides the highest total of correct answers to the quiz questions in the shortest amount of time. When two or more students earn perfect scores on the quiz, the winner is the students who answered all the questions in the shortest amount of time. Quiz duration and number of quiz questions can be specified by individual instructors.

A basic LinkedIn profile is a game pre-requisite. Since many university students do not have LinkedIn accounts, it is often necessary to have students complete a LinkedIn profile creation exercise prior to using the University Pages Game.

The game interface is the university Student and Alumni page; an example of a university Students and Alumni page is provided in Figure 4. When quiz items are delivered via a LMS, the LMS's quiz interface is a second aspect of the University Pages Game interface.

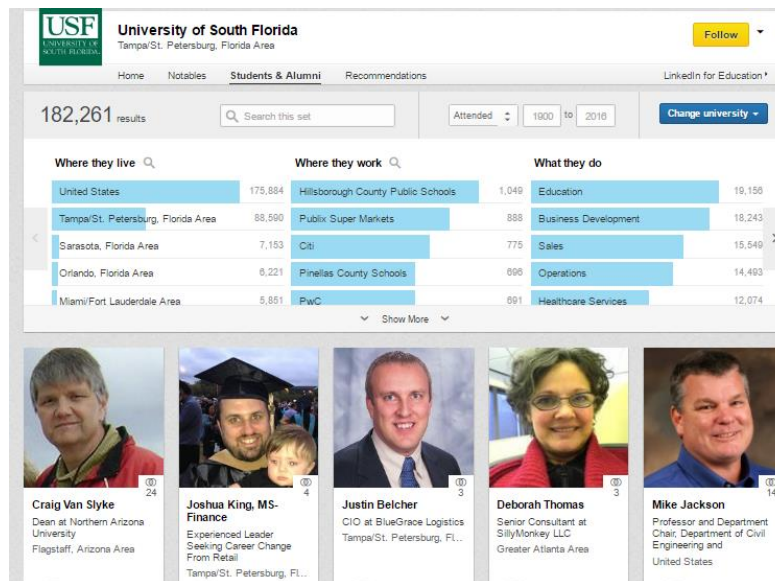


Figure 4: An Example of a University Student and Alumni Page

Since the game requires the application of filters available on university LinkedIn Student and Alumni pages, instructors should provide brief demos of how these could be used. The development and use of one or more timed practice games is also recommended to familiarize students with the challenges they will face in the University Pages Game.

The practice games, in combination with the University Pages Game itself, introduce a compete-against-oneself component to the learning module by challenging student to master LinkedIn

Student and Alumni page filters to answer as many questions as possible in the allotted time frame. The University Pages Game quiz introduces a compete-against-others component to the learning module by specifying that the overall game winner is the player who correctly answers the most questions most quickly. Examples of items for the University Pages Game, or practice game quizzes include:

- How many university alumni have LinkedIn profiles?
- How many Notable university alumni featured on the university Student and Alumni page work for company X?
- Which of the following fields of study at the university has the largest number of alumni with LinkedIn profiles?
- The number of university alumni with LinkedIn profiles that attended the university between 2000 and 2010 is closest _____?
- Which of the following numbers is closest to the total number of university alumni who studied Business Administration and Management and work in IT?
- Which of the following numbers is closest to the number of university alumni who studied Finance and work in IT?
- University alumni with LinkedIn profiles who work in IT primarily live in what three cities?
- Which of the following numbers is closest to the number of university alumni with LinkedIn profiles who work at a company X?
- Which of the following numbers is closest to the number of university alums with LinkedIn profiles that studied Logistics between 2010 and 2012 and are skilled at X?
- University alums with LinkedIn profiles who studied economics and attended between 2010 and 2012 work in _____ than in any other type of position.

Quiz questions can be delivered to students in several formats. Delivering questions via a LMS is recommended, especially when individual questions can be delivered in a sequential manner that prevents players from returning to previous questions or from moving on to subsequent questions without providing an answer. Providing instant quiz is recommended.

