

Pursuing a Vendor-Endorsed ERP Award for Better Job Prospect: Students' Perceptions

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Abstract

This paper identifies factors that motivate students to pursue a vendor-endorsed ERP award by integrating concepts from motivation theory and constructs from technology acceptance literature. We developed a web-based survey with closed- and open-ended questions to collect both quantitative and qualitative data, respectively. Students in information systems courses were solicited to participate in the survey. We collected data from 2010 to 2014. Our analysis shows that Perceived Value and Social Influence are significant predictors of students' intentions to pursue a vendor-endorsed ERP award.

Keywords: IT Certification, Perceived Value, IS Curriculum, Enterprise Resource Planning, UTAUT, Motivation.

1. INTRODUCTION

Information system (IS)/information technology (IT) majors often need something "extra" in addition to their college degrees to distinguish themselves from other IT job seekers especially in an economic recession. IT certification is one such means because possession of it indicates adequate knowledge and skills. Cantor (2002) categories two types of IT certification: vendor-specific and vendor-neutral. Vendor-specific is product-related such as Microsoft Office Specialist, CISCO career certifications, Oracle certifications, SAP TERP10 certificate and others. Vendor-neutral type of certificate focuses more on foundational concepts relative to underlying technology (Randall & Zirkle, 2005). The Computer Science and Telecommunications Board (2001) suggested that educational institutions partner with IT vendors and

professional associations to offer IT certification training. Davis, Siau and Dhenuvakonda (2003) recommended that universities provide more real-world tool training such as Enterprise Resource Planning (ERP) and other systems. In recent years, a hybrid of certification has emerged, that is, vendors collaborate with higher education institutions to offer vendor-supported curricula and/or vendor-endorsed awards. The basic model is to use the vendor's product as a tool (not as the focus) to teach students business concepts, methodology, and application of the technology. Especially in an economic recession and recovery, students think IS curriculum should be changed to be more "competitive" with more technical skills and business sense built in (Pratt, Hauser & Ross, 2010). The hybrid model fulfills this need. Scholars have noted that, if universities integrate industry certifications and academic degrees, it creates a win-win situation for both

industry and academia and better help students get jobs (David, David, & David, 2011; Hitchcock, 2007; Simmonds, 2002). Due to its relative novelty, however, only a few studies have been conducted to evaluate the value of such programs for students and industry. This study fills the gap by investigating students' perceptions of whether a vendor-endorsed ERP award, specifically an SAP-endorsed program, provides better job outlooks. We describe the program next.

Systems, Applications & Products in Data Processing (SAP SE) is a German multinational software corporation that develops enterprise software to manage business operations and customer relations. SAP offers a University Alliances Program (UAP) to higher education institutions worldwide. Through UAP, universities gain access to SAP technologies and materials. They also enable University Alliances members to offer their students full access to the SAP Student Academies. SAP also offers SAP Student Recognition Award endorsement and an SAP specific certificate, the SAP TERP-10.

This study examined the SAP Student Recognition Award. In order to receive this award, students at the UAP universities must 1) have taken at least three courses that have a minimum of 30% hands-on SAP content in each course, and 2) have earned a grade of "C" or better in each course. In the United States, many UAP universities (e.g., Central Michigan University, Georgia Southern University, Rider University, etc.) offer the SAP Student Recognition Award. Students who earn the award demonstrate the breadth and depth of their knowledge using state-of-the-art software and valuable skills relevant to their careers and chosen fields. To earn the SAP TERP-10 certificate, students or people who are interested have to pay a hefty fee for a boot camp training and the certification exam.

To answer our research question of "what are the factors related to the students' intentions in pursuing the vendor-endorsed award", we draw concepts and constructs from motivation theory and technology acceptance which we describe in the next section.

2. THEORETICAL BACKGROUND

We wanted to study students' intentions to pursue a vendor-endorsed ERP award. In other words, we were curious about the "why". Psychologists and human behaviorists have been searching for the reasons behind human behavior for a long time. Motivation can also be defined as one's direction to behavior or what causes a

person to repeat a behavior and vice versa (Covington, & Müeller, 2001). A motive is what prompts the person to act in a certain way or at least develop an inclination for specific behavior (Pardee, 1990). Over time, researchers have developed a number of different theories to explain motivation, for example, the incentive theory, the psychoanalytic theory, and the humanistic theory (Ajzen, 1991). Researchers have broadly accepted and explained motivation from two dimensions: intrinsic and extrinsic.

