

# IMPACT OF SUCCESSFUL ACCOUNTING INFORMATION SYSTEMS ON FIRM PERFORMANCE OF VIETNAMESE MANUFACTURING ENTERPRISES

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#### Abstract

This study was conducted to address the objective of examining the influence of a successful accounting information system on the performance of Vietnamese manufacturing enterprises. In order to solve this goal, the thesis identifies specific research objectives including: Determining the factors affecting successful accounting information systems in Vietnamese manufacturing enterprises; Measuring the impact of factors on successful accounting information systems in Vietnamese manufacturing enterprises; Identify the components of successful accounting information systems in Vietnamese manufacturing enterprises; Examine the influence and measure the influence of successful accounting information systems on the performance of Vietnamese manufacturing enterprises; Using a mixed research method including qualitative and quantitative research, the research results show user training; cooperation/communication between departments; manager's support; continuous system improvement has an impact on successful accounting information systems; and successful accounting information systems have a positive impact on the performance of manufacturing enterprises in Vietnam. Thereby, the study brings theoretical implications and managerial implications about successful accounting information systems and its influence on business performance.

Keywords: Accounting information system, successful accounting information system, business performance.

#### **1. INTRODUCTION**

Performance at a business is a matter of concern. However, the study of performance is a difficult field because the measurement of performance is quite complex and there are many factors that can affect performance at the enterprise. The accounting information system is the most important system of the enterprise management information system and it is the most distinct among the subsystems of the enterprise management information system because it is the system that gathers the data in production and business activities at the enterprise, process and produce reports on the operation of the enterprise. Based on these reports, businesses can assess the past performance, thereby making plans to achieve the highest performance. In Vietnam, manufacturing enterprises are the economic engine. Vietnam's GDP for the whole year of 2018 increased by 7.08%, the highest increase since 2008. In the growth rate of the whole economy in 2018, the agriculture, forestry and fishery sector increased by 3.76%, contributing 8.7% to the overall growth; the industry and construction sector increased by 8.85%, contributing 48.6% to the overall growth. Thus, all manufacturing enterprises contributed 57.3% of the overall growth of the economy (General Statistics Office, 2018). To achieve this, manufacturing enterprises have taken many measures, the most prominent of





which is the application of technological advances to management information systems at enterprises, including accounting information systems. However, will successfully implemented accounting information systems really affect the performance of operations at the enterprise? Or does it just serve as a reflection of these effects? This shows the need to implement the topic in practical terms, in order to help businesses realize the real role of accounting information systems in the operation of their businesses.

Theoretically, as shown in the overview of previous studies, studies around the world show unclear results on the influence of accounting information systems on performance at enterprises. In Vietnam, according to the author's research, no research has been conducted on this issue. Therefore, theoretically this research needs to be carried out to clarify the gaps in the study of information systems in the world and in Vietnam.

## 2. Research hypothesis development

In many cases, the top manager is only involved in the final stages of the systems instead of participating in the entire system implementation process (Ha and Ahn 2014) but for a successful ERP system, or a successful accounting information system always requires the support of the top manager in all stages (Fui-Hoon Nah, Lee- Shang Lau, and Kuang 2001; Ifinedo 2008; Ke and Wei 2008). In some organizations, where the ERP system is implemented and applied when the top manager is not directly involved in the ERP implementation process, after a while, the ERP system will fail and managers assume that this is due to an inappropriate ERP package. However, later, when they have applied another ERP package, they continue to fail, which shows that the cause is not due to the ERP package but the lack of participation of top management in the stages of applying this system at the enterprise.

The support of top managers affecting the success of the accounting information system after the implementation process can be explained by the fact that they can allocate sufficient resources for the implementation of the ERP system. Even after the system has been implemented, the accounting information system needs to be continuously expanded and updated to absorb new management ideas and technologies to maintain and create additional benefits. With the active participation of top leaders in the post-ERP implementation period, ensuring the supply of the necessary resources also contributes to enabling the system to potentially generate stronger benefits (Ross & Vitale, 2000). From there, the research hypothesis is formulated as follows:

Hypothesis H1: Managerial support has an impact on continuous improvement of accounting information systems.

In addition, motivation from top management also influences employee behavior towards accounting information systems at enterprises (Amoakogampah and Salam 2004; Sumner 2000). Or the top manager provides additional training programs for users, system supervisors after the implementation phase is also a way to ensure the success of the general information system and accounting information system in the enterprise. Top management is also responsible for attracting attention and providing support to build relationships between departments and individuals to improve communication, information, inter-departmental





communication in the enterprise. In such a way, the end user will certainly have a clear understanding of the accounting information system of the enterprise and be able to create a suitable solution for the business (Wang and Chen 2006). From there, the research hypothesis is formulated as follows:

Hypothesis H2: Managerial support has an impact on training accounting information system users.

Next, the support of top managers affecting the success of accounting information systems is reflected in the fact that top leaders change organizational processes, business processes in the enterprise, in fact, traditional management and distribution business systems will be replaced by integrated ERP systems, then many changes will be introduced into an organization, such as changing business processes and reassigning powers and responsibilities (Liang, Saraf, Hu, & Xue, 2007). Top leaders can change the rules and procedures governing employee behavior to comply with ERP system operations (Purvis, Sambamurthy, and Zmud, 2001). Finally, by participating in the post-implementation phase of ERP, top leaders have a good opportunity to learn and learn about the ERP system in detail, thereby, increasing their knowledge of ERP facilitates the more effective use of ERP systems in making organizational executive decisions. From the above analysis, the author proposes the following hypothesis:

Hypothesis H3: Top manager's support has an impact on a business's successful accounting information system

Training is the process of realizing the desired behavior pattern for the individual (Knol & Stroeken, 2001). It has a significant role to play in the use and acceptance of information technology (Stratman & Roth, 2002). Training system users is the instruction of users to effectively use the accounting information system in their business in their daily work effectively. The basis of ERP systems is people. The goal of ERP education is to bring greater success to the organization by ensuring information transfer. A specific reason for the failure of ERP systems is inadequate training (Al-Mashari et al., 2003). The training is an important factor for the successful implementation of ERP systems after implementation. Altamony, Tarhini, Al-Salti, Gharaibeh, and Elyas (2016) identified system end-user training as one of the most important factors for the relationship between a change management strategy and a successful ERP implementation. In the business organization, the participation and departure of employees from the organization is an ongoing process. Considering this situation, top management should effectively arrange training for new employees to motivate and inspire, or their understanding of, the organization's current accounting information system environment. To understand the changes taking place, constant training and updates on the system also help ensure the success of the accounting information system at the enterprise (Dezdar and Ainin, 2011; Gargeya and Brady 2005; Umble, Haft and Michael Umble 2003). Through training to help create and share knowledge, post-implementation training supports users to gain insights into system development on an ongoing basis, and it also helps to enhance cooperation between departments and individuals through information sharing.

From the above analysis, the author proposes the following research hypothesis:





Hypothesis H4: User training has an impact on a business's successful accounting information system

McGinnis and Huang (2007) identified "Continuous System Development" as the success factor of ERP accounting information systems, which play the role of reviewing, monitoring, and evaluating ongoing business processes and making appropriate regulatory improvements in accounting information systems (Al-Mashari 2000). After adopting the ERP system, companies are constantly asked to make modifications and improvements after implementing this system, the modifications and improvements include the maintenance activities, upgrades and improvements of the system (Taiwo Osen et al., 2017).

Maintenance: Information system maintenance refers to the usual post-deployment activities required to keep the system maintained. Maintenance activities are categorized into several categories, as Nah et al. (2001) classify ERP maintenance into six categories (repair, adaptation, complete, preventive, user support, and external stakeholders), three of which (repair, adapt, and complete) were defined by Swanson (1976). According to Swanson (1976), the purpose of repair maintenance is to correct errors; Adaptive maintenance to accommodate changes in the data and processing environment; and complete maintenance to improve performance in the form of enhanced maintenance (including changes and additions to system functionality). According to Nah et al. (2001) to accommodate special software such as accounting or ERP software also needs to perform other maintenance activities such as prevention, supporting users and stakeholders outside the business. Maintenance (Ng, 2001). Customer-side maintenance focuses on maintenance requirements requested by the customer and refers to requests for bug fixes and help during use.

Upgrading is the addition of significant new features and expanding the scope of this system, for accounting information systems this can be done by upgrading the functions of accounting software, new software functions can lead to business process improvements. Technical upgrades are needed to keep up with advanced technology (Chorafas, 2001). On the other hand, a functional upgrade is defined as an upgrade made to extend the business process functionality of an existing system, and it is more complex than a technical upgrade and involves the adoption of new business processes as well as the automation of processes that have not been previously automated. In addition, functional upgrades are largely initiated due to changes in business, business initiatives, while technical upgrades are often led by IT advancements.

Improvements: Improvements are made to specifically increase the performance of the system by further integrating the system to meet the requirements of the organization (Ng 2001). Typically, for accounting information systems, improvements include activities aimed at software improvement (Hirt & Swanson, 2001). In the ERP context, these improvements include the addition of utilities and upgrades (Nicolau & Bhattacharya, 2006) and aim to provide additional business functionality to the system. Enhancements also include designing and implementing customizations, as well as creating or modifying user interfaces (Worrell, 2007).





Many studies have also found evidence that the continuous improvement of the accounting information system contributes to the improvement of the organization's business performance after the revision, such as helping to increase sales, increasing competitive advantage, providing quality and timely information to managers (Cao et al, 2013; Nicolaou and Bhattacharya 2006).

From the above analysis, the author proposes the following research hypothesis:

Hypothesis H5: Continuous improvement of the system has an impact on the successful accounting information system of the enterprise

As mentioned in the theoretical content, the current accounting information system is divided into 3 types including: Manual accounting information system; Accounting information systems process transactions by computer; Database systems (Ballada and Ballada, 2008). In the past, accounting activities were largely independent of enterprises, however, with the spread of integrated accounting information systems, it has contributed to opening up a new opportunity in improving accounting information systems, thereby, establishing a two-way relationship between accounting information systems and organizational structures, business activities of the enterprise. According to Salehi et al. (2010) AIS previously focused on recording, aggregating and validating data on financial transactions of enterprises. management accounting and tax compliance issues, from which, gradually emerged the need to integrate shared databases for objects and provide a unified picture of the organization's data, eliminate duplication and reduce data conflicts, and AIS is no longer a single system but it is integrated into other information systems. of institution. According to Bui Van Duong et al. (2021), AIS influences back and forth in the environment in which it operates, so it is necessary to have AIS work continuously to take advantage of all developments in areas related to the nature of work in general and the business environment in particular. Thus, AIS is not a single system, it always has interaction with other information systems in the organization, at the same time, the organization covers different functional areas, and it is difficult to enhance organizational performance without sharing information (Salehi et al., 2010). Effective communication can make information systems more successful (Dezdar and Ainin 2011), and poor communication can be considered as one of the factors leading to the failure of accounting information systems (Garg and Chauhan 2015). Effective collaboration/communication includes information sharing, data access, analysis, synchronization as well as reporting for continuous information system development (Holsapple and Sena 2005). With collaboration, effective communication, different departments can collaborate to more effectively perform tasks and make better decisions for the organization.

From the above analysis, the author proposes the following research hypothesis:

Hypothesis H6: Cross-departmental collaboration/communication affects a business's successful accounting information system

In the context of research on the application of IT in accounting information systems, there are many studies focusing on the positive impact of IT applications on the performance of enterprises, this relationship is evidenced by the research of many authors such as Bharadwaj





A (2000) arguing that enterprises with outstanding IT capabilities have good performance. more in both cost and profit than other businesses; Melville et al. (2004) argue that businesses can improve their performance through improving their IT resources; Ray et al. (2005) found that investing in IT and employee IT skills is a key enterprise resource in improving performance; Mithas et al. (2011) found that IT applicability plays an important role in improving financial returns, customer perspectives, and excellence in business operations. Zhu found that corporate and IT resources must work closely together because failure to do so could reduce the impact of investments in information technology on financial measurements. Tran Thu Ba and Nguyen Thi To Quyen (2017) when conducting a study on how the suitability of accounting information systems affects the performance of enterprises, the authors used Galbraith's (1973) information processing theory to argue that the ability to process information needs to be consistent with the information needs of organizations, At that time, it will have a significant impact on the performance of the business. In this study, business performance is an economic category that reflects the level of use of resources to achieve a set goal, it expresses the relationship between the result achieved and the costs spent to achieve that result, the greater the difference between these two quantities, the higher the efficiency. From this perspective, the results are consistent with the profitability of the enterprise and the ability to meet the quality of the product to the needs of the market (Tran Thu Ba and Nguyen Thi To Ouven, 2017). Pham Quoc Thuan et al. (2022) when researching the influence of the usefulness of accounting information systems on the performance of enterprises, measured the performance of enterprises on non-financial aspects (customer satisfaction, employee ethics) and financial aspects (market share, growth rate of revenue and profit). According to the authors when it comes to customer satisfaction, the performance of a business can be judged through satisfaction, which means that the business is performing in some aspect (Pham Quoc Thuan et al., 2022). On the other hand, the work ethic of employees used to evaluate performance is also consistent with previous studies such as the study of A Ali and AlSondos (2020). In addition, to evaluate the performance of operations, it is necessary to pay attention to the growth of factors such as market share, revenue, profit of the enterprise. The results of Al-Hattami's (2021) study also found empirical evidence on the influence of successful accounting information systems on the performance of SMEs in Yemen. In particular, the success of the accounting information system is measured by the quality of information, the quality of the system, the satisfaction of users and the use of the system; the operating results of enterprises are measured by cash flow, net profit and return on investment. Several other studies have also delved into exploring and finding evidence for the impact of accounting information systems on business performance, using accounting information systems to positively impact operational efficiency (Budiarto & Prabowo, 2015; Elena et al. 2011; Soudani, 2012; Spremic & Jakovic, 2012).

From the above analysis, the research hypothesis is posed as follows:

Hypothesis H7: Successful accounting information systems have an impact on the performance of the business.





Based on an overview of relevant previous research and background theories, the author proposes a research model of factors affecting the success of accounting information systems including: Management support; User training; Collaboration/communication between departments; Continuously improve the system. Concrete:

- The "Top Manager's Support" factor is inherited according to Nicolaou's research (2004); Yu (2005); Nejib (2013); Pishdad et al. (2014); Zare and Ravasan (2014); Chou et al. (2014); Galy and Sauceda (2014); Motiei et al. (2015); Zhu et al. (2010); Ha and Ahn (2014).

- The "User Training" factor is inherited according to Yu's research (2005); Chang et al. (2011); Ram, Corkindale, and Wu (2013); Pishdad et al. (2014); Chou et al. (2014); Ju, Wei, and Tsai (2016); Ha and Ahn (2014).

The "Cross-departmental collaboration/communication" factor is inherited by Holsapple and Sena (2005); Zhu et al. (2010); Ifinedo et al. (2010); Zare and Ravasan (2014); Galy and Sauceda (2014); Soltan, Jusoh, Mardani, and Bagheri (2015); Motiei et al. (2015); Ha and Ahn (2014).

The "Continuous improvement of the system" factor is inherited according to Nicolaou's research (2004); Yu (2005); Ram, Corkindale, and Wu (2013); Ha and Ahn (2014); Ju, Wei, and Tsai (2016). Based on the background theory along with the proposed research hypotheses, the paper offers the following research model:

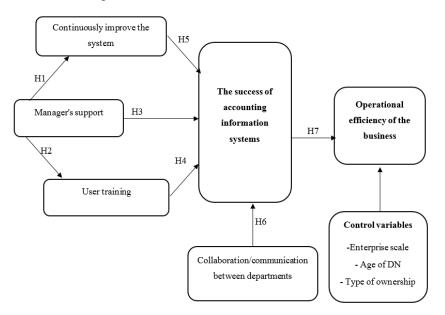


Figure 1: Research model

## **3. RESEARCH METHODOLOGY**

According to Hair et al. (2009), for EFA factor analysis and CFA affirmative factor analysis, the sample size must be at least five times the number of scales in the study model. The subjects of data collection will still be managers in charge of finance and accounting of enterprises,





specifically members of the Board of Directors in charge of finance or Chief Accountants at Vietnamese manufacturing enterprises. The data processing software used is SPSS and Smart PLS. Cronbach's Alpha and factor analysis (EFA) tests are performed on SPSS software. The results will be entered into Smart PLS software, which will be a database to conduct two methods: CFA affirmative factor analysis and linear structure model (SEM) verification.

Testing was carried out using Cronbach's Alpha and EFA respectively to evaluate the scales, applying PCA (principal components analysis) with varimax matrix rotation. Observed variables with item-total correlation below 0.3 are eliminated (Nunnally and Burnstein, 1994). Subsequently, factor loading variables less than 0.4 in EFA will continue to be discarded (Gerbing and Anderson, 1988) and tested for total squares extracted ( $\geq 50\%$ ). The transformations resulting from EFA accreditation will be used in CFA accreditation to assess the conformity of the scale and research model. The purpose of CFA is to test whether the data is consistent with a hypothetical measurement model and to assess the uniqueness of structures (Anderson and Gerbing, 1988; Hair et al., 2010). In CFA we can do it for each concept, some concept, or do it with all the concepts contained in the model (called the critical model). In this topic, the author will run CFA for critical models with concepts that are freely related to each other.

## 4. RESEARCH RESULTS

The analysis results for Cronbach's alpha coefficient scale are variable collaboration/communication between parts (GT) of 0.917 > 0.6. The total variable correlation coefficient ranges from 0.707 to 0.948, both with values greater than 0.3 (Nguyen Dinh Tho, 2013). Thus, the scale of the use of the collaborative/interdepartmental communication variable ensures reliability and therefore the observed variable is included in the next EFA analysis step.

The system improvement continuous variable (CT) showed that Cronbach's alpha coefficient was 0.886 (> 0.6) and the total variable correlation coefficients were greater than 0.3 (ranging from 0.662 to 0.792) (Nguyen Dinh Tho, 2013). The scale of continuous improvement of the system in a diagnostic manner ensures reliability should be retained for further EFA analysis.

The results of the manager's support variable analysis (QL) showed that Cronbach's alpha coefficient was 0.820 (> 0.6) and the total variable correlation coefficients were all greater than 0.3 (ranging from 0.610 to 0.725) (Nguyen Dinh Tho, 2013). Regulatory support in a way that ensures reliability should be retained for continued EFA analysis. Cronbach's alpha index is 0.925 (> 0.6) and the total variable correlation coefficients range from 0.824 to 0.862 (> 0.3) (Nguyen Dinh Tho, 2013).

KMO = 0.830 (> 0.5) with a value of Sig. = 0.000 (> 0.05). By principal components extraction and Varimax rotation, there are four factors derived from 1 5 variables observed at the Eigenvalues stop of 2,471 > 1 with a total variance of 70.646% > 50%. In addition, the load factor of observed variables of the collaboration / communication scale between departments ranges from 0.8 04 to 0.9 59, the scale of continuous improvement of the system in a diagnostic way ranges from 0.778 to 0.8 87 and the manager's support scale ranges from 0.7 78 to 0.8 69, the user training scale ranges from 0.832 to 0.902. In general, all load factors satisfy conditions





greater than 0.5. Finally, the smallest load factor difference between the observed variables is greater than 0.3 (ranging from 0.449 to 0.858). Therefore, it can be concluded that the scales of success of accounting information systems ensure convergent value and distinguishing value (Nguyen Dinh Tho, 2013).

First of all, Table 1 presents the results of the evaluation of the reliability of the scales for all research variables. Accordingly, the aggregate reliability (CR) of the study variables was higher than the minimum threshold of 0.70 (ranging from 0.833 to 0.9 44), and the Cronbach's Alpha (CA) coefficients of the study variables were also greater than the minimum threshold of 0.70 (ranging from 0.8 20 to 0.949), demonstrates highly reliable scales (Hair et al., 2017).

Scale	SONG	CR
User training	0.925	0.929
Manager's support	0.820	0.833
Continuously improve the system	0.886	0.895
Information quality	0.918	0.928
System quality	0.949	0.953
User satisfaction	0.931	0.942
Financial HQHĐ	0.932	0.937
Non-financial HQHD	0.942	0.944

 Table 1: Scale reliability assessment results

(Source: Data analysis results from SmartPLS 3 software)

Next, the convergence values of the scales are presented in Table 2. The results of the analysis showed that the load factors were all greater than the threshold of 0.708, which ranged from 0.798 to 0.981 (Hair et al., 2019b). In addition, the t-test value of the observed variables ranged from 25.914to 210.186, satisfying conditions greater than the threshold of 1.96 for statistical significance. Finally, the average quoted variance (AVE) value is higher than the minimum threshold of 0.50 (ranging from 0.735 to 0.869) (Chin, 2010; Hair et al., 2017). Thus, it can be concluded that the scale for the study variables is full of convergent values.

Scale	Variable observation	Load factor	t-value	AVE
Collaboration/communication	GT1	0.842	39.724	0.755
between departments	GT2	0.831	31.334	
	GT3	0.798	25.914	
	GT4	0.894	49.017	
	GT5	0.969	193.035	
Continuously improve the system	CT1	0.883	44.266	0.745
	CT2	0.863	37.357	
	CT3	0.898	55.062	
	CT4	0.806	26.271	
Manager's support	QL1	0.809	29.089	0.735
	QL2	0.876	29.933	
	QL3	0.885	51.250	
User training	DT1	0.928	91.259	0.869

 Table 2: Convergence value assessment results





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TT2         0.881         44.263           TT3         0.914         63.658           TT4         0.880         43.383           TT5         0.981         417.81           Qualitysystem         HT1         0.838         38.835           HT2         0.909         63.549           HT3         0.881         52.64           HT4         0.837         33.154           HT5         0.960         210.186           User satisfaction         HL1         0.930         79.303           HL2         0.890         48.737           HL3         0.916         65.563           HL4         0.907         61.003           HQHD Finance         F1         0.848         32.651         0.77           F2         0.868         41.196         73         0.78           F3         0.858         31.002         74         0.898         52.346           F5         0.841         31.386         76         0.78           F6         0.966         179.467         0.78           NF2         0.918         74.652         0.78           NF3         0.866         46.539					
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HT2         0.909         63.549           HT3         0.881         52.64           HT4         0.837         33.154           HT5         0.960         210.186           User satisfaction         HL1         0.930         79.303           HL2         0.890         48.737           HL3         0.916         65.563           HL4         0.907         61.003           HL4         0.907         61.003           HQHD Finance         F1         0.848         32.651           F2         0.868         41.196           F3         0.858         31.002           F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           NF1         0.884         50.616           NF2         0.918         74.652           NF3         0.866         46.539		TT5	0.981	417.81	
HT3         0.881         52.64           HT4         0.837         33.154           HT5         0.960         210.186           User satisfaction         HL1         0.930         79.303           HL2         0.890         48.737           HL3         0.916         65.563           HL4         0.907         61.003           HQHD Finance         F1         0.848         32.651           F2         0.868         41.196           F3         0.858         31.002           F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           NF1         0.884         50.616           NF2         0.918         74.652           NF3         0.866         46.539	Qualitysystem	HT1	0.838	38.835	0.786
HT4         0.837         33.154           HT5         0.960         210.186           User satisfaction         HL1         0.930         79.303           HL2         0.890         48.737           HL3         0.916         65.563           HL4         0.907         61.003           HQHD Finance         F1         0.868         41.196           F3         0.858         31.002         F4           F4         0.898         52.346         F5           F6         0.966         179.467         N84           Nco-Financial HQHD         NF1         0.884         50.616           NF3         0.866         46.539         0.78		HT2	0.909	63.549	
HT5         0.960         210.186           User satisfaction         HL1         0.930         79.303         0.83           HL2         0.890         48.737         11         0.916         65.563           HL3         0.916         65.563         11         0.907         61.003         0.77           HQHD Finance         F1         0.848         32.651         0.77         0.77           F2         0.868         41.196         11.002         11.002         0.77           F3         0.858         31.002         11.3366         11.3366         11.012           F4         0.898         52.346         11.96         11.3366         11.96         11.3366           F5         0.841         31.386         11.94		HT3	0.881	52.64	
User satisfaction         HL1         0.930         79.303         0.83           HL2         0.890         48.737         1		HT4	0.837	33.154	
HL2         0.890         48.737           HL3         0.916         65.563           HL4         0.907         61.003           F1         0.848         32.651           F2         0.868         41.196           F3         0.858         31.002           F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           NF1         0.884         50.616           NF2         0.918         74.652           NF3         0.866         46.539		HT5	0.960	210.186	
HL3         0.916         65.563           HL4         0.907         61.003           HQHD Finance         F1         0.848         32.651           F2         0.868         41.196           F3         0.858         31.002           F4         0.9966         179.467           Non-Financial HQHD         NF1         0.884         50.616           NF2         0.918         74.652           NF3         0.866         46.539	User satisfaction	HL1	0.930	79.303	0.830
HL4         0.907         61.003           HQHD Finance         F1         0.848         32.651         0.77           F2         0.868         41.196         31.002         F4         0.898         52.346           F5         0.841         31.386         F6         0.966         179.467         0.78           Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		HL2	0.890	48.737	
HQHD Finance         F1         0.848         32.651         0.77           F2         0.868         41.196         1.002         1		HL3	0.916	65.563	
F2         0.868         41.196           F3         0.858         31.002           F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		HL4	0.907	61.003	
F3         0.858         31.002           F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           Non-Financial HQHD         NF1         0.884         50.616           NF2         0.918         74.652           NF3         0.866         46.539	HQHD Finance	F1	0.848	32.651	0.776
F4         0.898         52.346           F5         0.841         31.386           F6         0.966         179.467           Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		F2	0.868	41.196	
F5         0.841         31.386           F6         0.966         179.467           Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		F3	0.858	31.002	
F6         0.966         179.467           Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		F4	0.898	52.346	
Non-Financial HQHD         NF1         0.884         50.616         0.78           NF2         0.918         74.652         NF3         0.866         46.539		F5	0.841	31.386	
NF20.91874.652NF30.86646.539		F6	0.966	179.467	
NF3 0.866 46.539	Non-Financial HQHD	NF1	0.884	50.616	0.782
		NF2	0.918	74.652	
		NF3	0.866	46.539	
NF4 0.869 46.263		NF4	0.869	46.263	

(Source: Data analysis results from SmartPLS 3 software)

It evaluates the differentiation value of the scales through the Fornell-Larcker criteria, the cross-load factor, and the Heterotrait-Montrait coefficient (HTMT). The results of the evaluation of the differentiation value of the scale using the Fornell-Larcker criteria are presented in Table 3.

Table 3: Results of evaluation of distinguishing values using Fornell-Lacker criteria

	1	2	3	4	5	6	7	8	9
01. Daotao	0.932								
02. Quanly	0.575	0.858							
03. Caitien	0.172	0.190	0.863						
04. Trading	0.301	0.229	0.255	0.869					
05. Thong Tin	0.294	0.265	0.117	0.177	0.912				
06. He Thong	0.281	0.280	0.266	0.118	0.286	0.886			
07. Hai Long	0.175	0.170	0.067	0.280	0.240	-0.047	0.911		
08. per_f	0.143	0.142	0.105	0.084	0.223	0.208	0.165	0.881	
09. Per_nf	0.652	0.625	0.125	0.249	0.261	0.418	0.162	0.091	0.884

(Source: Data analysis results from SmartPLS 3 & SPSS 20 software)





From the results on Table 3, we see that the average variance square root value (number is on the diagonal, in bold) of variables ranges from 0.858 to 0.932, and is greater than the correlation coefficient of the variables. Thus, the scales satisfy the Fornell-Lacker criteria for obtaining distinguishing values.

Get lost	NEWS		HE THONG		HAI LONG		PER_F		PER_NF	
	Beta	p- value	Beta	p- value	Beta	p- value	Beta	p- value	Beta	p- value
Daotao	0.187**	0.012	0.165**	0.034	0.054	0.448				
Quanly	0.131*	0.073	0.149**	0.027	0.086	0.251				
Caitien	0.039	0.553	0.214***	0.001	-0.023	0.739				
Transactions	0.081	0.222	-0.021	0.777	0.25***	0				
News							0.12**	0.02	0.117*	0.067
He Thong							0.177***	0.005	0.386***	0
Hai Long							0.193***	0	0.149**	0.022
R2 tuning	0.094		0.129		0.078		0.393		0.212	
Note: **, * c	Note: **, * corresponds to 1%, 5% and 10% statistical significance levels respectively (test t – 2 tails).									

 Table 4: Model test results

(Source: Data analysis results from SmartPLS 3 software)

## 5. DISCUSSION AND CONCLUSIONS

The influence of continuous system improvement on successful accounting information systems, the results of which show that this factor has the same influence on successful accounting information systems, this is consistent with previous studies such as Nicolaou (2004); Bhatt and Troutt (2005), Ju, Wei, and Tsai (2016); Ram, Corkindale, and Wu (2013); Ha and Ahn (2014); Hasan & ctg (2019). In this study, inheriting the results of relevant previous studies and qualitative research results, the variable scale "Continuous improvement of the system" is built up of 4 observed variables "Business processes are carefully controlled to ensure correctness in the post-implementation period"; "Business processes are constantly tested to prevent defects in products/services in the post-implementation period"; "Business processes are continuously evaluated for improvement in the post-implementation period"; "Process improvement standards are continuously raised in the post-implementation period." However, compared to previous studies, this study focuses on the success of the accounting information system at the post-implementation stage, so the continuous improvement of the system in this study should be understood differently than the improvement of the accounting information system at the implementation stage, The difficulties and challenges faced by system users will also be different from the implementation phase.

The influence of Manager's Support on successful accounting information systems, the results of which show that this factor has the same influence on successful accounting information systems, which is consistent with previous studies such as Ellinger (2000); Ha and Ahn (2014); Hasan & ctg (2019). From inheriting the results of previous studies related to successful accounting information systems, the author builds this variable measurement scale consisting of 3 observed variables, however, the context of the studies may not be entirely consistent with this study, therefore, the author used qualitative research methods with expert interview



techniques in order to calibrate the scale for the research concept "Manager's Support". The results of the study determined that this factor scale consists of 3 observational variables: "Continuous expression of enthusiasm and interest"; "The overall level of manager support at a post-implementation stage"; "The involvement of upper managers in the system in the post-implementation period". However, for this factor, the difference from previous studies also focuses on the content of research at the later stage of implementing accounting information systems, so in practice, the support of managers plays a very important role. As from assessing the current context and situation of the accounting information system at the unit, managers make decisions to find solutions to the situation, or enhance communication between individuals and departments related to the accounting information system to contribute to the success of this system.

The influence of user training on successful accounting information systems, the results of which show that this factor has the same influence on successful accounting information systems, this is consistent with previous studies such as Karim et al. (2007); Ha and Ahn (2014); Qian, L. (2017). Training users of accounting information systems is reflected in contents such as "Continuous investment of time and resources significantly in training employees in the post-implementation period of the system"; "Continuous and complete onthe-job training for internal user groups in the post-deployment phase of the system"; "Continuously provide both technology and process training to employees in the post-system implementation phase." Training is the key to the success of the accounting information system, including at the implementation stage and the post-deployment stage. After the accounting system is implemented, users of the organization constantly exploit this system. However, from the perspective of human resource management, businesses need to take into account the issue of old personnel quitting and new personnel taking jobs, therefore, in order to ensure that this system is still used and exploited well, businesses must focus on personnel training. In addition, in the context of information technology application in rapidly developing fields and accounting fields, accounting information systems are no exception, continuously improving accounting information systems is essential, along with this process, it is necessary to focus on training system users to learn to grasp changes, adjustments and updates of this system. The effect of Cross-departmental collaboration/communication on successful accounting information systems, the results of which show that this factor has a co-directed influence on successful accounting information systems, which is consistent with previous studies such as Ellinger (2000); Ha and Ahn (2014); Hasan & ctg (2019). For this factor, based on relevant previous studies, the author proposed a scale to measure the research concept "Collaboration/communication between departments", however, in order to confirm and adjust the scale to suit the context, this study used qualitative research methods with expert discussion techniques to calibrate the scale. measure research such as removing the scale "Sharing a common vision of how IT will support the business in the post-implementation period", or modifying the scale "Overlapping the regular use of formal and informal communication channels between IT and business departments during the implementation phase" to "Diversity of communication and communication channels between BPs in enterprises on issues related to KD activities",... In fact, a business performs many functions at the same time, so





communication and cooperation between related departments is very necessary. Or accounting is not outside the working relationship between departments, for example, an accounting information system provides information related to the management of revenue and expenditure activities of the enterprise. Other departments want to buy materials, pay salaries, are affiliated with the accounting department. Or in the process of production and business, the sales department will make a set of documents related to sales including customer orders, contracts, sales invoices, and this set of documents is the original set of documents, necessary data for accountants to determine revenue, cost price, and debt recovery management, At the same time, delays and errors of one part can lead to delays, errors of other parts, From there, it shows that cooperation / communication between departments is one of the important factors affecting successful accounting information systems.

Accounting information system success: In this study, the success of an accounting information system is determined by the quality of the system, the quality of information and the satisfaction of the system users. From a review of previous studies related to the topic, it can be seen that there are many different perspectives in evaluating successful accounting information systems, however, in this study, the successful accounting information system was built by the author based on the successful information system model of DeLone and McLean (2003) but removed the component quality of service, intention to use/ use. In particular, the information quality factor scale is built on the research of Al-Okaily et al. (2020); Al-Okaily et al. (2021); Al-Okaily, M., & Al-Okaily, A. (2022); Candra, S., & Nainggolan, A. (2022) includes observation variables "Timely updated accounting information"; "Accurate accounting information"; "Easy-to-read and understandable accounting information"; "Adequate accounting information to solve tasks"; "Accounting information meets and is suitable for the needs of users", the system quality factor scale includes the observed variables "Reliable accounting information system"; "Flexible accounting information system"; "Easyto-use accounting information system"; "Accounting information systems are easy to learn"; "The response time of the accounting information system is acceptable" and the system user satisfaction factor scale is measured by the observed variable "The system provides the exact information that the user needs"; "Information content that meets user needs"; The system provides the accurate reports that users need"; "Full information system"; "Precision system"; "Users are satisfied with the accuracy of the system"; "Output information presented in a useful format"; "Clear output information"; "User-friendly system"; "Easy-to-use system"; "The user receives the necessary information in a timely manner"; "Up-to-date information delivery system". (Building on the research of Doll, W. J., & Torkzadeh, G. (1988); Zhang, Z., Lee, M. K., Huang, P., Zhang, L., & Huang, X. (2005)). However, the differences of this study compared to previous studies when measuring accounting information systems are successful in the aspect that this study focuses on studying the success of information systems at a postimplementation stage, moreover, for this study, Accounting information systems are not a single system but an integrated system like ERP systems.

In this study, in order to comprehensively reflect the performance of the enterprise, the author inherits previous studies that are directly and indirectly related to topics such as the study of Santos and Brito (2012); Kwarteng, A., & Aveh, F. (2018); Al-Hattami et al. (2021), combining





qualitative research with expert discussion techniques to determine how to measure business performance. Through research, the thesis determines that the performance of the business is measured in both financial and non-financial aspects, where the financial aspect includes Return on Investment (ROI); Return on revenue (ROS); Return on equity (ROE); Return on average assets (ROA); Revenue growth rate; Profitability indicators of the whole enterprise and non-financial aspects include customer satisfaction, employee satisfaction, environmental efficiency, social efficiency. This is also one of the differences of the thesis compared to previous studies on the influence of successful accounting information systems and business performance, such as the research of Vu Quoc Thong et al. (2022) mainly focuses on the influence of accounting information systems on financial achievements without mentioning achievements. Non-financial. The influence of successful accounting information systems and the performance of enterprises, the results of which show that this factor has the same influence on successful accounting information systems, this is consistent with previous studies such as Budiarto & Prabowo, 2015; Elena et al. 2011; Soudani, 2012; Spremic & Jakovic, 2012. First of all, regarding the influence of information quality on operational results, in the current competitive business environment, accounting information is one of the important bases for management to use and make executive decisions, economic decisions and contribute to the organization's performance. In addition, information is provided quickly, promptly and regularly to help managers seize beneficial opportunities and improve the performance of the business. In the context of an integrated information system such as an ERP system, the information gained from the success of this system allows managers to have a clearer vision of the performance of each department of the business, identify necessary limitations and improvements, and take advantage of market opportunities that contribute to improving performance. dynamic of business. The quality of the system affects the performance of the enterprise. The necessary prerequisites for creating benefits for the organization are a welldesigned, developed and implemented system. All those benefits can be obtained including reduced costs, increased revenue, and improved process efficiency (Bakos & Treacy, 1986). In order to create value and operational efficiency of the company through its information system, the system must ensure attributes such as reliability; flexible; ease of use; ease of learning or the response time of the accounting information system is acceptable. Regarding the satisfaction of system users, many studies show that this is one of the factors affecting the success of information systems in general and accounting information systems in particular. According to the updated D&M IS success model (DeLone & McLean, 2003), satisfaction with ISIS can have a positive impact on the net interests of the organization, concurring with this view, Thong (2001) believes that if IS applications meet the information needs of senior and middle leadership satisfactorily, then their decision-making performance will be improved, which will lead to an increase in business performance of enterprises.





#### References

- Ali, B. J., & AlSondos, I. A. A. (2020). Operational Efficiency and the Adoption of Accounting Information System (Ais): A Comprehensive Review of the Banking Sectors. International Journal of Management, 11(6).
- Al-Delawi, A. S., & Ramo, W. M. (2020). The impact of accounting information system on performance management. Polish Journal of Management Studies, 21.
- Al-Hattami, H. M. (2021). Validation of the D&M IS success model in the context of accounting information system of the banking sector in the least developed countries. Journal of Management Control, 32(1), 127-153.
- Al-Okaily, A., Abd Rahman, M. S., Al-Okaily, M., Ismail, W. N. S. W., & Ali, A. (2020). Measuring success of accounting information system: Applying the DeLone and McLean model at the organizational level. Journal of Theoretical and Applied Information Technology, 98(14), 2697-2706
- Al-Okaily, M., & Al-Okaily, A. (2022). An empirical assessment of enterprise information systems success in a developing country: the Jordanian experience. The TQM Journal
- Andarwati, M., Nirwanto, N., & Darsono, J. T. (2018). Analysis of factors affecting the successof accounting information systems based on information technology on SME managements as accounting informationend user. EJEFAS Journal, (98), 97-102
- Budiarto, D. S., & Prabowo, M. A. (2015). Accounting information systems alignment and SMEs performance: A literature review. International Journal of Management, Economics and Social Sciences, 4(2), 58.
- Caglio, A. (2003). Enterprise resource planning systems and accountants: towards hybridization?. European Accounting Review, 12(1), 123-153.
- Candra, S., & Nainggolan, A. (2022). Understanding Business Intelligence and Analytics System Success from Various Business Sectors in Indonesia. CommIT (Communication and Information Technology) Journal, 16(1), 37-52.
- Chen, C.W.D. and Cheng, C.Y.J. (2009), "Understanding consumer intention in online shopping: a respecification and validation of the DeLone and McLean model", Behaviour and Information Technology, Vol. 28 No. 4, pp. 335-345
- Chen, J. V., Chen, Y., & Capistrano, E. P. S. (2013). Process quality and collaboration quality on B2B ecommerce. Industrial Management & Data Systems.
- Chen, J. V., Rungruengsamrit, D., Rajkumar, T. M., & Yen, D. C. (2013). Success of electronic commerce Web sites: A comparative study in two countries. Information & management, 50(6), 344-355.
- Cidral, W.A., Oliveira, T., Di Felice, M. and Aparicio, M. (2018), "E-learning success determinants: Brazilian empirical study", Computers and Education, Vol. 122, pp. 273-290
- Clemons, E. K., Kauffman, R. J., & Weber, T. A. (2009). Competitive strategy, economics, and information systems. Journal of Management Information Systems, 26(2), 7-13.
- DeLone, W. H., & McLean, E. R. (2016). Information systems success measurement. Foundations and Trends® in Information Systems, 2(1), 1-116.
- DeLone, W. H., & McLean, E. R. (2016). Information systems success measurement. Foundations and Trends® in Information Systems, 2(1), 1-116.





- Esmeray, A., 2016. The Impact of Accounting Information Systems (AIS) on Firm Performance: Empirical Evidence in Turkish Small and Medium Sized Enterprises. International Review of Management and Marketing, 6(2), pp.233-236.
- Fitriati, A., & Mulyani, S. (2015). The influence of leadership style on accounting information system success and its impact on accounting information quality. Research Journal of Finance and Accounting, 6(11), 167-173.
- Gable, G. G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information system success: The IS-impact measurement model. Journal of the association for information systems, 9(7), 18
- Galy, E., & Sauceda, M. J. (2014). Post-implementation practices of ERP systems and their relationship to financial performance. Information & management, 51(3), 310-319.
- Garg, P., & Chauhan, A. (2015). Factors affecting the ERP implementation in Indian retail sector: A structural equation modelling approach. Benchmarking: An International Journal.
- Gargeya, V. B., & Brady, C. (2005). Success and failure factors of adopting SAP in ERP system implementation. Business process management journal, 11(5), 501-516.
- Ghobakhloo, M., & Tang, S. H. (2015). Information system success among manufacturing SMEs: case of developing countries. Information Technology for Development, 21(4), 573-600.
- Ghobakhloo, M., Benitez-Amado, J., & Arias-Aranda, D. (2011, April). Reasons for information technology adoption and sophistication within manufacturing SMEs. In POMS 22nd Annual Conference: Operations management: The enabling link. Reno, USA, April (Vol. 29).
- