

# The influence of human factors on the quality of accounting information system

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## ABSTRACT

An accounting Information System (AIS) is considered one of the vital tools for managers in the context of operating, managing, as well as decision making. Thus, AIS has become an important topic for both academicians and practitioners all over the world. However, there has been little academic research on this in Vietnam in general, and Can Tho City in particular. This study focuses on assessing critical factors in terms of human factors on the quality of Accounting Information Systems (AIS) in Can Tho City. The quantitative research method was utilized. The sample size of this study was 88 observations from different companies in terms of size and industries. This study applied linear regression analysis to test the hypothesis. The result indicates that human factors have a positive effect on the quality of AIS. Therefore, the implication of this research underlines the importance of human factors to improve the quality of AIS.

## 1. Introduction

The demand for information systems is growing by the day in today's integrated corporate environment. Furthermore, in the twenty-first century, when Information Technology (IT) is continuously changing and developing, most industries need to incorporate both contemporary and new technology into their operations to ensure their survival and success. It is no different in accounting. This necessitates firms to integrate technology into their accounting operations in order to create an efficient accounting information system. As a result, the accounting sector has undergone a significant transition as a result of the adoption of accounting information systems. Because that system is rational, stringent, and provides accurate, timely, and trustworthy information using the most sophisticated processing techniques. This not only helps businesses become more competitive but also enhances their operational efficiency. This is an unavoidable development tendency that is conducive to innovation, particularly in this age of economic integration.

In essence, human factors are used in an organization as a means of achieving the business's objectives. Human resources with sufficient potential can boost the company's productivity and operational activity. Thus, human involvement is one of the variables to consider influencing the accounting information system in order to increase the quality of the Accounting Information System (AIS). For example, the accuracy rate when utilizing the accounting information system will improve if accountants are properly taught. Thompson, Ellis, and Wildavsky (1990) stated that the human component is connected with the usage of accounting

information systems. Furthermore, the human factor is a critical aspect in the successful use of accounting information systems, according to Saunders and Jones (1992). The link between human involvement and accounting information systems should be considered in order to understand how it impacts the quality of accounting information systems.

Continuing and expanding on prior research, the major goal of this study is to determine the impact of human factors on the efficacy of accounting information systems applied by firms in Can Tho City.

## **2. Theoretical background**

### ***2.1. The quality of the Accounting Information System***

Quality, according to the International Organization for Standardization's quality concept, is the degree to which a set of intrinsic qualities is satisfied (International Organization for Standardization, 2005). Information quality, according to Kahn, Strong, and Wang (2002), is defined as information that complies with standards or requirements. Information that is considered relevant is information of high quality from the user's perspective (Wang & Strong, 1996). The quality of accounting information systems is viewed from a variety of perspectives.

The integration of an accounting information system's hardware, software, people, network, database quality, job quality, and user satisfaction is referred to as the accounting information system quality, according to Sacer, Zager, and Tusek (2006). The quality of the accounting information system is one of the important goals of the accounting information system in providing accounting information for the decision-making process of managers and stakeholders.

Bagranoff, Simkin, and Norman (2010), on the other hand, claim that the quality of an accounting information system is determined by the collection and processing of data into useful accounting information for users. Sajady, Dastgir, and Nejad (2008) argue that the quality of the accounting information system relies on the perception of the decision-maker and the usefulness of the information generated by the system to satisfy the information needs for the business process. management reporting, budgeting, and control activities within the organization.

According to Laudon and Jane (2015), scope, time, cost, and risk quality can all be used to assess the quality of an accounting information system. Delone and McLean (2016) argue that information system quality is a success factor, and the author uses an information system quality scale that is consistent with developed models, including ease of use, system functionality, reliability, flexibility, data quality, portability, relevance, and importance.

In short, the effectiveness and efficiency of the accounting information system, the success of the accounting information system, and the fulfillment of information demands are all factors that some writers consider when evaluating the quality of the accounting information system. According to this study, the quality of AIS is determined by the combination of integrated components in the system, which must operate together effectively and efficiently to make accurate decision making.