Intrinsic motivation refers to a motivation that is driven by an interest or enjoyment in the task itself and exists within the individual (Ryan, & Deci, 2000a) rather than relying on any external pressure. Students who are intrinsically motivated are more likely to willingly engage in the task as well as working to improve their skills, which will increase their capabilities (Wigfield, Guthrie, Tonks, & Perencevich, 2004). An example of *intrinsic motivation* in the workplace occurs when an employee becomes an IT professional because he or she wants to learn about how computer users interact with computer networks. The employee has the *intrinsic motivation* to gain more knowledge (Root, 2015).

Extrinsic motivation, on the other end of the spectrum, is the performance of an activity in order to attain an outcome. The sources of intrinsic and extrinsic motivation are different but not mutually exclusive (Ryan & Deci, 2000b). The source of *extrinsic motivation* comes from outside of the individual. The harder question to answer is where externally do people get the motivation to carry out and continue to persist. Usually *extrinsic motivation* is used to attain outcomes that a person would not get from *intrinsic motivation*. Two common types of *extrinsic motivations* are rewards such as money and grades, or coercion, and threat of punishment.

Many information systems researchers have published various theories that could be used to explain the adoption of information technology innovations (Teo, Wei, & Benbasat, 2003; Thompson, Higgins, & Howell, 1991; Venkatesh & Davis, 2000). Venkatesh and his colleagues reviewed and compared user acceptance models with the goal to develop a unified theory of technology acceptance (Venkatesh, Morris, Davis, & Davis, 2003). They integrated every major parallel aspect of user acceptance determinants from eight, earlier well respected models and named their proposed model the "Unified Theory of Acceptance and Use of Technology" (UTAUT). Venkatesh and his colleagues (2003) conducted longitudinal field studies across heterogeneous

contexts and found three constructs to be significant predictors of intention: *performance expectancy*, *effort expectancy*, and *social influence*. These constructs are composite, which means they encapsulated the eight models of the similar concepts. UTAUT has been demonstrated to be up to 70 percent accurate at predicting user acceptance of information technology innovations while previous models had an average of 40 percent accuracy (Venkatesh et al., 2003). We combined the motivation concepts and major constructs from UTAUT pertaining to this study and established the research model. We present our research model and hypotheses in the next section.

3. RESEARCH MODEL

The research model is shown in Figure 1, followed by our hypotheses.

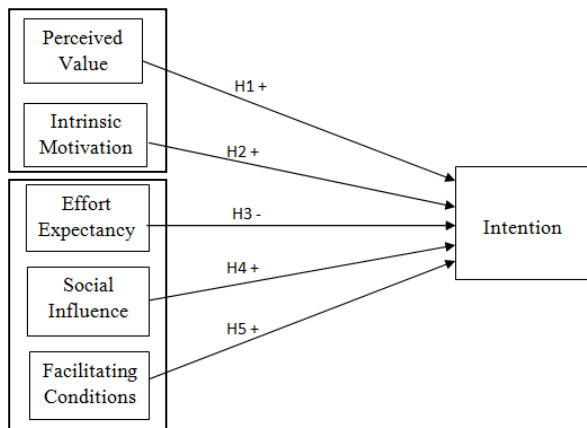


Figure 1: Research Model

Perceived Value

Motivation is the biological, social, emotional, or cognitive force that initiates, guides, and maintains goal-oriented behaviors. It is what causes an individual to take action, whether to enroll in college to earn a degree, or, in this study, to pursue an award. "Extrinsic motivation refers to the performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions..." (Davis, Bagozzi & Warshaw, 1992, p.1112). The primary focus of extrinsic motivation is the outcome. The incentive theory suggests that people are motivated to do things because of external rewards. Performing a certain action, for example, attending class to get a good grade, going to work to get paid, etc., has a purpose. Applying this concept, we developed a construct, *perceived value*, to capture the

essence of extrinsic motivation in this study. We argue that, if students perceive value in the SAP ERP Award (believe that it will increase their marketability), they are more likely to be motivated to earn the award. Therefore, we hypothesize a positive relationship between the *perceived value* and intention to pursue the award.

Hypothesis 1: Students' *perceived value* of the SAP ERP Award will positively relate to their intention to pursue the award.