Online question delivery methods facilitate the use of the University Pages Game quiz in online sections, both asynchronous or synchronous. However, for instructors who prefer to adapt the learning module and University Pages Game for in-class lab activities, quiz questions can also be provided to students in hard copy form or via a timed PowerPoint presentation where students provide answers to the multiple-choice quiz questions via clickers.

The rules for the University Pages Game at our university require quiz questions to be answered sequentially. After reading/deciphering the first question, player, each player is required to go to the university's Student and Alumni Page (or to LinkedIn University Rankings), navigate, and identify and apply appropriate filters to answer the question. An answer must be provided for one question moving on to the next question. It is important to note that this is how the quiz is structured at our university; the University Pages Game can be easily adapted by educators at other universities to have different rules.

Learning Outcomes Assessment

The ultimate success of the social media learning module is best addressed by student use of LinkedIn, including the university's LinkedIn Student and Alumni page, to build social capital after the completion of the social media learning module's assignment requirements. Data that could be collected to assess further use of LinkedIn might include:

- Percentage of students with 100% complete LinkedIn profiles by the end of the semester. Only a basic, less than 100% complete profile, is required for the assignment and for the University Pages Game quiz,
- Number (or percentage) of students with impactful profiles by the end of the semester. This could be measured by the number of profile views and the connectedness (number of connections) of the most recent profile viewers.
- Number (or percentage) of students making meaning contributions to established LinkedIn groups.
- Number of career-relevant connections made with university alumni during the semester.

Assessment of Student Perceptions of the LinkedIn Student and Alumni Page for Building Social Capital

Since social capital is an important element of the social media instructional module for our course, an instrument was developed to assess student perceptions of the University Pages Game and its potential value in building social capital. The survey includes multiple items measuring student reactions to the content of the LinkedIn for Students web site. It includes modified Technology Adoption Model (TAM) items [Davis, 1989] regarding perceived usefulness and perceived ease. It also includes modified (7-point Likert) items from the Unified Theory of Adoption and Use of Technology (UTAUT) model [Venkatesh et al, 2003] designed to measure intentions to use University Pages in the future. Survey items related to the technology adoption models are summarized below.

Perceived Usefulness Items:

1. Using the Students and Alumni page on LinkedIn improves my performance in building social capital
2. The Students and Alumni page on LinkedIn enables me to build social capital more quickly
3. Using the Students and Alumni page on LinkedIn allows me to build more social capital than would otherwise be possible.
4. Using the Students and Alumni page on LinkedIn Increases my productivity in building social capital
5. Using the Students and Alumni page on LinkedIn makes it easier to build social capital
6. Overall, I find the Students and Alumni page on LinkedIn useful in building social capital

Perceived Ease of Use Items:

1. Learning to use the Students and Alumni page on LinkedIn was easy for me
2. The the Students and Alumni page on LinkedIn is rigid and inflexible to interact with
3. I find it easy to get the Students and Alumni page on LinkedIn to do what I want it to do
4. Interaction with the Students and Alumni page on LinkedIn is clear and understandable
5. I find it takes a lot of effort to become skillful at using the Students and Alumni page on LinkedIn
6. Overall, I find the Students and Alumni page on LinkedIn easy to use

Intention to Use Items:

1. If I needed to build social capital in the future, I would use the Students and Alumni page on LinkedIn
2. I intend to use the Students and Alumni page on LinkedIn to build social capital
3. I predict that I would use the Students and Alumni page on LinkedIn to help me build social capital
4. I would choose to use the Students and Alumni page on LinkedIn in the future

Professional Social Capital Knowledge Items:

1. The University Pages Game increased my understanding of professional social capital.
2. The University Pages Game increased my understanding of LinkedIn's potential to increase professional social capital.

Demographic and Control Variables

1. Gender (M/F)
2. Age – actual age in years
3. Previous use of the Student and Alumni page on LinkedIn prior to the course (number of times used)
4. Previous use of LinkedIn (longevity of personal profile)
5. Existing LinkedIn social capital (number of connections; number of group memberships)

Students are provided to a link to the survey, which is administered online using Qualtrics survey software. IS educators interested in using the LinkedIn Students and Alumni page to illustrate TAM and UTAUT precepts are encouraged to use these items when constructing a customized survey for their university.

VIII. PRELIMINARY FINDINGS

To date, the social media instructional module has been used in four sections of our MIS course. Three sections were traditional delivery (face-to-face) while the fourth was delivered online. As noted in Section VII, prior to responding to the survey, students create (or tweak) a LinkedIn profile, familiarize themselves with the features and capabilities of the LinkedIn Alumni Tool and the university LinkedIn Students and Alumni page, and complete the University Pages Game quiz.

More than 95% of the students have completed all parts of the LinkedIn assignment in the social media learning module. So, the assignment has succeeded in increasing the percentage of MIS students with LinkedIn profiles.

Survey responses have been recorded for 166 students. As illustrated in Figure 5, a strong majority of students perceive the content of the LinkedIn for Students web site to be valuable.

Q2 - The LinkedIn for Students Web site includes useful advice about using LinkedIn to network with working professionals. Page Optic

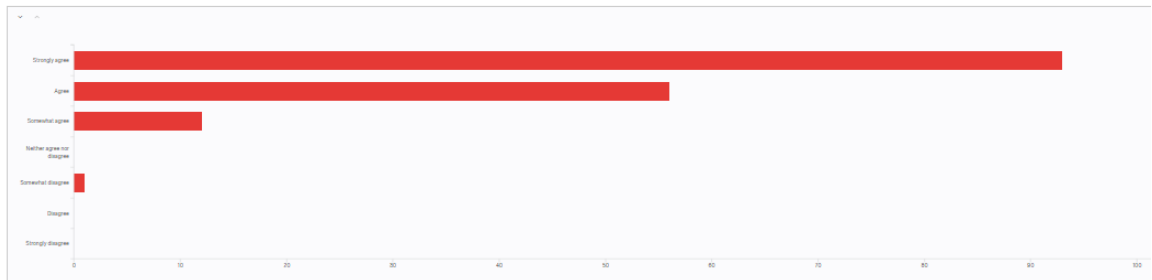


Figure 5: Student Responses to a Survey Item About the Content of the LinkedIn for Students Web Site

Figure 6 summarizes student response to a survey item about the ease of use of the LinkedIn Students and Alumni page.

Q21 - Overall, I find the Georgia Southern University Students and Alumni page on LinkedIn easy to use. Page Optic

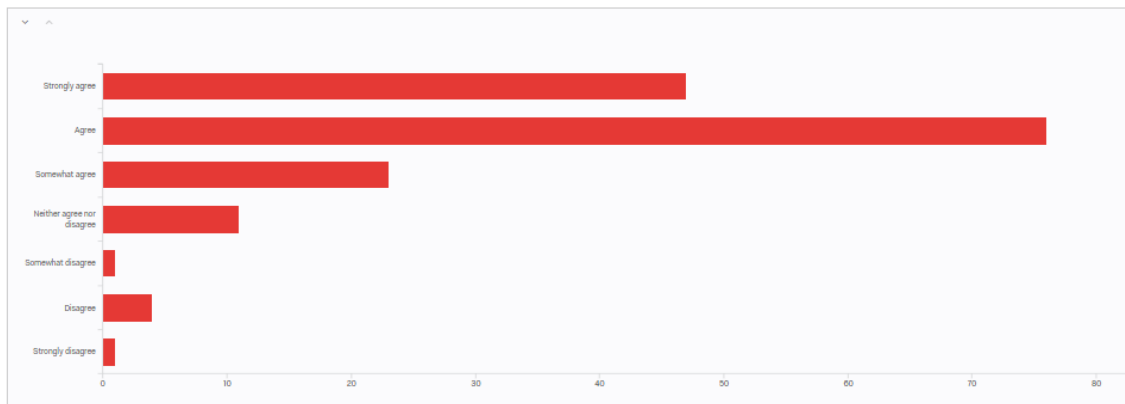


Figure 6: Student Responses to a Survey Item About the Ease of Use of the LinkedIn Students and Alumni Page

Figure 7 provides a summary of student responses to one of the survey items about usefulness of the LinkedIn Students and Alumni page for building social capital.

