What Motivates Students to Study Enterprise Systems? A Social Cognitive Perspective

Full Paper

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Abstract

Over the past three decades companies of all sizes have been implementing Enterprise Systems (ES). The inherent appeal of ES has not gone unnoticed in the business curriculum either. Several business schools have made systematic changes across their curricula to ensure that they graduate students with an integrated understanding of cross-functional business processes and ES. An ES education can provide significant benefits to students as well as to their potential employers. Yet, there is a lack of research that investigates what motivates students to take ES courses. Therefore, leveraging Social Cognitive Career Theory, this study examines the factors that influence students’ decisions to enroll in ES courses. The findings suggest that domain specific self-efficacy, outcome expectations, and interest in ES courses independently and cumulatively shape students’ aspirations to take ES courses. The paper concludes with a discussion of the findings, implications, limitations, and directions for future research.

Keywords

Business processes, enterprise systems education, ERP systems education, interest, students’ perceptions.

Introduction

Traditionally organizations have been structured around individual business functions such as production, marketing and sales, finance, accounting, and human resources. Over time, this traditional structure has created barriers among different functions in the organization and resulted in various problems. As a response to these problems, organizations have turned to a business process approach. Business processes are cross-functional by nature and cut across the traditional organizational structure by grouping employees from different functional areas to create value for internal and external customers (Closs and Stank, 1999).

Recognizing the importance of the business process approach in staying competitive in a highly dynamic business environment, companies of all sizes have been implementing Enterprise Systems (ES) (a.k.a. Enterprise Resource Planning -ERP- systems) to overcome the limitations of their stand-alone and legacy systems that were designed to support the traditional functional organizational structure. ES are integrated information systems that provide cross-functionality by integrating information and processes across departmental boundaries.

Reflecting this trend in the business community, many universities have made systematic changes across their business curricula to ensure that they graduate students with an integrated understanding of cross-functional business processes and ES (Johansson et al., 2014).

An understanding of ES concepts and systems can provide significant benefits to students. First of all, due to their integrative nature, incorporation of ES systems into curriculum provide a unique opportunity to teach the concepts associated with cross-functional integration and the process-oriented view of organizations (Bradford et al., 2003; Johansson et al., 2014; Magnusson, 2009; Motwani and Akbulut, 2008). Students who become familiar with the integrated process-oriented view, develop a deeper holistic comprehension of how organizations function and thus in the long term become better managers.
What Motivates Students to Study Enterprise Systems?

Some other benefits of an ES education include but are not limited to the following: (a) Students gain hands-on knowledge of a real-world application that is commonly used by numerous organizations in many different industries, (b) Students develop critical skills related to business process execution, application of concepts, techniques, tools, and problem solving, (c) Students can more easily transfer skills, concepts, and principles learned in the classroom into real-life business practices, (d) Students can contribute to projects in the workplace earlier than most other people, (e) Students can bring a higher level of confidence to work, (f) Students are better prepared for challenges at work and can handle difficulties more easily, (g) Students can secure desirable and higher paying jobs because of stronger knowledge of company operations and systems (Alshare and Lane, 2011; Bradford et al., 2003; Motwani and Akbulut, 2008; Peslak, 2005; Rosemann and Watson, 2002; Vluggen and Bollen 2005).

The availability of graduates possessing these types of knowledge and skills right out of college provides great advantages for organizations as well. Companies can hire better skilled and educated employees who need less training, less direct supervision and can become productive more quickly.

Despite the significant benefits to students and their potential employers, incorporating ES into curriculum does not come without major challenges. Some of the challenges discussed in the literature revolve around the following issues: (a) ES integration into curriculum requires significant resources including, technology, people, time, and money, (b) Course contents need to be altered, (c) Pedagogical challenges must be overcome, (d) Faculty training might be necessary, (e) Faculty might show resistance, (f) Changes might be required in faculty reward structure, (g) Faculty members and administrators might lack the understanding of other disciplines and of the importance of ES, (h) Accommodating transfer and part time students might be difficult, (i) Students might resist to limitations in scheduling, (j) Students might lack interest in ES courses (Bradford et al., 2003; Johnson et al., 2004; Fedorowicz et al., 2004).

In their annotated bibliographies of ES research; both Esteves and Bohorquez (2007) and Moon (2007) pointed out that research about ES in education was limited. In a more recent study of an archival analysis of the current ES research, Eden et al. (2014) discovered that, even though many universities have made ES a focal point in their curriculum, research on ES education has been very limited and has been actually declining.

Moreover, most of the existing studies on ES education, focus on how ES systems can be incorporated into individual courses or into curriculum (Eden et al., 2014; Esteves and Bohorquez, 2007). Interestingly, there are only a couple studies that investigate students’ perspectives of ES and courses and related learning processes and outcomes. For example, Chen et al. (2009) conducted an empirical assessment of ES learning effects. The authors looked at the relationships of three factors, attitude toward behavior, subjective norm and perceived behavioral control with the intention to learn ES. Alshare and Lane (2011) examined students’ perceived learning outcomes and satisfaction in ES courses. Rienzo and Han (2011) measured students’ knowledge acquisition of business process concepts using ES. Using a three-step teaching case, Johansson et al. (2014) identified how an ES facilitates students’ learning outcomes about business processes.

Recent research emphasizes the need for scholars to find innovative ways to attract students to take ES courses and to ensure their engagement and success in such courses (Eden et al. 2014; Alshare and Lane, 2011; Chen et al. 2009). In order to successfully teach ES concepts and systems, it is important for educators to understand students’ perceptions of ES and courses. Restructuring the curriculum to teach ES carries a considerable amount of risk, especially if ES course work is not mandatory and if the students lack an interest in taking ES courses.

Therefore, given the significant benefits and challenges associated with an ES education, understanding the factors that motivate students to take ES courses is an important topic for the IS community. To this end, this study investigates the mechanisms by which students choose to take ES courses. Understanding these mechanisms allows intervention strategies to be devised and implemented to attract a larger pool of students to ES courses. This would in turn prove helpful in addressing the increasing demand for graduates with ES knowledge and skills.

The remainder of this paper is organized as follows. The next section provides a brief overview of Social Cognitive Career Theory (SCCT). A research model, specifically tailored to the domain under investigation
is also put forth. In the following section, an interrelated set of hypotheses are presented. The research methodology is subsequently outlined and the results are provided. The paper concludes with a discussion of the findings, implications, limitations and direction for future research.

**Theoretical Background**

This study utilizes SCCT, which was developed in the vocational psychology literature (Lent et al., 1994). SCCT represents a framework for understanding the mechanisms through which individuals form academic and career relevant interests, make choices among available options, and perform and persevere in their selected fields of pursuit (Lent et al., 1994). SCCT was develop based on Banduras’ (1986) general Social Cognitive Theory (SCT), which proposes that psychosocial phenomena are reciprocally determined by personal, environmental, and behavioral factors. Borrowing from SCT, SCCT emphasizes the central role of socio-cognitive factors in enabling people to assert personal control over their educational and occupational behaviors, efforts, and attainments. SCCT also allows for incorporation of environmental variables that may either promote or restrict the exercise of personal control (Lent et al., 2003). Figure 1 below represents the SCCT framework and the research model used in this study.

![Figure 1. SCCT – Model of How Basic Academic/Career Interests Develop Over Time and the Research Model (Modified from Lent et al. 1994)](image)

While SCCT covers a broad spectrum of academic and career related issues, as the initial step of a comprehensive research project, the purpose of the current study is to focus on the core SCCT framework (Lent et al. 1994) and examine the main factors that sway students to choose ES courses. Therefore, the current study focuses on four factors - self-efficacy, outcome expectations, interest, and choice goals - that are particularly relevant to academic choices (Akbulut and Looney, 2007; Lent et al., 1994). For additional studies that leverage SCCT to understand student engagement in information systems field, readers can refer to Akbulut-Bailey (2012), and Akbulut and Looney (2007; 2009).

**Self-efficacy:** Self-efficacy is defined as the perception of one’s ability to organize and execute certain courses of action to accomplish a particular task (Bandura, 1986). Even though self-efficacy assessments can be flawed (Dunning et al., 2004), they provide individuals with a set of beliefs regarding their abilities to exercise control over their actions and environment. In the information systems domain, research has found that self-efficacy plays a critical role when one interacts with information technologies (IT). For example, self-efficacy plays a central role in IT training, technology acceptance and technology use (Agarwal et al., 2000; Compeau and Higgins, 1995a; 1995b, Johnson and Marakas, 2000), to name a few. Self-efficacy judgments are situational and task-specific (Marakas et al., 1998), which means that self-efficacy judgments should match the behaviors they intend to predict (Bandura, 1986; 1997). Therefore, this study focuses on a context-specific form of self-efficacy, which is defined as students’ judgment of his or her capability to perform effectively in an ES course.
Outcome Expectations: Outcome expectations capture the perceived likelihood that favorable consequences will occur as a result of one’s actions (Bandura, 1986; 1997). Although behaviors must be carried out to realize outcomes, individuals also consider the prospective outcomes before undertaking a particular task. Individuals are more likely to undertake behaviors that they expect to result in favorable outcomes. As such, unless one expects the behavior to produce favorable outcomes, the individual may lack the necessary motivation to undertake the behavior (Bandura, 1986; 1997). Outcome expectations can take three major forms: (a) physical (e.g., job security), (b) social (e.g., recognition), and (c) self-evaluative (e.g., sense of accomplishment) Bandura (1997). Similar to self-efficacy judgments, outcome expectations are also context-specific and target the outcomes that emerge as a result of performing specific behaviors. Therefore, in the current study, outcome expectations refer to a student’s judgment regarding the likelihood that valued rewards will be received as a result of taking ES courses.

Interest: Interest refers to an emotion that arouses attention to, curiosity about, and concern with a particular educational path (Lent et al., 1994). Even though individuals may try out and pursue many different activities throughout their formative years, they ultimately develop distinctive patterns of academic and career interests, as certain activities differentially intrigue people to varying degrees over time (Bandura, 1986; Lent et al., 1994). In this study, the target of interest specifically focuses on taking ES courses.

Choice Goals: In the context of career-related choices, the behavior in question is operationalized as choice goals, which can be defined as the determination to engage in a particular educational or occupational activity (Bandura, 1986). Specific to this study, choice goals refers to a students’ aspirations to take ES courses. Choice goals play an important role in the self-regulation of behavior. People set goals to organize and guide their behavior, as well as to increase the likelihood that desired outcomes will be attained. Goals play an important role in decision making theories, including career choice decisions. Choice goals constitute an influential precursor to actual choices. In this respect, career plans, aspirations, and expressed choices are considered as goal mechanisms (Lent et al., 1994).

Hypotheses Development

Research has demonstrated that perceptions of self-efficacy play an important role in the formation of educational and vocational interests and behaviors (Lent et al., 1994). People tend to form enduring interests in activities in which they view themselves as capable (Bandura and Schunk, 1981). Therefore, students with higher levels of self-efficacy regarding their abilities to perform well in ES courses will be more likely to develop and interest in such courses. Therefore, the following hypothesis is offered:

\[ H_1: \text{Self-efficacy will have a significant positive influence on interest.} \]

Self-efficacy beliefs are also assumed to have direct effects on choice goals. Bandura (1986) has proposed that self-efficacy affects an individual’s goals to perform a specific behavior. When high self-efficacy prevails, individuals are more likely to set goals to engage in a particular behavior. As such, students who are confident in their abilities to perform well in ES course would be more likely to develop aspirations to enroll in such courses. Therefore, the following hypothesis is offered:

\[ H_2: \text{Self-efficacy will have a significant positive influence on choice goals.} \]

The relationship between self-efficacy and outcome expectations has been frequently studied in the IS literature. Research has shown that self-efficacy beliefs influence outcome expectations (Compeau and Higgins, 1995a; 1995b; Compeau et al., 1999; Looney et al., 2006). People expect to achieve desirable outcomes in activities at which they deem themselves as capable. In essence, an individual who possesses a strong sense of efficacy is more likely to believe that favorable consequences will arise from her or his actions. Therefore, it is reasonable to assume that students who have higher levels of ES self-efficacy will develop stronger outcome expectations. Therefore, the following hypothesis is offered:

\[ H_3: \text{Self-efficacy will have a significant positive influence on outcome expectations.} \]

Similar to self-efficacy, an individual’s expectations about the consequences of pursuing educational and vocational paths shape their interests in a particular field (Lent et al., 1994). In essence, when a student expects taking ES courses will result in favorable outcomes, he or she will be more likely to find ES classes compelling and develop an interest. Therefore, the following hypothesis is offered:
**H4: Outcome expectations will have a significant positive influence on interest.**

Outcome expectations can also affect choice goals directly. People develop goals, in part, based on the rewards they expect to receive. The higher the likelihood of obtaining valued outcomes, the more likely that people will adopt particular academic or career goals. Even when a student is might be disinterested in ES courses, the rewards for taking ES courses (ability to secure a job, good salary, recognition, sense of accomplishment, among others) may be so enticing that the student might develop aspirations to take ES classes. Therefore, the following hypothesis is offered:

**H5: Outcome expectations will have a significant positive influence on choice goals.**

In addition to self-efficacy and outcome expectations, interest will influence choice goals. Research indicates that people tend to select academic and career options that match their primary interests (Holland, 1985). Emergent interests lead to cognized choice goals for further activity exposure (i.e. intention plans, or aspirations to engage in a particular academic or career path), fostering the development of goals to choose particular actions (e.g., registering in a particular course, declaring a corresponding major, etc.) (Lent et al., 1994). Therefore, students who are interested in ES related topics and courses will be more determined to enroll in ES courses. Therefore, the following hypothesis is offered:

**H6: Interest will have a significant positive influence on choice goals.**

**Research Method**

The study participants consisted of students enrolled in different sections of an introductory level Management Information Systems (MIS) course at a large state university in the United States. This course is designed to provide students an understanding of MIS and how they support modern businesses. An important aspect of this course is that it emphasizes the importance of the integrated, cross-functional process-view of organizations and the ES systems that support and integrate the key business processes.

In this course, students first discuss the traditional functional approach and stand-alone and legacy systems. They are then introduced to the business process approach and ES. Students learn about business processes and ES concepts through lectures, projects, a case study and a video. Using the market-leading ES software package, SAP®; students also gain valuable hands-on experience in creating and viewing master data and in executing different business processes (procurement and fulfillment). The course is required for all business majors and serves as a pre-requisite for the several upper level ES related courses that are offered in the College of Business.

A web-based survey was used to collect the data for the study. SurveyMonkey survey tool was utilized. The survey was administered during the last week of classes. Participation in the survey was voluntary and students were provided extra credit points in return for their participation. A total of 162 usable responses were obtained. Forty-two percent of the participants were female and fifty-eight percent were male. Respondents averaged 21.6 years of age (SD=3.6).

A total of four scales were required to test the research hypotheses. These scales were custom developed for this particular study to ensure that they captured domain specific judgments regarding ES courses. Previously validated scales from Lent et al. (2004) and Akbulut and Looney (2007) were used in developing the scales. As a part of the measurement development process, all scales were subjected to rigorous pretesting as suggested by Boudreau et al. (2001).

Self-efficacy was measured using six items with a response format consisting of an 11-place Likert-type scale ranging from 0% (cannot do) to 100% (certain can do). An 11-item scale was used to measure the three forms of outcome expectations: self-evaluative, social, and physical. The response format consisted of an 11-place Likert-type scale capturing the likelihood that a particular outcome would occur. Specifically, likelihoods were captured in percentage terms ranging from 0% (Will Never Occur) to 100% (Will Always Occur). Interest was measured using five items with a response format consisting of a 7-place Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Choice goals was measured using four items with a response format consisting of a 7-place Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). For a list of the scale items used in the study, please refer to the Appendix.
Analysis

Partial least squares (PLS) was used to analyze the research model. The software package used to perform the analysis was PLS Graph, Version 03.00 (Chin, 2003). The psychometric properties of the measurement model were confirmed prior to estimating structural model parameters, as discussed in the following subsections.

Measurement Model Analysis

As recommended by Barclay et al. (1995), reliability and validity of the indicators and constructs were examined in three stages. First reliability of each construct was examined to ensure that the items collectively measured their intended construct consistently (Gefen et al., 2000). Reliability was assessed by examining the reliability of individual items (Cronbach’s α) and the composite reliability of constructs. As shown in Table 1 below, both types of reliability scores were well above the recommended level of 0.70; confirming the reliability of the scales (Barclay et al., 1995; Fornell and Larker, 1981).

Discriminant validity of the constructs was examined by comparing the average variance extracted (AVE) associated with each construct to the correlations among constructs. In order to claim discriminant validity, the square root of the AVE associated with a particular construct must be greater than its correlations with other constructs (Fornell and Larker, 1981). As shown in Table 1, each construct sufficiently differed from other constructs; confirming discriminant validity.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>α</th>
<th>CR</th>
<th>AVE</th>
<th>SE</th>
<th>OE</th>
<th>INT</th>
<th>CG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy (SE)</td>
<td>0.962</td>
<td>0.969</td>
<td>0.840</td>
<td>0.917</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome Expectations (OE)</td>
<td>0.974</td>
<td>0.977</td>
<td>0.797</td>
<td>0.546</td>
<td>0.893</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest (INT)</td>
<td>0.973</td>
<td>0.983</td>
<td>0.922</td>
<td>0.567</td>
<td>0.678</td>
<td>0.960</td>
<td></td>
</tr>
<tr>
<td>Choice Goals (CG)</td>
<td>0.986</td>
<td>0.990</td>
<td>0.961</td>
<td>0.578</td>
<td>0.585</td>
<td>0.649</td>
<td>0.980</td>
</tr>
</tbody>
</table>

Note 1. α = Cronbach’s alpha. CR = composite reliability. AVE = average variance extracted.
Note 2. Diagonal elements (in bold) represent the square root of the AVE, whereas off-diagonal elements represent the correlations among constructs.

Table 1. Reliability, Correlations, and Discriminant Validity

Convergent validity was tested both at the individual item and construct levels by examining the individual item loadings and the AVE respectively (Fornell and Larker, 1981). As shown in Table 2, all individual items exhibited adequate loadings (greater than 0.707) and no unacceptable cross loadings emerged. Moreover, as shown in Table 1, AVE values were greater than 0.50. Therefore, convergent validity of the items and constructs were confirmed (Fornell and Larker, 1981; Gefen et al., 2000).

<table>
<thead>
<tr>
<th>Construct/Item</th>
<th>Loading</th>
<th>Construct/Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td></td>
<td>Outcome Expectations</td>
<td></td>
</tr>
<tr>
<td>SE1</td>
<td>0.8959</td>
<td>OE1</td>
<td>0.8776</td>
</tr>
<tr>
<td>SE2</td>
<td>0.9037</td>
<td>OE2</td>
<td>0.8862</td>
</tr>
<tr>
<td>SE3</td>
<td>0.9185</td>
<td>OE3</td>
<td>0.8769</td>
</tr>
<tr>
<td>SE4</td>
<td>0.9141</td>
<td>OE4</td>
<td>0.9267</td>
</tr>
<tr>
<td>SE5</td>
<td>0.9225</td>
<td>OE5</td>
<td>0.9274</td>
</tr>
<tr>
<td>SE6</td>
<td>0.9442</td>
<td>OE6</td>
<td>0.8756</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OE7</td>
<td>0.8966</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OE8</td>
<td>0.9165</td>
</tr>
<tr>
<td>Interest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INT1</td>
<td>0.9586</td>
<td>OE10</td>
<td>0.8918</td>
</tr>
<tr>
<td>INT2</td>
<td>0.9602</td>
<td>OE11</td>
<td>0.9130</td>
</tr>
<tr>
<td>INT3</td>
<td>0.9665</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INT4</td>
<td>0.9602</td>
<td>Choice Goals</td>
<td></td>
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<tr>
<td>INT5</td>
<td>0.9544</td>
<td>CG1</td>
<td>0.9806</td>
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</table>
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<table>
<thead>
<tr>
<th>Constructs, Items, and Loadings</th>
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<tbody>
<tr>
<td>CG2</td>
</tr>
<tr>
<td>CG3</td>
</tr>
<tr>
<td>CG4</td>
</tr>
</tbody>
</table>

TABLE 2. Constructs, Items, and Loadings

**Structural Model Analysis**

The structural model was tested by estimating the path coefficients among constructs. Statistical significance of the paths was determined using two-tailed tests based on the bootstrap resampling method with 500 samples. The results of the structural model analysis are depicted in Figure 2.

![Figure 2. Results](image)

In terms of the model’s explanatory power, the results indicate that the model explains a sizeable proportion of the variance in choice goals. Self-efficacy, outcome expectations, and interest cumulatively accounted for 73.5 percent of the variance in choice goals. Combined, self-efficacy, and outcome expectations explained 51.5 percent of the variance in interest. Self-efficacy accounted for 29.8 percent of the variance in outcome expectations. Table 3 provides a summary of hypotheses testing.

Self-efficacy was found to be a significant predictor interest ($0.281, p < .001$) and choice goals ($0.147, p < .001$). Therefore, hypotheses $H_1$ and $H_2$ were supported. Self-efficacy also served as a significant predictor of outcome expectations ($0.546, p < .001$). As a result, hypothesis $H_3$ was also supported.

Outcome expectations was a significant predictor of interest ($0.524, p < .001$), supporting hypothesis $H_4$. However, as opposed to expectations, outcome expectations did not have a significant influence on choice goals ($-0.027, ns$). Therefore, hypothesis $H_5$ was not supported. Finally, interest was found to be a significant predictor of choice goals ($0.784, p < .001$), supporting hypothesis $H_6$.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>t-stat</th>
<th>Sig</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$: Self-efficacy will have a significant positive influence on interest.</td>
<td>3.5469</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>$H_2$: Self-efficacy will have a significant positive influence on choice goals.</td>
<td>2.8393</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>$H_3$: Self-efficacy will have a significant positive influence on outcome expectations.</td>
<td>6.8417</td>
<td>***</td>
<td>Supported</td>
</tr>
<tr>
<td>$H_4$: Outcome expectations will have a significant positive influence on choice goals.</td>
<td>6.7931</td>
<td>***</td>
<td>Supported</td>
</tr>
</tbody>
</table>
influence on interest.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Effect Size</th>
<th>p-value</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₅: Outcome expectations will have a significant positive influence on choice goals.</td>
<td>0.3606</td>
<td>Not Supported</td>
<td></td>
</tr>
<tr>
<td>H₆: Interest will have a significant positive influence on choice goals.</td>
<td>12.7965 ***</td>
<td>Supported</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001 (2-tailed)

Table 3. Summary of Hypotheses Testing

Discussion

Given the important benefits of an ES education for students and their potential employers, it is important to understand the factors affecting students’ interest in and pursuit of ES courses. Leveraging SCCT, this study focused on the core factors that may influence the development of interests and choices within the ES field.

Our results provide strong support for the research model. As expected, the results suggest that strong self-efficacy and outcome expectations foster student interest in ES courses. Students are more likely to develop an interest in ES courses when they feel that they can master the ES coursework and perform effectively on the various activities involved in an ES course. Moreover, when students gain an understanding of the various benefits of taking ES courses, they are more likely to develop an interest in these courses.

Our results also provided support for the direct effects of self-efficacy on students’ aspirations to take ES courses. Therefore, it is reasonable to assume that, students may aspire to pursue ES courses, simply because they believe they are qualified and confident in their abilities to succeed. However, our results did not provide support for the direct effects of outcome expectations on choice goals. Even though students may find the outcomes of taking ES courses (for example, good salary, ability to find a job, peer recognition, etc.) enticing, the expectations about these valued rewards do not directly translate into aspirations to take ES courses. Rather, the effect of outcome expectations is channeled through interest, which, in turn, helps aspirations surface.

It was also found that self-efficacy leads to stronger outcome expectations. Not surprisingly, students who deem themselves as capable of performing well in an ES course, perceive that favorable outcomes are more likely to be obtained as a result of taking ES courses. Finally, findings also provided strong support for the positive relationship between interests and choice goals, confirming that interest serves as the primary mechanism through which goals to take ES courses emerges.

Understanding these relationships can help educators to develop specific strategies and interventions to attract larger pools of students to take ES courses. Therefore, the knowledge gained through this study can enable scholars to apply the most effective teaching methods and techniques aimed at increasing students’ sense of efficacy and the positive outcomes they expect to derive from their ES course work, which in turn increases their interest in ES courses.

In terms of self-efficacy, most students in an introductory MIS course have had minimal exposure to computing within a business context in general and most likely no exposure to the complex ES in particular. Therefore, students exhibit more uncertainty about their ability to successfully tackle ES related material. However, nascent self-efficacy beliefs tend to be easily modifiable. Student confidence can be strengthened by providing immediate and frequent opportunities for them to achieve success through small in-class activities and exercises related to ES concepts and applications. Demonstrating ES tasks before asking students to complete them can also prove helpful. Another, helpful venue would be to use ES simulation exercises to provide students initial opportunities to familiarize themselves with these systems. As a result, students that master ES related tasks develop a “can do” mentality. An increase in self-efficacy increases students’ expectations about the positive outcomes that will be derived as a result of taking ES courses. Furthermore, self-efficacy beliefs directly and indirectly affect choice goals by intensifying interest in ES courses.
Like self-efficacy, instilling expectations that positive outcomes will arise taking ES courses can generate increased student interest. Individuals, such as peer groups, program alumni, and industry professionals, who have actually reaped such rewards, may prove invaluable in delivering these messages. Creating an ES website with course, employment, internship, etc., information and working with career services to promote the opportunities in ES would also be prove helpful.

In addition to self-efficacy and outcome expectations, student interest in ES courses can be influenced directly as well. In this respect, it is again important to promote ES courses and career opportunities via different mechanisms to generate student interest. Interest can also be influenced via complexity and novelty. Therefore, it is important faculty to ensure that ES course material is just right for students’ consumption. On one hand, material that is too easy may prove boring and disengaging. One the other hand, material that is beyond the reach of students can result in frustration with ES coursework and stifle motivation and interest. Since ES systems tend to be complex software applications, it would be helpful to start small and then increase the level of complexity as the course progresses when working with ES systems. Also, drawing on different delivery methods, such as guest speakers, videos, discussions about recent articles, not only provides novel avenues for learning, but might also encourage students to be inquisitive about ES.

These strategies also have the potential to increase student success in the classroom, provide a richer and more engaging learning environment for students, and foster interest in their upcoming careers.

**Limitations and Future Research**

Despite the knowledge gained herein, some cautions are warranted. The study utilized a survey to examine the relationships among the variables in the research model. Even though the measures exhibited excellent levels of reliability and validity, it is plausible that self-reported data could have resulted in common method variance. Therefore, additional studies that use alternative methods are warranted.

The data used the test the research model was collected at a single university located in a single country. As a result, the students who participated in the survey represent only a limited set of the entire student populace. It is highly possible that introductory MIS courses at other universities are not structured in the same way. Moreover, due to local characteristics, different findings might surface in other countries. As such, caution should be taken when generalizing the results to other academic settings. We encourage researchers to test the research model in different contexts to identify the boundary conditions of the findings.

Clearly this study focused on a limited number of factors that could potentially influence students’ interest in and choice of ES courses. In order to gain a more comprehensive understanding of students’ academic choices, a wider range of factors must to be investigated. There might be several individual (e.g. anxiety, innovativeness in the IT domain, precious experience, etc.) and environmental factors (e.g. course structure, instructor’s knowledge and attitude, training provided, availability of assistance, etc.) that might influence students’ experiences with ES and related course work. The current research model can be adapted to incorporate these and other additional factors. Moreover, the effects of gender, student major, and similar factors can also be investigated. The research model can also be leveraged to examine student interest in and choice of similar courses, such as Business Analytics and Intelligence courses, which are increasingly being incorporated into business curricula.

Going forward, future studies should also extend the current research model by tracking subsequent choice actions in the form of enrollment in advanced upper level ES courses and resulting learning outcomes and performance attainments. This will allow interests and choice behaviors to be examined longitudinally, while extending the explanatory and predictive power of the model.

**REFERENCES**

What Motivates Students to Study Enterprise Systems?


Chin, W. W. 2003. *PLS Graph, Version 03.00*, Department of Decision and Information Systems, University of Houston, TX.


APPENDIX: Scale Items

Self-Efficacy
I can perform well in an ERP/SAP course.
I can master even the hardest material in an ERP/SAP course.
I can perform effectively on the various activities involved in an ERP/SAP course.
Compared to other people, I can do most activities in courses associated with an ERP/SAP system well.
I can overcome the various obstacles people might face in an ERP/SAP course.
I can successfully utilize the tools and techniques needed in an ERP/SAP course.

Outcome Expectations
If I take ERP/SAP courses...
...I will not have to worry about finding a job when I graduate.
...I will have a competitive advantage in the workplace.
...I will feel more powerful.
...I will increase my chances of having job security when I graduate.
...I will increase my sense of accomplishment.
...these courses will be personally rewarding.
...I will be proud of myself.
...other people will perceive me as competent.
...I will be a stronger candidate in the job market.
...I will be able to get a good paying job when I graduate.
...I will be able to interview for good jobs.
What Motivates Students to Study Enterprise Systems?

Interest
I think an ERP/SAP course would be interesting.
I am interested in the kind of activities involved in an ERP/SAP course.
I am interested by the type of work done in an ERP/SAP course.
I am interested in the challenges faced in an ERP/SAP course.
I think ERP/SAP courses tackle interesting problems.

Choice Goals
I have aspirations to take ERP/SAP courses.
I plan on taking ERP/SAP courses in the future.
I would like to take ERP/SAP courses.
I plan on enrolling in an ERP/SAP course.