Intrinsic Motivation

In contrast to *extrinsic motivation*, *intrinsic motivation* is based upon taking pleasure in the activity rather working toward an external reward. Researchers in IS/IT use "Affect" to represent *intrinsic motivation*. For example, Compeau and her colleagues defined "Affect" as an individual's liking of the behavior (Compeau & Higgins, 1995; Compeau, Higgins & Huff, 1999). Venkatesh et al. (2003) formed "Attitude" in UTAUT combining both positive and negative sides of *Affect*, *intrinsic motivation* from motivational theory, and "attitude toward behavior," from the theory of reasoned action, theory of planned behavior, and the Technology Acceptance Model (Chau & Tam, 1997). Venkatesh et al. (2003) presented contradictory findings about the relationship between attitude and intention and proposed an indirect influence of attitude on intention. To answer our research question, we posit that it is imperative to examine whether *intrinsic motivation* has a direct positive effect on students' intention. Therefore, we adopted the validated *Attitude* construct from UTAUT but use only the positive evaluation items (such as "fun", "interesting" and "like") as the *intrinsic motivation* construct in our research model. Focus on the positive motivation internally, we propose that:

Hypothesis 2: Higher *intrinsic motivation* will positively relate to higher intention to pursue the SAP ERP Award.

Effort Expectancy

Effort expectancy is rooted as a part of *Perceived Behavioral Control* (PBC) which refers to the perceived degree of ease or difficulty of performing a particular behavior. Ajzen (1991) theorized that perceived behavioral control contributes to one's intention and behavior. It is assumed that perceived behavioral control is determined by the total set of accessible control beliefs. It reflects individual's confidence that they are capable of performing the behavior by assessing self-efficacy and controllability of

behavior. By nature, the easier a task is perceived the higher the willingness to perform it.

Hypothesis 3: Higher levels of *effort expectancy* will correlate to lower levels of the SAP ERP Award pursuit intention.

Social Influence

Venkatesh and his colleagues (2003) merged three similar constructs: subjective norm, social factors, and image from other models and formed a construct which they named *social influence*. They defined *social influence* as "the degree to which an individual perceives that important others believe he/she should use the new systems" (Venkatesh et al., 2003, p.451). They also proposed that people's behaviors are influenced by the way in which they believe others will view them as a result of using an object; in this case, pursuing and then earning the SAP ERP Award.

Social influence has been treated as a direct determinant of behavior intention in many models and validated in many studies. It is reasonable to hypothesize that the higher degree to which students believe that their important others, such as parents or hiring managers, value the SAP ERP Award, the higher probability that they will pursue the award.

Hypothesis 4: Students' *social influence* will positively relate to their intentions to pursue the SAP ERP Award.

Facilitating Conditions

According to the theory of planned behavior, perceived behavioral control is determined by the total set of accessible control beliefs. Control beliefs is defined as an individual's beliefs about the presence of factors that may facilitate or impede performance of the behavior (Ajzen, 2001). Venkatesh and his colleagues (2003) captured three different constructs, namely perceived behavioral control, *facilitating conditions*, and compatibility from other models and built a construct called "facilitating conditions". *Facilitating conditions* are defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the technology" (Venkatesh et al., 2003, p.453). In this study, *facilitating conditions* refer to the SAP ERP environment, faculty, and technical support the university provides. Although UTAUT concluded that this variable was not significant as a determinant of intention, we want to re-investigate the relationship between *facilitating conditions* and intention in this study for two

reasons. First, other researchers such as Taylor and Todd (1995) have found that *facilitating conditions* is a significant predictor of behavior. Secondly, we want to test this construct in different context. In an academic setting, the accessibility of faculty and facility (lab, ERP system) is important to students' learning, and the justification of providing such resources is important to university administration. We included it in our model to see whether the relationship between *facilitating conditions* and intention is different in an academic setting.

Hypothesis 5: *Facilitating conditions* will positively relate to students' intentions to pursue the SAP ERP Award.

4. RESEARCH METHOD

Data Collection Procedure

We surveyed students from ERP and non-ERP related IS courses about their perception toward Georgia Southern University's SAP ERP Award. Georgia Southern University is a public university in the southeastern United States and has been participating in the SAP university alliance program for more than ten years. Most students who participated in the survey were from the College of Business Administration. We collected data from 2010 to 2014. The non-ERP related courses use ERP simulation games to demonstrate business processes in those courses. Students are exposed to SAP ERP even in the non-ERP awarded courses. To study students' intentions to pursue the SAP ERP Award, we developed an online survey using Blackboard, an online course management system. The survey was available for ten days each time it was administrated. Students were told about an extra credit opportunity for participating. Students are required to report if they are taking more than one course concurrently to prevent multiple responses from the same individual. They were given different extra credit opportunities for any second course. After the survey was closed, Blackboard generated a report in a spreadsheet. Each student's account was flagged for dichotomous outcome, indicating whether the survey had been filled out or not. No personal information was captured. This flagged field was used solely for the purpose of assigning extra credits. Only aggregated data were kept and analyzed.

Measures

The survey contained 24 questions including three background questions (major, minor, and academic status: freshman/sophomore/junior/senior/graduate), one dichotomous question

about current behavior (currently enroll in SAP ERP Award program or not), nineteen Likert scale items (see Appendix A), and an open-ended question (the reason(s) of the student's intention toward SAP ERP Award). All of the Likert scale items were on a 5-point scale with "1" being "strongly disagree" and "5" being "strongly agree." From our review of the literature we selected four control variables that might potentially affect a student's intention to pursue the SAP ERP Award: year (when the survey was conducted), major (IS vs non-IS), course level (graduate vs undergraduate), and whether the course is ERP related. We describe the main constructs and items in our model next.

Perceived value (PV) that we developed for this study to represent extrinsic motivation was operationalized by two items to measure students' perception of value of the ERP award related to their marketability. The two items were "If I have an Georgia Southern University SAP ERP Award, it will increase my chance of getting a better job" and "I would find Georgia Southern University SAP ERP Award useful in my job hunting."

Intrinsic motivation refers to performing an action or behavior for the sake of enjoyment without external incentive. We modified the attitude toward using technology construct from UTAUT for intrinsic motivation in this study. Three items measure intrinsic motivation: SAP ERP makes work more interesting; working with SAP ERP is fun; I like working with SAP ERP.

Other constructs were adopted from UTAUT and modified for this study. We used 4 items to measure *effort expectancy*, 4 items to measure *social influence*, 3 items for *facilitating condition*, and 3 items for *intention* (see Appendix A for more detail).

Data Analysis

We obtained 333 valid responses, of which 146 were from IS majors and 187 from non-IS majors; 94 were from graduate students and 239 were from undergraduate students. Before analyzing the data, we verified the assumptions of normality, homoscedasticity, linearity, and independence with IBM SPSS Version 21 (2012). We tested for normality with normal probability plots and the results showed all the variables did not depart from normality severely. Homoscedasticity was checked using plots of residuals versus predicted values. We used a plot of the observed versus predicted values to test for linearity. All correlations turned out to be significant, with $p < .001$ (see Table 1, Appendix

B). No multicollinearity problem was found. No outliers among the cases were found.

Table 1 presents descriptive statistics and correlation coefficients for all model variables. The correlation coefficients between the scale variables are Pearson's product moment correlation coefficients. Cronbach's alpha values, measures of internal consistency reliability, are reported on the diagonal in Table 1. All Cronbach's alphas exceed the cutoff of .7, which indicate high internal consistency reliability. Finally, we conducted Harman's one factor test (Harman, 1960) to assess common method bias. The un-rotated factor solution indicated that no single factor accounts for a significant portion of the variance in our data, which suggests that common method bias is not a significant threat to the validity of this study's results.

5. RESULTS

Hierarchical Regression

We decided to use hierarchical regression analysis to test effects of independent variables in different stages. We entered all control variables (Year, IS Major/Not, Graduate/Under, and SAP ERP Related Course/Not) into the analysis in the first step, then added the two motivation variables (PV and Intrinsic Motivation) in the second step, and then included all the other predictors in the last step. Table 2 (see Appendix C) displays the results of the entire hierarchical regression analysis. Portion of the variance explained (R^2) increased in each step. All three models are significant with all $p < .001$. Our final model which includes all control variables, independent variables and moderators explained about 48% of the variance in the intention to pursue the SAP ERP Award.

In the first model with only control variables, the course level (Graduate/Under) and whether it is an SAP ERP related course are significant predictors. In model 2, these two factors remain significant. Another control variable, student's major, becomes significant in model 2. Worthy of noting is that both *intrinsic motivation* and *perceived value* are significant at the .001 level. In model 3 we added the three constructs that we adapted from UTAUT. Among them, only *social influence* is significant at the .01 level. The only other significant variable excluding the control variables in model 3 is *perceived value*.

Hypotheses Test Results

Hypothesis 1 stated that *perceived value* will positively relate to intention to pursue the SAP

ERP Award. In model 2 and model 3, *perceived value* is a significant predictor with $t = 9.907$, $p < .001$ and $t = 7.404$, $p < .001$ respectively. Therefore, Hypothesis 1 is supported. Hypothesis 2 predicted that intrinsic motivation will positively relate to intention to pursue the SAP ERP Award. Interestingly, in model 2, intrinsic motivation is significant at the .001 level ($t = 5.065$, $p < .001$); while in model 3, it becomes insignificant with other variables present ($t = 1.537$, $p = .125$). Therefore, Hypothesis 2 is partially supported. Hypothesis 3 predicted that *effort expectancy* will negatively relate to intention to pursue the SAP ERP Award and this statement was not supported ($t = 1.867$, $p = .063$) with a positive coefficient and non-significant p-value. Hypothesis 4 predicted that *social influence* will positively relate to intention to pursue the SAP ERP Award and the statement is supported ($t = 3.338$, $p = .001$). Hypothesis 5 predicted that *facilitating conditions* will positively relate to intention to pursue the SAP ERP Award. Hypothesis 5 is not supported ($t = -.254$, $p = .8$) with a negative coefficient of $-.021$.