Q15 - Overall, I find the Georgia Southern University Students and Alumni page on LinkedIn useful in building social capital. F

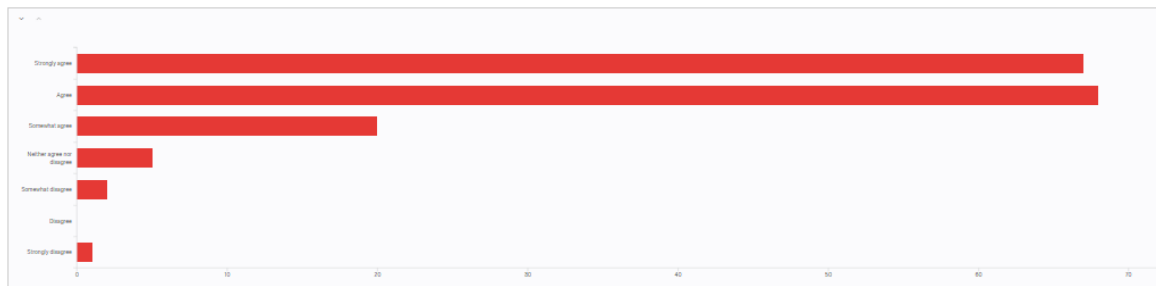


Figure 7: Student Responses to a Survey Item About the Usefulness of the LinkedIn Student and Alumni Page for Building Social Capital

Figure 8 summarizes student responses to a survey item about intentions to use the LinkedIn Student and Alumni page to build social capital in the future.

Q23 - I intend to use the Georgia Southern University Students and Alumni page on LinkedIn to build social capital. Page Options

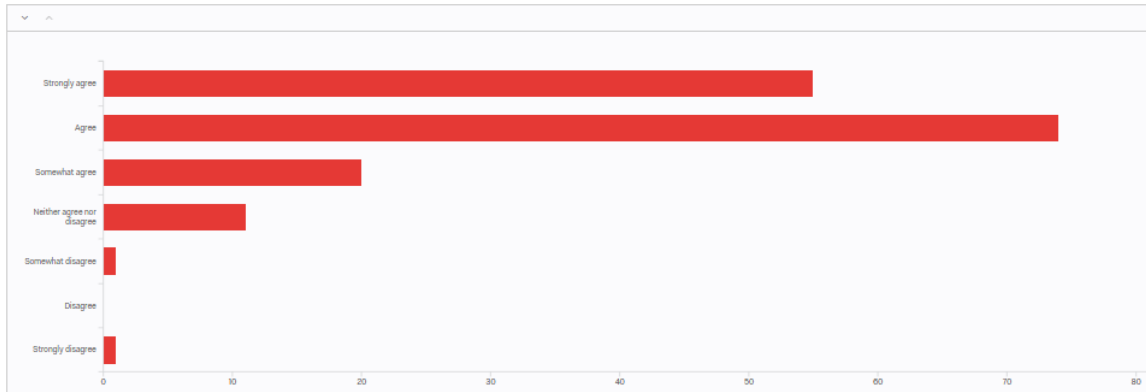


Figure 8: Responses to a Survey Item About Intention to Use the LinkedIn Students and Alumni Page to Build Social Capital in the Future.

While the survey responses illustrated in Figures 6, 7, and 8 suggest support for technology model precepts, it will be necessary to use a structured equation modeling tool such as PLS or LISREAL to assess the relationships among the ease of use, usefulness, and intentions to use items included on the survey. At least 80 additional survey responses will be collected prior to the conference to enable more robust findings to be reported.

After completing the LinkedIn assignment in the social media learning module, students indicate that they perceive more value in LinkedIn than Facebook for finding a job. This is illustrated in Figure 9. Students also indicate that they think the LinkedIn and University Pages Game assignment should be used in future MIS sections.

