

# 회계정보시스템 교육이 학문적 자기효능감과 맥락적 성과에 미치는 영향

## The Effects of AIS Education on Academic Self-Efficacy and Contextual Performance

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### 요약

본 연구의 목적은 회계정보시스템 교육과 맥락적 성과의 관계에서 학문적 자기효능감 매개효과를 알아보기 위한 것이다. 이를 위해 282명으로부터 수집된 자료를 SPSS 23.0과 AMOS 23.0 프로그램을 사용하여 분석하였다. 본 연구결과는 다음과 같다. 첫째, 회계정보시스템 교육이 맥락적 성과에 정(+)의 영향에 미치는 것으로 나타났다. 둘째, 학문적 자기효능감은 맥락적 성과에 영향을 미치는 것으로 나타났다. 셋째, 학문적 자기효능감은 회계정보시스템 교육과 맥락적 성과의 관계에서 매개효과가 있는 것으로 나타났다. 매개효과를 확인하기 위하여 Sobel 검증을 실시하였다. 회계정보시스템 교육은 맥락적 성과에 직접적인 영향을 미치고, 학문적 자기효능감을 통해 간접적인 영향도 미치는 것으로 나타났다. 본 연구는 맥락적 성과를 향상시키기 위한 방법으로 학문적 자기효능감 매개효과를 규명했다는 측면에서 시사점을 갖는다. 향후의 연구에서는 표본 확대와 다양한 변수를 활용할 필요가 있다.

■ 중심어 : 회계정보시스템 | 교육 | 맥락적 성과 | 학문적 자기효능감 | 매개효과 |

### Abstract

The objective of this study was carried out to examine the academic self-efficacy mediating effect in the relationships of AIS education and contextual performance. For this study, data collected from 282 students were analyzed using the SPSS 23.0 and AMOS 23.0 programs. Results of this study are as follows. First, it was found that AIS education had a positive (+) impact on contextual performance. Second, it was found that academic self efficacy had an effect on contextual performance. Third, it was found that academic self efficacy had a mediating effect on the relationship of AIS education and contextual performance. The Sobel test was performed to identify the mediating effect. AIS education had a direct impact on contextual performance as well as an indirect impact through academic self-efficacy. These results provide that AIS education improves academic self-efficacy and thereby be effective for contextual performance. Follow-on research needs to expand of sample and using diverse variables

■ keyword : Accounting Information System(AIS) | Education | Contextual Performance | Academic Self-efficacy | Mediating Effect |

## I. Introduction

Accounting information system (AIS) education is closely related to accounting software programs: students are able to understand the accounting processes through accounting programs, which enable them to acquire an overall understanding of accounting and utilizing related information technology. Furthermore, research suggests that AIS education can be helpful in practical application[1].

From the perspective of organizational management, contextual performance is of interest for the purpose of improving organizational performance. In other words, contextual performance refers to activities that voluntarily support the social, psychological and organizational environment, helping the core organizational functions to run smoothly [2]. Research indicates that higher self-efficacy of organizational members has a positive influence on improving individual productivity, as well as the job attitude of contextual performance. Contextual performance, which refers to the voluntary engagement with one's job by trying to help or cooperate with others as well as activities that strive to adhere to the processes and procedures of the organization, was found to be positively influenced by self-efficacy[3].

Academic self-efficacy is the learners' self-assessment on their ability to understand project characteristics and to complete the job at hand. People with high academic self-efficacy put in ongoing effort to resolve a project, and often attain high achievement levels[4].

Contextual performance can be an important driver for self-efficacy. People with high

self-efficacy are expected to successfully carry out their job functions, and to effectively defend against adverse external environments. Furthermore, those with high self-efficacy have been found to enjoy challenging tasks, have a high level of effort input into tasks, and emotionally experience reduced stress and anxiety[5].

With the convergence of digital technologies and theories, the society needs methods to improve the competitiveness of AIS education, focused on new technologies, convergence and improvements to competitiveness. Therefore, it is necessary to comprehensively examine the mediating role of self-efficacy in the relationship between AIS and contextual performance.

Therefore, the specific purpose of this study are as follows. First, this study aims to clarify the positive influence of AIS education on contextual performance. Second, this study aims to confirm the mediating relationship between AIS education and contextual performance and propose theoretical and practical implications related to the findings.