### ***2.2. Human factors and the quality of accounting information system***

Human factor, according to Henry (2016) is an important resource of an organization that has the capacity and potential to engage in the organization's growth process. Human resources may be a source of sustainable competitive advantage for an organization as they can have an impact on its effectiveness. Therefore, in the management information system literature, the

influence of human factors on the use of information technology and information systems has been exposed as a persistent study subject (Szewczak & Snodgrass, 2002). Human factors, on the other hand, are an important aspect of the accounting information system since they are responsible for data entry, processing, and output. Although the accounting information system has been computerized at many levels, the input data entry is still significantly reliant on humans and cannot be completed without their assistance. Furthermore, the accounting information systems quality is determined by the professional qualifications and professional skills of humans.

Human factors are related to both human characteristics and attitudes. The former is considered the most important success variable for information systems, and it has been proven that people are essential assets in every firm (Aziz, Salleh, & Mustafa, 2012). Within an organization, skill, education, training, professional level, and individual attitudes toward information technology and information systems all have an impact on how human's attitude toward information technology and information systems (Mahmood & Swanberg, 2001).

According to Tambovcevs (2010), many information system implementations will fail if staff lack training/skills, with a lack of qualified employees to develop and implement projects and programs identified as the major cause of project failure (Ika, 2012). The manager's work experience was analyzed as a crucial success element (Hyvari, 2006). Accounting information system failure is attributed to a lack of competence skills in personnel and a lack of training for staff (Shareia, 2006), and an accountant's competency is seen as critical to the success of an accounting information system (Daoud & Triki, 2013). Therefore, training for project staff is a critical success factor for project achievement (Ika, 2012). Furthermore, Komala (2012) stated that the accounting information system was also influenced by accounting managers' knowledge. The influence of a project's staff's experience, education, abilities, and expertise on the implementation of an accounting information system is assessed.

Although previous studies have dealt with many issues relating to human factors, there are three dimensions, in general, there are three aspects of human knowledge, human skills as well as human abilities that are most mentioned and will be developed in this study.

### **2.3. Research hypothesis**

Organizations are more effective when they recruit and select people with the right skills, knowledge, values, and personal characteristics, according to organizational behavior theory (McShane & Glinow, 2009). Individuals with human skills have the capacity to cooperate supportively with others, communicate effectively, manage difficulties and conflicts, and work as a team (Analoui, 1997; Analoui, 1998; Peterson & Van Fleet, 2004). Human skills are also characterized as an individual's capacity to communicate effectively, settle a conflict, and be a team player while working with others. Nonetheless, skills intrinsically include the capacity to work as a team, handle any issue, communicate effectively with other employees, and create a better organizational environment. With regard to the above fact, the following hypothesis was developed:

*H1: Human skills affect the quality of accounting information systems*

Thong (1999) found that employee understanding of information systems is a determining element in boosting the quality of information systems inside a company. According to Sedera, Gable, and Chan (2010), knowledge has a favorable association with the success of an information system company. Thus, individual staff members' knowledge, talents, and resourcefulness will be critical (Ward & Peppard, 2002, p. 529), because competent personnel is just as crucial as effective

information technology for the organization (Xu, 2009). Combining user knowledge and expertise results in better solutions (Laudon & Laudon, 2012); therefore, information systems may be beneficial to a business if workers contribute knowledge (O'Brien & Maracas, 2010). Therefore:

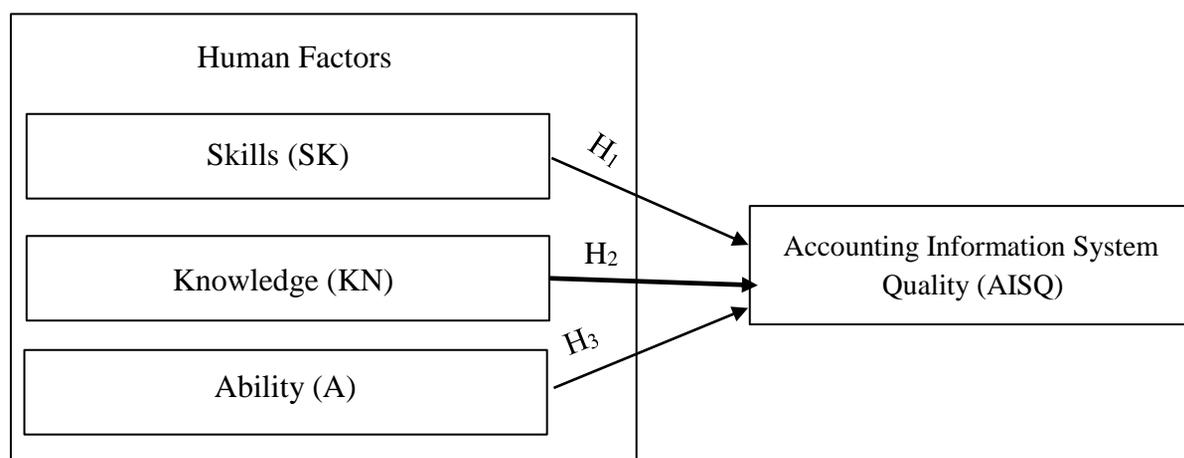
*H2: Human knowledge affects the quality of accounting information systems*

Furthermore, conceptual abilities are seen as a person's capacity to approach the organization as a whole (Peterson & Van Fleet, 2004). According to Choe (1996), the utilization of information systems may be influenced by their own ability in information system development. If there is at least one staff with high ability in accounting information systems, it would be profitable for the organization. As that man may assist other users in effectively using information systems (Soegiharto, 2001). The quality of an accounting information system may be characterized as a set of complicated, interrelated processes that need participants to have technical and managerial abilities to overcome difficulties that emerge (Sori, 2009). Therefore, the following hypothesis was proposed:

*H3: Human ability affect on the quality of accounting information systems*

**2.4. Research model**

In line with the numerous review of prior researches, a conceptual framework as shown in Figure 1 is to investigate the effect of human factors on the quality of accounting information systems. This study indicates that the three dimensions of human factors (skills, knowledge, and ability) have a positive impact on the quality of AIS.



**Figure 1.** The conceptual model

**3. Methodology**

The research was conducted in Can Tho City, and data were collected from organizations to investigate the state of Human Factor and the quality of AIS. The study applies a non-probability sampling method, following the convenient sampling method to directly interview employees and managers in organizations in Can Tho City.

The sample size depends on the method of analysis, in which this study uses the Exploratory Factor Analysis (EFA) and linear regression analysis. Gorsuch (1983) quoted in MacCallum, Widaman, Zhang, and Hong (1999) who suggested that the sample size should be 4 - 5 times per item. The study was carried out with 19 observed variables (19 observations x 4 = 76 samples). On this basis, the study's sample contains 88 companies (in the year 2022) that are operating in different industries and located in Can Tho City.

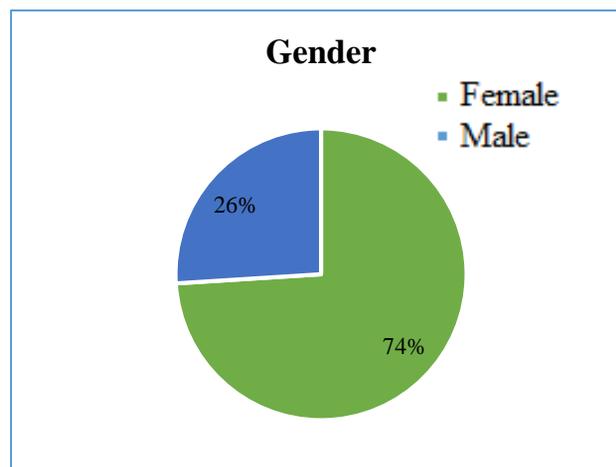
For the purpose of evaluating the variables, a questionnaire was used. Indicators measured in this paper, before being surveyed in the questionnaire, were adjusted by experts and university professors. The questionnaire consisted of six items that were designed based on the range of 5-choice Likert-scale questions (1 = strongly disagree to 5 = strongly agree). Three human factor components of the questionnaire include skills, knowledge, and ability based on Yukl (2010); Moeller (2011); Stewart (2011). The dimensions of the quality of AIS have been adapted from Susanto (2015); Ivana and Ana (2013). There are two parts to the questionnaire. The first part is the presentation of the company and the interviewer's profile. The last deals with the contingency factors.

## 4. Findings and discussion

### 4.1. Findings

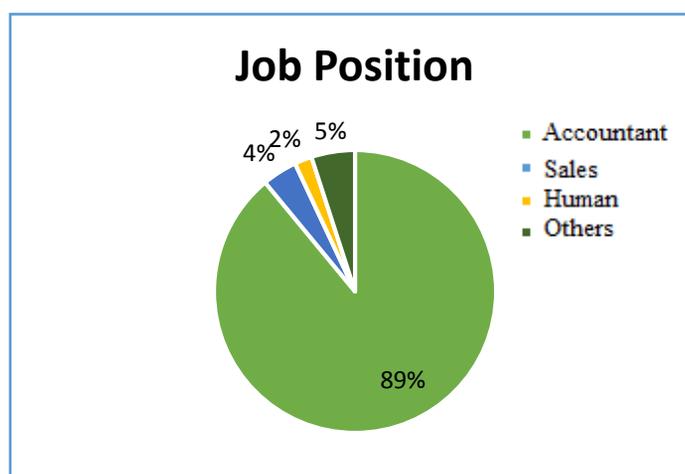
#### 4.1.1. Data description

The study was conducted in Can Tho City. Research subjects are mainly female, accounting for 74%, and the main degree is a university degree (90%); this is suitable with the characteristics of the accounting profession, which is necessary to be careful and detailed.



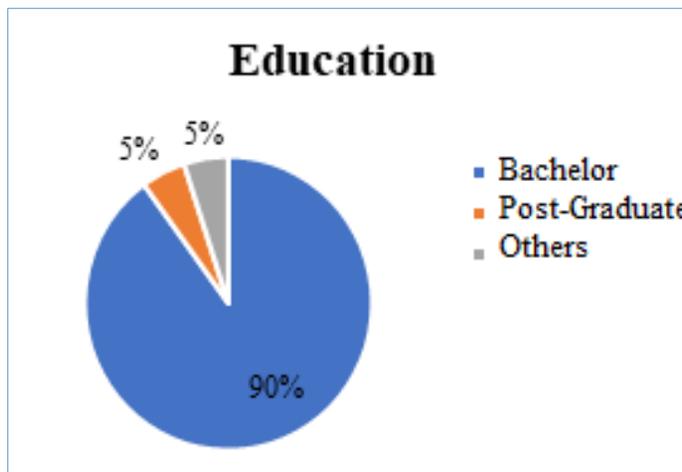
**Figure 2.** Gender of the respondents

The number of respondents participating in the survey has more than 80% of respondents hold positions in accounting and the remaining 11% of respondents are employees working in different parts of the business: sales, human, etc.



**Figure 3.** Job positions of the respondents

Regarding the job position, the survey subjects are mainly accountants (89%), which is consistent with this research objective.



**Figure 4.** Qualification of the respondents

4.1.2. Data analysis

*Evaluating reliability:* To minimize measurement errors and maximize the reliability of these scales, the dependability of the AIS quality and human variables was evaluated prior to testing the hypotheses and research questions. Cronbach’s Alpha test was carried out to evaluate the data’s reliability which is shown in Table 1. All items met Langdridge’s (2004) criteria and had Cronbach’s Alpha values above 0.70.

**Table 1**

The reliability results

Variable	Items	Cronbach’s Alpha
Knowledge	4	0.848
Skill	5	0.869
Ability	3	0.762
AIS quality	7	0.911

Source: Survey 88 respondents in Can Tho City (2022)

*Sample adequacy:* In order to determine whether the sample selected for the study is adequate, the KMO and Bartlett’s tests are used. The KMO values that fall in the range of 0.5 and 0.7 are regarded as average, those that fall in the range of 0.7 and 0.8 are deemed to be quite good, and those that fall in the range of 0.8 and 0.9 are regarded as excellent. The significance level of Bartlett’s test should be less than 0.05. In the findings of this study, the KMO measure for Human Factors and AIS quality values 0.854 and 0.831, respectively, which are good and the significance level is .000, which is very good (Table 2). So this finding proves that for further factor analysis sample is statistically significant.

The results of EFA analysis for the dependent and independent variables show that the factor load coefficient of the observed variables is conditional when the factor analysis is the factor loading  $\geq 0.5$ , no observation variable was eliminated (Table 2).

**Table 2**

The results of EFA

Variables	Factor loading	Eigen Value	Total variance extracted (%)	KMO test
<b>Human Factors</b>			<b>70.206</b>	<b>0.854</b>
- <b>Knowledge (KN)</b>		6.171		
KN3	0.803			
KN2	0.789			
KN4	0.766			
KN1	0.568			
- <b>Skill (SK)</b>		1.175		
SK1	0.807			
SK5	0.800			
SK2	0.771			
SK4	0.591			
SK3	0.572			
- <b>Ability (A)</b>		1.079		
A2	0.829			
A3	0.812			
A1	0.633			
<b>AIS Quality (AISQ)</b>		4.606	<b>65.797</b>	<b>0.831</b>
AISQ5	0.884			
AISQ4	0.832			
AISQ6	0.801			
AISQ7	0.790			
AISQ1	0.763			
AISQ3	0.686			
AISQ2	0.622			

Source: Survey 88 respondents in Can Tho City (2022)

For Human Factors dimensions exploratory factor analysis, the KMO value for the exploratory factor analysis of the human factors dimensions was (0.854), and Bartlett's test of Chi-square 2 was statistically significant ( $p = 0,00$ ). In light of this, factor analysis is crucial for data analysis in any situation. The 12 items that were initially created to measure the Human Factor construct were all retained. Factor one was labeled "Knowledge" and includes (4) items with numbers (KN1, KN2, KN3, and KN4). The second factor, was labelled "Skill" and includes (5) items with numbers (SK1, SK2, SK3, SK4, and SK5). Factor three was labelled "Ability" and includes (3) items with numbers (A1, A2, and A3).

For AIS quality, the eigenvalues for the resulting factors in the cases of all constructs were greater than one (1), and all items had loadings greater than (0.5). Fulfilling the aforementioned assumptions, a factor model of AIS quality emerged explaining 65.797% of the total variance. There is non-item of the 7 items originally developed to measure the AIS quality construct deleted.

*Linear-regression analysis:* Linear regression was used to investigate the link between four variables of skill, knowledge, ability and Accounting Information system quality. Table 3 shows that three independent factors have a substantial impact on AISQ. The variable “skill” in particular was the most influential on the AISQ.

**Table 3**

Linear regression analysis: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.886	.312		2.836	.006		
	Knowledge (KN)	.261	.089	.312	2.947	.004	.475	2.105
	Skill (SK)	.278	.092	.318	3.026	.003	.482	2.074
	Ability (A)	.224	.086	.236	2.598	.011	.646	1.549

Source: Survey 88 respondents in Can Tho City (2022)

Generally, the results of evaluating the effect of human factors on the quality of AIS represent significant and positive effects of all three dimensions relating to human factors on AIS quality. Therefore, all hypotheses are acceptable.

**4.2. Discussion**

The research findings for all three human-related dimensions (knowledge, skill, and ability) had a positive influence on the quality of information accounting systems at enterprises operating in Can Tho City. Indeed, most organizations recruit new staff; they expect them to have the necessary qualifications for job positions. And the accountants at the examined organizations have met the majority of this requirement. However, if there is only knowledge without skills as well as the ability to accomplish the work, the information accounting system will not be able to function properly. When integrating knowledge with the ability to work; specifically assists employees in performing various actions connected to the coupling of theory and practice (Yukl, 2010). Combining knowledge with skills leads to better solutions. Besides, according to Ismail (2009) staff with knowledge and abilities will find it simpler to implement not only information systems but also AIS. These findings are consistent with those of authors Vu and Chi (2016); Napitupulu and Dalimunthe (2015); Meiryani (2014).

**5. Conclusions**

With the development of information technology from the 4th Industrial Revolution, it is required that accounting information be provided quickly, timely and accurately, effectively serving businesses in making decisions. decision and management. Improving the quality of technical information systems is an essential task for enterprises in Vietnam in general and enterprises in Can Tho in particular. The results of the regression analysis show that the quality of the accounting information system is affected by 03 factors: Knowledge, Skills, and ability to work. Besides, the research results have shown that the factor most strongly influences the quality of the technical information system: “Skill”. The research has solved the goal and answered the question of whether human factors really affect the quality of the accounting information system. On that basis, managers will make timely and feasible decisions.

Although there are many studies investigating the quality of the accounting information system in many aspects, this research has only attracted the attention of Vietnamese authors in recent years. On the other hand, the research in Vietnam mainly focuses generally on the factors that have impacted AIS, not specifically on human factors. This study focuses on the quality of accounting information systems affected by human factors, which is a new feature of the article.

Beyond the new findings discussed above, there are still some limitations in this study. Firstly, the assessment of the current status of the quality of accounting information of enterprises operating in Can Tho City has not yet been carried out. In addition, the number of observations collected is still limited, so the generality of the study is also affected more or less. Finally, there may be other factors affecting the quality of accounting information systems that the study has not explored.

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## References

- Analoui, F. (1997). *Senior managers and their effectiveness*. London, UK: Avebury.
- Analoui, F. (1998). *Human resource management issues in developing countries* (1st ed.). New York, NY: Ashgate Publishing.
- Aziz, N. M., Salleh, H., & Mustafa, N. K. (2012). People Critical Success Factors (CSFs) in Information Technology/Information System (IT/IS) Implementation. *Journal of Design and Built*, 5(1), 1-17.
- Bagranoff, N. A., Simkin, M. G., & Norman, C. S. (2010). *Core concept of accounting information system*. Hoboken, NJ: John Wiley&Son.
- Choe, J. (1996). The relationships among performance of accounting information systems, influence factors, and evolution level of information systems. *Journal of Management Information Systems*, 12(4), 215-239.
- Daoud, H., & Triki, M. (2013). Accounting information systems in an ERP environment and tunisian firm performance. *The International Journal of Digital Accounting Research*, 13, 1-35.
- DeLone, W. H., & McLean, E. R. (2016). Information systems success measurement. *Foundations and Trends in Information Systems*, 2(1), 1-116.
- Henry, N. (2016). *Public administration and public affairs, abingdon, oxon*. New York, NY: Taylor & Francis Group.
- Hyvari, I. (2006). Success of projects in different organizational conditions. *Project Management Journal*, 37(4), 31-42.
- Ika, L. A. (2012). Project management for development in Africa: Why projects are failing and what can be done about it. *Project Management Journal*, 43(4), 27-41.
- International Organization for Standardization. (2005). *ISO 9000: Quality management systems - Fundamentals and Vocabulary*. Geneva, Switzerland: ISO.
- Ismail, N. (2009). Factors influencing AIS effectiveness among manufacturing SMES: Evidence from Malaysia. *Electronic Journal on Information Systems in Developing Countries*, 38(10), 1-19.

- Ivana, M. S., & Ana, O. (2013). Information technology and accounting information systems' quality in Croatian middle and large companies. *Journal of Information and Organizational Sciences*, 37(2), 117-126.
- Kahn, B. K., Strong, D., & Wang, R. (2002). Information quality benchmarks: Product and service performance. *Communications of the ACM*, 45(4), 184-192.
- Komala, A. R. (2012). The Influence of the accounting managers' knowledge and the top managements' support on the accounting information system and its impact on the quality of accounting information: A case of Zakat institutions in Bandung. *Journal of Global Management*, 4(1), 53-73.
- Laudon, K. C., & Jane, P. L. (2015). *Management information systems: Managing the digital firm plus MyMISLab with pearson eText-Access card package*. Hoboken, NJ: Prentice Hall Press.
- Laudon, K. C., & Laudon, J. P. (2012). *Management information systems - Managing the digital firm* (12th ed.). New York, NY: Pearson Prentice Hall.
- Langdridge, D. (2004). *Introduction to research methods and data analysis in psychology*. Harlow, England: Pearson Prentice Hall.
- Mahmood, M. A., & Swanberg, D. L. (2001). Factors affecting information technology usage: A meta-analysis of empirical literature. *Journal of Organizational Computing and Electronic Commerce*, 11(2), 107-130.
- McShane, S., & Glinow, M. V. (2009). *Organizational behavior* (5th ed.). New York, NY: McGraw-Hill Education.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84-99.
- Meiryani, M. (2014). Influence of user ability on the quality of accounting information system. *International Journal of Economics, Commerce and Management*, 3(8), 1-11.
- Moeller, R. (2011). *COSO enterprise risk management: Establishing effective governance, risk, and compliance processes* (2nd ed.). New York, NY: John Wiley & Sons, Inc.
- Napitupulu, I. H., & Dalimunthe, A. R. (2015). The influence of information system user competency and the quality of management accounting information systems on user satisfaction. *Australian Journal of Basic and Applied Sciences*, 9(31), 660-667.
- O'Brien, J. A., & Marakas, G. M. (2010). *Introduction to information systems* (15th ed.). New York, NY: McGraw-Hill Irwin.
- Peterson, T. O., & Van Fleet, D. D. (2004). The ongoing legacy of R.L. Katz an updated typology of management skills. *Management Decision*, 42(10), 1297-1308.
- Sacer, I. M., Zager, K., & Tusek, B. (2006). *Accounting information system's quality as the ground for quality business reporting*. Paper presented at IADIS International Conference e-commerce, Portugal.
- Sajady, H., Dastgir, M., & Nejad, H. H. (2008). Evaluation of the effectiveness of accounting information systems. *International Journal of Information Science and Technology*, 6(2), 49-59.
- Saunders, C. S., & Jones, J. W. (1992). Measuring performance of the information system function. *Journal of Management Information Systems*, 8(4), 63-82.

- Sedera, D., Gable, G., & Chan, T. (2010). Knowledge management competence for enterprise success. *The Journal of Strategic Information Systems*, 19(4), 296-306.
- Shareia, B. (2006). *The role of accounting systems in decision making, planning and control in a developing country: The case of Libya* (Doctoral dissertation, University of Wollongong, New South Wales, Australia). Retrieved October 10, 2021, from <https://ro.uow.edu.au/theses/240/>
- Smith, J. A., & Puasa, S. B. (2016). *Critical factors of accounting information systems (AIS) effectiveness: A qualitative study of the Malaysian federal government*. Paper presented at British Accounting & Finance Association Annual Conference, London.
- Soegiharto, S. (2001). Influence factors affecting the performance of accounting information system. *Gajah Mada International Journal of Business*, 3(2), 177-202.
- Sori, Z. (2009). Accounting Information Systems (AIS) and knowledge management: A case study. *American Journal of Scientific Research*, (4), 36-44.
- Stewart, G. B. (2011). *Human resource management - Linking strategy to practice*. New York, NY: John Wiley & Sons, Inc.
- Susanto, A. (2015). What factors influence the quality of accounting information. *Indian Journal of Applied Business and Economic Research*, 13(6), 3995-4014.
- Szewczak, E., & Snodgrass, C. (2002). *Human factors in information systems*. Hershey, PA: IRM Press.
- Tait, P., & Vessey, I. (1988). The effect of user involvement on system success: A contingency approach. *MIS Quarterly*, 12(1), 91-108.
- Tambovcevs, A. (2010). ERP system implementation: A case study of the construction enterprise. *Economics and Management*, 2010(15), 1092-1098.
- Thompson, M., Ellis, R., & Wildavsky, A. (1990). *Cultural theory* (1st ed.). London, UK: Routledge.
- Thong, J. (1999). An integrated models on information systems adoption in small business. *Journal of Management Information Systems*, 15(4), 187-214.
- Vu, B. T. T., & Chi, H. T. (2016). Nghiên cứu các nhân tố ảnh hưởng đến hiệu quả của hệ thống thông tin kế toán trong các doanh nghiệp trên địa bàn Hà Nội [A study of factors influencing the effectiveness of accounting information systems: Context of enterprises in Hanoi]. *Tạp chí Khoa học công nghệ*, 34(2016), 91-98.
- Wang, R. Y., & Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers. *Journal of Management Information Systems*, 12(4), 5-33.
- Ward, J., & Peppard, J. (2002). *Strategic planning for information systems* (3rd ed.). New York, NY: John Wiley&Sons Inc.
- Xu, H. (2009). Data quality issues for accounting information systems' implementation: Systems, stakeholders, and organizational factors. *Journal of Technology Research*, 1(1), 1-11.
- Yukl, G. (2010). *Leadership in organizations*. Hoboken, NJ: Pearson Prentice Hall.