6. DISCUSSION

The data analysis results showed that three of the five hypotheses are supported. *Perceived value*, intrinsic motivation (conditionally) and *social influence* are significant predictors that positively correlated to students' intentions to pursue the SAP ERP Award. Interesting notes are the different results between this and other prior UTAUT studies. *Effort expectancy* and *facilitating conditions* are not significant predictors from our data and the direction of *facilitating conditions* negative effect is opposite from previous studies.

Perceived Value

We tested both motivation types with the control variables in model 2. The *perceived value*, that is, extrinsic motivation, turned out to be a significant predictor of intention at the .001 level. Both our qualitative and the quantitative data confirm that *perceived value* is very important in students' decision forming of whether to pursue the SAP ERP Award regardless of degree of ease or *facilitating conditions*.

If students think that earning the SAP ERP Award increases their job-obtaining possibilities, it is more likely that they will want to take and complete the awarded courses. Students most appreciate these courses are electives included in the curriculum with no additional tuition or fees associated with them as demonstrated by the following selected comments (see Appendix D).

Intrinsic Motivation

Intrinsic motivation is significant at the .001 level in model 2 when we only tested the direct effects of the two motivation types with the control variables. However, in model 3, after we added other independent variables, *intrinsic motivation* is not a significant predictor anymore. Students did not seem to take these courses for enjoyment. Venkatesh and Davis (2000) suggested that affective reactions (e.g. *intrinsic motivation*) may operate through *effort expectancy*.

Regardless the degree of ease perceived, the program was evaluated as "worth" pursuing. Students pursue the SAP ERP Award because they recognize such award will increase their marketability (extrinsic) rather than because they would enjoy using ERP systems (intrinsic) no matter how much efforts would require. This phenomenon was confirmed that intrinsic enjoyment is not the best motivator while extrinsic motivation is. Students would take "not-so-easy" courses if they perceive high return of their efforts.

Social Influence

Social influence was formed by capturing essences of normative beliefs, subjective norms, social factors and image. From the *social influence* perspective, people who are important to "us" personally and professionally influence "our" behavior and choices. To measure this effect, we asked students to indicate whether any influences, either personal or professional, affected their intentions/decisions to pursue the ERP award. From both the quantitative and qualitative data, students value the opinions of people who influence their behavior such as their advisors and employers (see Appendix D).

Social influence is significant at the .001 level in model 3 and positively correlates to intention. Our data and results confirmed findings from UTAUT and other studies in this perspective. Although only a few comments were specifically about *social influence*, some of the students did mention that they felt the award was worth pursuing simply because they "have heard a lot about it", "I heard only good things about the program and I believe it will give me higher chance to get a better job", and that their friends thought the SAP ERP skills are important when they look for jobs. One non-IS major stated that "I heard it boosts your base salary by having any SAP certificate".

Business schools should play up this factor as one student suggested "I think SAP America and Georgia Southern University need to do a better

job of displaying Georgia Southern University's SAP assets to companies and corporations that use SAP ERP." By doing so universities can achieve many-fold benefits for all parties: students, schools and industry. Students gain marketable skills and knowledge, schools gain reputations, and industry gain competent workers.

Facilitating Conditions

Venkatesh et al. (2003) hypothesized a non-significant correlation between *facilitating conditions* to intention to use technology. We, however, proposed the direct positive relationship because of the education context. We believed that the accessibility and availability of facilitating resource are crucial in learning any IT skill; however, such a belief was not supported in this study. Contradictory to prior quantitative studies, *facilitating conditions* was not a statistically significant factor to predict students' intentions to pursue the SAP ERP Award while its slope is negative. From the qualitative data, however, students did articulate the need for better *facilitating conditions* in the open-ended question comment (see Appendix D).

This contradiction signals a need for further investigation into the relationship between *facilitating conditions* and intention. It would be interesting to study whether the academic setting has any effect on the relationship.

Other Findings

We found from our qualitative data that other than those afore-discussed factors, Georgia Southern University students value their ERP award program not only for the job potential but also for its unique design and requirements. Students most appreciate the fact that it is embedded in courses and unlike any other certification, they do not have to pay extra to pursue the award (see Appendix D).

On the other hand, students who decided not to pursue this ERP award most expressed the "lack of time" factor, that is, they did not have enough time to take three additional courses before scheduled graduation. Students reasoned that they were not informed until it was "too late" to pursue it (see Appendix D).

Contributions to Theory

This study contributes to incorporate motivation theory and UTAUT's theoretical validity to the management of information technology-based initiatives in education. Venkatesh and his colleagues (2003, p.470) directed "...future work should attempt to identify and test additional

boundary conditions of the model in an attempt to provide an even richer understanding of technology adoption and usage behavior". Unlike numerous previous studies that tested and validated UTAUT by using a specific technology as an artifact, this study tested the boundary and applicability of UTAUT in a new but technology-related area - IT certification.

Most prior IT certification value research focused on the perspectives of employers, managers or professionals who already had certifications (Venkatesh, Thong, & Xu, 2012). A few studies have examined students' perspectives. This current study fills this gap by studying students' perspectives, intentions, and their motivating factors. Higher education institutions can design better programs if we understand what motivates students. Attention should be paid to determine students' underlying beliefs. Students in this study understood the benefits of receiving the award; one benefit is that it demonstrates skills and knowledge, which in turn increases their marketability in the competitive business environment. Another important benefit is the differentiation effect. Certification separates the owners from other job seekers, and the award program also brings distinction to the university.

Practical Implications

Scholars and practitioners have advocated closing the gap between business school curriculum and business community needs for practically trained personnel (David et al., 2011). Gartner (2010) conducted its IT Market Compensation Survey sampling 358 U.S.-based IT organizations from March 2009 to February 2010. At Time 1 (2010) of data collection of this study, the Gartner survey (2010) exposed a slow IT job market overall, but certain IT jobs/skills, for instance, system architecture design, database administration, ERP and networking management, are still high in-demand. Those desired skills could be demonstrated by awards and certifications.

Most current Computerworld's 2016 IT Salary Survey conducted in the fall of 2015 shows people who work in enterprise resource planning reported a bigger year-over-year compensation gain — 5% — than survey respondents in any other area of IT. The same survey also shows a solid interest in certifications among the 3,301 respondents: More than half (54%) said they have IT-related certifications, and 44% said they plan to pursue an IT certification within the next 24 months. Scholars have been pointing out that if universities integrate industry certification with an academic degree, it would create a win-win situation for both the industry and academia, and

better help students get jobs (David et al., 2011; Hitchcock, 2007; Simmonds, 2002). From our qualitative data, this study also helps business schools understand what students consider most – cost and time.

7. CONCLUSIONS

We observed one interesting fact that non-business majors have begun to enroll in the award program since 2011. Although typically students majoring in IS partake and receive the SAP ERP Award, the award can also be earned by students who minor in IS. The IS minor and the SAP ERP Award enhance career options for students who are interested in working for businesses that use SAP ERP. Students majoring in accounting, finance, human resource management, operations management, or logistics are especially likely to benefit from an IS minor and SAP ERP Award (Mackinnon et al., 2006). A follow-up study could be done on the effect of marketing of the award program in order to increase student enrollment.

We plan to further develop and validate the new construct established for this study: *perceived value*. We plan to increase the reliability and validity by adding more items and then testing them via expert evaluation and pilot-test with students. Another construct, *facilitating conditions*, should be investigated further because of mixed results from this and other studies. From the qualitative data, students did mention that they are “grateful” to have the opportunity to pursue the award by taking courses. It “saves money” because they “pay tuition instead of thousands of dollars” for an industry certificate. It would be beneficial for future studies to evaluate the financial impact of pursuing an industry certification. Other schools can adapt this built-in-curriculum model to create a win-win-win situation for students-schools-employers.

8. REFERENCES

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Cantor, J. (2002). Skills certifications and workforce development: Partnering with industry and ourselves [Electronic version]. *Leadership Abstracts*, 15(1), Retrieved March 22, 2013, from <http://www.league.org/publication/abstracts/leadership/labs0102.html>.
- Chau, P., & Tam, K. (1997). Factors affecting the adoption of open systems: an exploratory study. *MIS Quarterly*, 21(1), 1-24.
- Chen, K., Razi, M., & Rienzo, T. (2011). Intrinsic factors for continued ERP learning: a precursor to interdisciplinary ERP curriculum design. *Decision Sciences Journal of Innovative Education*, 9 (2), 149-176.
- Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: development of a measure and initial test. *MIS Quarterly*, 19(2), 189-211.
- Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions to computing technology: A longitudinal study. *MIS Quarterly*, 23(2), 145-158.
- Computer Science and Telecommunications Board (2001). Report of a Workshop on Science, Technology, Engineering, and Mathematics (STEM) Workforce Needs for the U.S. Department of Defense and the U.S. Defense Industrial Base (NAE) Released 2011-12-20
- Covington, M., & Müeller, K. (2001). Intrinsic versus extrinsic motivation: An approach/avoidance reformulation. *Educational Psychology Review*, 13(2), 157-176.
- David, F., David, M, & David, F. R. (2011). What are business schools doing for business today? *Business Horizons*, 54(1), 51-62.
- Davis, F., Bagozzi, R., & Warshaw, P. (1992). Extrinsic and intrinsic motivation to use computers in the workplace1. *Journal of Applied Social Psychology*, 22(14), 1111-1132.
- Davis, S, Siau, K, & Dhenuvakonda, K. (2003). A fit-gap analysis of e-business curricula vs. industry needs. *Communication of the ACM*, 46(12), 167-177.
- Eom, S., Wen, J., & Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: an empirical investigation. *Journal of Innovative Education*, 4(2), 215-235.
- Harman, H. (1960). Modern Factor Analysis. Chicago: University of Chicago Press.
- Hitchcock, L. (2007). Industry certification and academic degrees: Complementary, or poles apart? Paper presented at the *Proceedings of the ACM SIGMIS CPR conference on Computer personnel research: The global information technology workforce*, St. Louis, MS.

- IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp
- MacKinnon, R., Rogers, C., Kung, H.-J., Gardiner, A., Whitworth, J. E., & Williams, S. (2006). Creating an ERP emphasis in the IS curriculum. *Issues in Information Systems*, 7(1), 284-288.
- Mohamed, S, & McLaren, T. (2009). Probing the gaps between ERP education and ERP implementation success factors. *AIS Transactions on Enterprise Systems*, 1(1), 8-14.
- Pardee, R. (1990). Motivation theories of Maslow, Herzberg, McGregor & McClelland. A literature review of selected theories dealing with job satisfaction and motivation.
- Pratt, J., Hauser, K., & Ross, S. (2010). IS staffing during a recession: comparing student and IS recruiter perceptions. *Journal of Information Systems Education*, 21(1), 69-84.
- Randall, M., & Zirkle, C. (2005). Information technology student-based certification in formal education settings: who benefits and what is needed. *Journal of Information Technology Education*, 4, 287-305.
- Root, G. N. III. Examples of intrinsic workplace motivation, <http://smallbusiness.chron.com/examples-intrinsic-workplace-motivation-11382.html>, Retrieved 30 August 2015.
- Ryan, R., & Deci, E. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55 (1), 68-78.
- Ryan, R., & Deci, E. (2000b). Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.
- Simmering, M., Posey, C., & Piccoli, G. (2009). Computer self-efficacy and motivation to learn in a self-directed online course. *Journal of Innovative Education*, 7(1), 99-121.
- Simmonds, A. (2002). Learning experience with an industry certification course at university. Paper presented at the Proceedings of Australasian Computing Education Conference in Research and Practice in Information Technology, Adelaide, Australia.
- Syler, R., Cegielski, C., Oswald, S., & Rainer, K. (2006). Examining drivers of course performance: an exploratory examination of an introductory CIS applications course. *Journal of Innovative Education*, 4(1), 51-65.
- Taylor, S., & Todd, P. (1995). Understanding information technology usage: a test of competing models. *Information Systems Research*, 6(2), 144-176.
- Teo, H., Wei, K., & Benbasat, I. (2003). Predicting intention to adopt interorganizational linkages: an institutional perspective. *MIS Quarterly*, 27(1), 19-49.
- Thompson, R., Higgins, C., & Howell, J. (1991). Personal computing: toward a conceptual model of utilization, *MIS Quarterly*, 15(1), 124-143.
- Thong, J. (1999). An integrated model of information systems adoption in small businesses. *Journal of Management Information Systems*, 15(4), 187-214.
- van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 28(4), 695-704.
- Venkatesh, V., & Davis, F. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157-178.
- Wigfield, A., Guthrie, J., Tonks, S., & Perencevich, K. (2004). Children's motivation for reading: domain specificity and instructional influences. *Journal of Educational Research*, 97, 299-309.

Appendix A
Survey Items

Construct	Source	# of	Survey Items
Perceived Value	New, developed for this study Based on motivation theory	2	<ul style="list-style-type: none"> • If I have Georgia Southern University SAP ERP Award, it will increase my chance of getting a better job • I would find Georgia Southern University SAP ERP Award useful in my job hunting
Intrinsic Motivation	Based on motivation theory Modified UTAUT construct: Attitude toward using technology	3	<ul style="list-style-type: none"> • SAP ERP makes work more interesting • Working with SAP ERP is fun • I like working with SAP ERP
Effort Expectancy	UTAUT	4	<ul style="list-style-type: none"> • My interaction with SAP ERP would be clear and understandable • It would be easy for me to become skillful at using SAP ERP • I would find SAP ERP easy to use • Learning to use SAP ERP is easy for me
Social Influence	UTAUT	4	<ul style="list-style-type: none"> • People who influence my behavior think that I should use SAP ERP • People who are important to me think that I should use SAP ERP • The senior management of this business has been helpful in the use of SAP ERP • In general, the organization has supported the use of SAP ERP
Facilitating Condition	UTAUT	3	<ul style="list-style-type: none"> • I have the resources necessary to use the SAP ERP • I have the knowledge necessary to use SAP ERP • A specific person (or group) is available for assistance with SAP ERP difficulties
Intention	UTAUT	3	<ul style="list-style-type: none"> • I intend to pursue Georgia Southern University SAP ERP Award • I predict I would be in Georgia Southern University SAP ERP Award program • I plan to pursue Georgia Southern University SAP ERP Award in the future

Appendix B

Table 1: Descriptive Statistics and Correlations

	Mean	SD	PV	IM	EE	SI	FC	INT
PV	4.134	0.766	0.770	.384**	.430**	.524**	.464**	.586**
IM	3.57	0.892		0.894	.684**	.538**	.484**	.401**
EE	3.739	0.785			0.863	.572**	.606**	.458**
SI	3.609	0.701				0.786	.598**	.527**
FC	3.907	0.690					0.730	.425**
INT	3.943	0.990						0.921

**p < .001

PV: Perceived Value
IM: Intrinsic Motivation
EE: Effort Expectancy
SI: Social Influence
FC: Facilitating Condition
INT: Intention

Appendix C

Table 2: Hierarchical Regression Results

	Step 1		Step 2		Step 3	
	b	β	b	β	b	β
Constant	3.563		0.451		-0.009	
Year 2	0.150		0.039	0.017	0.039	0.017
Year 3	0.071		-0.055	-0.021	-0.011	-0.004
Year 4	-0.260		-0.208	-0.085	-0.142	-0.058
Year 5	-0.262		-0.350*	-0.142	-0.285*	-0.115
Graduate level	-0.248*		-0.264**	-0.121	-0.25**	-0.114
SAP related	0.534**		0.319**	0.132	0.324**	0.134
IS Major	0.187		0.187*	0.094	0.172*	0.087
Perceived Value			0.586***	0.455	0.474***	0.368
Intrinsic Motivation			0.258***	0.234	0.1	0.09
Effort Expectance					0.148	0.117
Social Influence					0.273**	0.194
Facilitating Conditions					-0.021	-0.015
R²	0.116		0.446		0.479	
R² Change	0.116		0.330		0.033	
F change	6.095***		96.327***		6.71***	

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix D

Table 3: Student Responses to the Open-ended Question

Factors	Student Comments
Perceived Value	<ul style="list-style-type: none"> • "With several companies beginning to use SAP, it is obvious that it is a worthwhile goal to pursue." • "I have obtained an internship allowing me to enhance my knowledge of SAP. Without pursuing the SAP ERP Award, I probably would not have received the internship." • "With the SAP ERP Award, I definitely increase my chances of landing a good job position, and I also differentiate myself from other people trying to get that same position." • the award "...will help [me] to get further in job hunting." • "It's helping me find a job right now. Got a few really good leads."
Social Influence	<ul style="list-style-type: none"> • "it is recommended by my advisor. Yes, it's highly recommended in the IS department as something that will help me more marketable in my search to pursue jobs. " • "Current employer is implementing SAP" • "I work for GulfStream and I use SAP every day, and it will make me look more marketable to my employer."
Facilitating Conditions	<ul style="list-style-type: none"> • "Much easier to attain when teachers are available to help." • "The classes taught need a T.A." • "Some students need SAP tutor for help, but great program."
Others	<ul style="list-style-type: none"> • "I am very happy that Georgia Southern University provides SAP ERP Award classes that I can take on my time." • "I think it is great that Georgia Southern University allows you to obtain this award through the course work." • "I think that for us as student it is a great opportunity for us to have at a great price. Considering how expensive the SAP classes are."
Not Pursuing the award	<ul style="list-style-type: none"> • "I would go for it but I simply don't have the time" • "No. Would postpone my graduating time." • "No, not able to take all the necessary classes."