## II. Theoretical considerations and hypothesis setting

### 1. AIS education

As AIS education helps to understand the accounting process through the understanding of AIS software and the use of information technology, its development has been closely related to the use of accounting programs[6].

A performance analysis of AIS and computer-based accounting indicated that they were highly correlated with accounting

education experience, and work performance satisfaction. Furthermore, the continuity of AIS education also influenced satisfaction; one of the suggestions for improvement of AIS was the importance of educating accounting experts specializing in AIS[7].

Self-efficacy relating to the computer-based accounting programs in universities can transform the attitudes and behaviors of learners. Studies have suggested that loyalty towards attitude and contextual performance may differ based on individual characteristics, such as clear program usage objective and continuous, long-term usage, as well as demographic characteristics, such as gender[8][16].

This study analyzed factors that improve contextual performance by focusing on four-year university students who received Accounting information system education using AT software. It is a difference from previous studies.

## 2. Contextual Performance

Contextual performance refers to individual behavior that contributes to the organizational performance. Sub-factors of contextual performance are interpersonal facilitation and job dedication. First, interpersonal facilitation refers to a series of activities relating to providing support, increasing cooperation, improving morale, removing obstacles and supporting the jobs of peers. It is synonymous with gentlemanly, altruistic and courteous behavior. Second, job dedication refers to activities that relate to adherence to the rules and striving to solve problems. Contextual performance refers to activities that include voluntarily helping peers, and are conceptually similar to altruistic behavior, organizational spontaneity, and

pro-social behavior[9][17].

Therefore, this study has set the following hypotheses to confirm the influence of AIS education(Independent variable) on contextual performance(Dependent variable).

Hypothesis 1: AIS education will have a positive influence on contextual performance.

## 3. Academic self-efficacy

Academic self-efficacy is the individual judgment that they are able to successfully complete a task by planning necessary behaviors, and the expectation that they will be able to complete the task at hand. As the learner undertakes an academic project, this academic efficacy influences the extent to which the learner makes a judgment on, puts in effort, and continues activities that strive for the completion of a challenging task[5][10][17].

Family support, such as studying for certifications and examination costs relating to AIS, can raise academic self-efficacy; furthermore, compassionate and mutually reciprocal parents have been found to lead to the development of maturity and creativity in their children[10][18][19].

Individuals with high academic self-efficacy demonstrate high achievement levels as they focus and continue to put in efforts on a given job or task, whereas those with low self-efficacy engage in negative self-evaluations, leading to a loss of confidence and reduction in achievement-oriented behavior.

The mediating role of academic self-efficacy is also being more understood. The mediating role of self-efficacy was found in the relationship between emotional intelligence (EI)

and behavior, concluding that while EI has a direct influence on behavior, it also indirectly influences organizational behavior, mediated by self-efficacy. Furthermore, subordinates who work with charismatic leaders have demonstrated higher levels of achievement compared to those working with less charismatic leaders, and such relationships were found to be mediated by self-efficacy. Leader's actions around helping their subordinates to manage and control their own behaviors, instead of giving instructions and orders, can positively influence performance variables by forming self-efficacy in subordinates[11][20].

Academic self-efficacy is used as a variable that can confirm the emotional, cognitive and psychological characteristics and competence relationships inherent in an individual. Furthermore, it is used in the prediction and explanation of other variables, as well as a variable that influences and is influenced by other variables.

Based on the existing research, this study believes that improved academic self-efficacy (Independent variable) will have a positive influence on contextual performance(Dependent variable) and that academic self-efficacy (Mediating variable) will mediate the relationship between AIS education and contextual performance, and therefore set the following hypotheses.

Hypothesis 2 Academic self-efficacy will influence contextual performance.

Hypothesis 3 Academic self-efficacy will mediate the relationship between AIS education and contextual performance.

### III. Research method and model

#### 1. Analysis of the research method

This study aims to examine the mediating effects of self-efficacy in the relationship between AIS education and contextual performance.

This study utilized SPSS 23.0 for basic statistical analysis, and verified the structural equation model using AMOS 23.0. The basic statistical analysis included a frequency analysis to examine the demographic characteristics of the respondents, a confirmatory factor analysis to verify the model hypotheses and the validity between each measurement items, and an examination of the Cronbach's Alpha, a reliability coefficient, to verify reliability.