Q5 - The LinkedIn Alumni Tool is more useful than Facebook in helping a soon-to-graduate university student find a job. Page Options

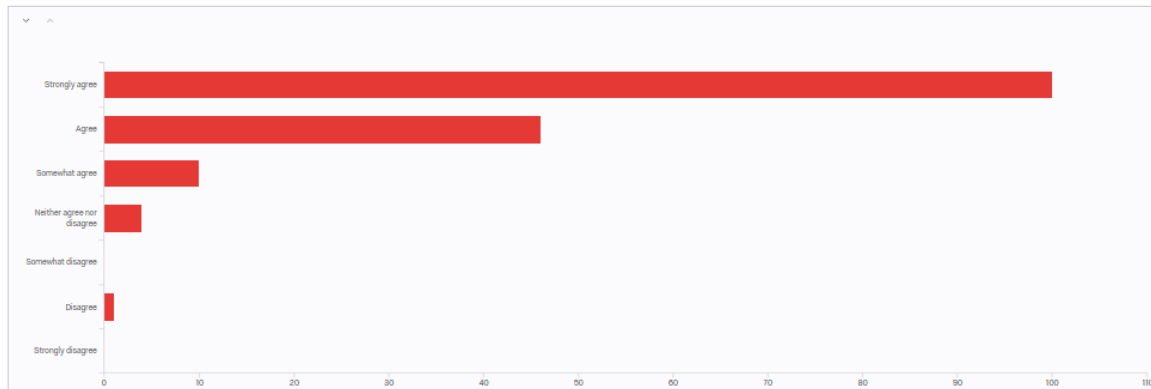


Figure 9: Student Perceptions of the Utility of LinkedIn and Facebook for Finding a Job

IX. CONCLUSIONS

The LinkedIn and University Pages Game assignment developed for a social media learning module has received favorable reviews from students. It also suggests that the addition of game elements to IS course modules can increase student engagement and motivation to learn. The game elements included in this assignment are quite simple and fall well short of the immersive and interactive environments associated with video games. Despite their simplicity and lack of sophistication, such game elements enhance active student engagement in the learning process.

So, IS educators are encouraged to identify and implement similar game elements in their course modules.

We hope that the contents of this paper provides IS Educators with guidance in how game elements can be used to increase student engagement and understanding of business social networking and professional social capital creation. The LinkedIn and University Game assignment described in the previous paragraphs can be used in both online and face-to-face courses and provides IS educators with a template for instructional module focused on social media that can be incorporated in a variety of courses. The LinkedIn and University Pages Game assignment may provide a vehicle for including LinkedIn profile creation or refinement exercises in IS courses and for encouraging students to use LinkedIn to build personal business social networks. Because many students have limited exposure to LinkedIn University Pages, the LinkedIn and University Pages Game assignment also provides a vehicle for reinforcing website usability and technology adoption concepts.

Long-term student use of LinkedIn and the LinkedIn Student and Alumni page in building professional social capital is the ultimate test of the value and usefulness of the assignment that has been described. IS educators are encouraged to consider using LinkedIn's game elements (such as 100% complete profiles, contributions to LinkedIn groups, and profile impact measures (such as number of connections) to incent students to build LinkedIn profiles that may help them professionally.

X. REFERENCES

- Bargh, J.A. and McKenna, K.Y. A. (2004) "The Internet and Social Life" *Annual Review of Psychology*, (55) pp. 573-590.
- Bourdieu, P. and Wacquant, L.J.D. (1992) *An Invitation to Reflexive Sociology*. University of Chicago Press.
- Brown, B. L. (2001) "Group Effectiveness in the Classroom and Workplace". *ERIC/ACVE*, (Practice Application Brief No. 15).
- Choudaha, R. (2015) LinkedIn: The future of global university rankings? *University World News*, May 8, 2015. Retrieved from: <http://www.universityworldnews.com/article.php?story=2015050515565265>
- Dach, M. (2015). A Case Study of LinkedIn. Retrieved from: <http://sfsu-dspace.calstate.edu/bitstream/handle/10211.3/145661/AS362015BROADD33.pdf?sequence=1>
- Davis, F.D. (1989) "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology". *MIS Quarterly*, 13(3), pp. 319-340.
- Donath, J. and Boyd, D., (2004) "Public displays of connection." *bt technology Journal*, (22:4), pp.71-82.
- Donston-Miller, D. (2012). "7 Examples: Put Gamification to Work" *Information Week*, May 4, 2012. Retrieved from: http://www.informationweek.com/7-examples-put-gamification-to-work/d/d-id/1104211?page_number=1
- Freeman, M. B. and Freeman, A. (2013) "The Game of Information Systems Higher Education" *2013 SIGED: IAIM Proceedings*. Paper 15. <http://aisel.aisnet.org/siged2013/15>
- Granovetter M.S. (1973) "The strength of weak ties." *American Journal of Sociology* 78(6): pp. 1360–1380.
- Hall, B. (2013). Why Aren't College Students Using LinkedIn To Find Jobs? Retrieved from <http://readwrite.com/2013/04/23/why-arentcollege-students-using-linkedin-to-find-jobs>

- Helliwell, J.F. and Putnam, R.D. (2004) "The Social Context of Well-Being" *Philosophical Transactions of the Royal Society B*. (359:1449).
- Herger, M. (2013) "An Analysis of LinkedIn's Gamification Design Elements." Enterprise Gamification Consultancy. Retrieved from: http://www.enterprise-gamification.com/index.php?option=com_content&view=article&id=187:an-analysis-of-linkedin-s-gamification-design-elements&catid=15&Itemid=22&lang=en
- Kapp, K. (2012) *The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education*. San Francisco, CA: John Wiley & Sons.
- McKinney, E. and Kroenke, D. (2015) *Processes, Systems and Information: An Introduction to Management Information Systems (2e)*. New York, NY: Pearson Education.
- Muntean, C.I. (2011) "Raising Engagement in E-Learning Through Gamification." The 6th International Conference on Virtual Learning. http://icvl.eu/2011/disc/icvl/documente/pdf/met/ICVL_ModelsAndMethodologies_paper42.pdf
- Nie, N.H. (2001) "Sociability, Interpersonal Relationships, and the Internet: Reconciling Conflicting Standards". *American Behavioral Scientist*, November 2001, (45: 3) pp. 420-435.
- Paxton, P. (1999) "Is Social Capital Declining in the United States? A Multiple Indicator Assessment." *American Journal of Sociology*, (105: 1), July 1999, pp. 88-127
- Powerformula. (2014) Field of Study Explorer: A great new LinkedIn feature (and it's not just for students. Retrieved from: <http://www.powerformula.net/5967/fields-expertise-great-new-linkedin-feature-just-students/>
- Resnick, P., (2001) "Beyond bowling together: Sociotechnical capital." *HCI in the New Millennium*, (77), pp.247-272.
- Utz, S. (2015) "Is LinkedIn making you more successful? The informational benefits derived from public social media". *New Media & Society*, October 9, 2015, pp. 1-18. Retrieved from: <http://nms.sagepub.com/content/early/2015/10/15/1461444815604143.full.pdf+html>
- Utz S and Muscanell NL (2014) Beruflicher Wissensaustausch auf sozialen Medien. *Paper presented at the 10. Stuttgarter Wissensmanagement-Tage*, Stuttgart, 18–19 November.
- Venkatesh, V., Morris, M., Davis, G., Davis, F. (2003) "User Acceptance of Information Technology: Toward a Unified View." *MIS Quarterly*, 27(3), pp. 425-478.
- Wellman, B., A.Q. Hasse, J. White, and K. Hampton. (2001) "Does the Internet Increase, Decrease, or Supplement Social Capital? Social Networks, Participation, and Community Commitment." *American Behavioral Scientist* (45:3), pp. 436-455.