#### 2. Measurement of variables and Research model

AIS education is closely related to accounting software. Through using accounting software, students are able to obtain a general understanding of accounting software, and effectively understand accounting procedures by utilizing information technology[1]. The independent variable relating to the understanding of AIS was set as the variable relating to systems, information and service quality used in an existing study on the acceptance of information technology[12].

Contextual performance refers to a series of activities that support the social, organizational and psychological environments to help the functioning of core functions, while not supporting the core function itself. The variables were measured by modifying them

into items that were suitable for this study[4][13][18].

The relationship between AIS education and academic self-efficacy and contextual performance are shown in [Figure 1].



Fig. 1 Research model

### 3. Survey method and sample characteristics

The sample of this study involved students who have taken classes on AIS in S University, H University, D University and Y University located in Seoul, Gyeonggi and Gangwon areas. A total of 400 surveys were distributed between August to December 2019; a total of 313 surveys were retrieved, and 282 were used in the analysis after excluding 31 surveys that had insincere responses or biased distribution.

Table 1. Characteristics of Sample

Classification		frequency	%
Gender	male	118	41.8
	female	164	58.2
School Year	2nd year	32	11.3
	3rd year	51	18.1
	4th year	199	70.6

The sample characteristics, in terms of gender, were 41.8% male and 58.2% female, and in terms of year, 11.3% were in their second year, 18.1% were in their third year and 70.6% were in their fourth year.

## IV. Results of empirical analysis

### 1. Analysis of reliability and validity

To attain the research objective, this study analyzed the reliability and conducted a factor analysis on AIS education, mediating effect of academic self-efficacy, and contextual performance.

Table 2. Reliability and Validity Analysis

Factors	Variables	factor loading	eigen-value	cron-bach's $\alpha$
AIS education	system	.870	3.143	0.902
		.836		
		.837		
	information	.825	2.612	0.824
		.821		
		.791		
service quality	.841	3.491	0.928	
	.827			
	.815			
total variance(%):72.097, Kaiser-Meyer-Olkin: .875 Bartlett test of sphericity(p(0.001) : 2679.938				
academic self efficacy		.921	3.308	0.897
		.902		
		.859		
		.854		
total variance(%):77.824, Kaiser-Meyer-Olkin: .827 Bartlett test of sphericity(p(0.001) : 716.028				
contextual Performance		.927	3.282	0.931
		.913		
		.902		
		.884		
total variance(%):82.048, Kaiser-Meyer-Olkin: .849 Bartlett test of sphericity(p(0.001) : 858.037				



Fig. 2 Results of Research

As seen in [Table 2], the KMO value of AIS education was 0.875, the KMO value for academic self-efficacy was 0.827, and the KMO value of contextual performance was 0.849, indicating suitability for factor analysis. Factor analysis involved Bartlett's test of sphericity to

determine if the variables were independent of each other; the value for AIS education was 2679.938( $p < .001$ ), 716.028( $p < .001$ ) for academic self-efficacy and 858.037( $p < .001$ ) for contextual performance, which indicated that the results were significant.

This study utilized an eigenvalue of 1.0 or higher, and factor loading value of 0.4 or higher as the factor criteria. The extracted factors accounted for 72.097% of total variance in AIS education, 77.824% of total variance in academic self-efficacy, and 82.048% of total variance in contextual performance.

## 2. Confirmatory factor analysis

[Table 3] shows the results of the confirmatory factor analysis to secure the validity of measurement variables.

**Table 3. Confirmatory factor Analysis**

Factors	Var.(item)	Est.	CR	S.E	CCR	AVE	
AIS education	system	1	1.000	-	-	0.898	0.698
		2	1.989	17.402	0.061		
		3	1.052	17.401	0.058		
		4	1.000	-	-		
	information	5	1.002	21.567	0.052	0.937	0.794
		6	0.918	20.284	0.051		
		7	1.000	-	-		
	service quality	8	1.071	10.193	0.996	0.803	0.515
		9	1.106	10.649	0.111		
		10	1.037	11.218	0.088		
academic self efficacy	1	0.895	-	-	0.897	0.695	
	2	0.907	25.013	0.041			
	3	0.808	16.951	0.048			
contextual Performance	1	0.894	-	0.769	0.906	0.718	
	2	0.891	23.012	0.724			
	3	0.853	20.658	0.760			
	4	0.819	20.043	0.734			

[Table 3] shows the results of confirmatory factor analysis to secure the validity of the

concepts to be used in the analysis. To maintain the construct validity of the confirmatory factor analysis, the composite construct reliability (CCR) must be higher than 0.7 and the average variance extracted (AVE) must be higher than 0.5[14]. The results indicated that CCR was higher than 0.8 and AVE was higher than 0.5, which indicated the internal consistency of each concept. As these values were generally found to meet the goodness-of-fit criteria, there appears to be no issues with using the measurement model for analysis.

**Table 4. Hypothesis Test Result**

Route	Estimate	S.E.	C.R.	hypothesis
AIS education→ contextual Performance	0.796	0.074	11.785*	accept
academic self efficacy→ contextual Performance	0.993	0.052	20.412***	accept

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table 5. Test Result of Sobel**

Hypothesis Path	Sobel Test Statistic	p-value	Mediated Effect
AIS education→ academic self efficacy→ contextual Performance	9.372	$p < 0.05$	○

Hypothesis 1 of this study aims to verify whether AIS education influences contextual performance. As shown in [Table 4], AIS education was found to have significant influence on contextual performance, and Hypothesis 1 was adopted (C.R.=11.785,  $p < .001$ ). Hypothesis 2 tests whether academic self-efficacy influences contextual performance. The results of this study indicated that academic self-efficacy had a positive influence on contextual performance (C.R.=20.412  $p < .001$ ). As such, Hypothesis 2 was adopted.

Furthermore, a Sobel Test was carried out to

examine the robustness of the mediating effect of academic self-efficacy in the relationship between AIS education and contextual performance, as outlined in Hypothesis 3[16]. The robustness results are presented in Table 5.

The analysis also indicated that academic self-efficacy had a significant mediating effect in the relationship between AIS education and contextual performance, and Hypothesis 3 was adopted.

## V. Conclusion and limitations

In summary of the relationship between the variables, first, AIS education had a positive influence on contextual performance. These results support the findings of existing studies in the relationship between AIS education and contextual performance[15]. It appears that AIS education leads to higher satisfaction, which then leads to higher contextual performance.

Second, academic self-efficacy was found to influence contextual performance. These results are in line with existing studies that state that moral improvements and other relevant activities influence the contextual performance of the organization as part of individual performance[9][16].

Third, academic self-efficacy was found to have mediating effects in the relationship between AIS education and contextual performance. This indicates that academic self-efficacy has a mediating effect on contextual performance through AIS education.

Based on the findings of this study, some recommendations can be presented as follows.

First, it can be argued that AIS education has a positive influence on contextual performance.

In other words, providing AIS education for individuals seeking to improve contextual performance can lead to better performance results. These results indicate that entire organizations are able to improve contextual performance through AIS. There are limitations to individual abilities to resolve the problems of an organization. To resolve these problems, it is necessary to construct systems to induce organizational approaches by its members; compiling the efforts of all members of the organization will aid in problem-solving. AIS education can be more valuable with improved systems, information and service quality.

Second, this study is significant as it highlighted the mediating effect of academic self-efficacy as a method to improve contextual performance. To effectively improve contextual performance, efforts are required to increase academic self-efficacy, and to create an environment where AIS education can be provided along with computers and necessary programs.

Education in an information society must be information-centric. Current education has problems with hands-on connectivity as well as an information-centric emphasis. However, many prior studies have investigated changes in the activities of professionals and suggest that they pursue education to fulfill their duties. This paper shall provide both practical and theoretic which help AIS education.

Despite these implications, this study has several limitations.

First, the sampling method used in the study was convenience sampling with 4 universities. The lack of the representativeness of the sample presents limitations in generalizing the results to the entire population. Follow-on

research needs to expand and diversify its population.

Second, although contextual performance is related to multiple outcome variables, this study has only studied the influence of AIS education and self-efficacy. Using more diverse range of variables in future research can lead to more beneficial results.

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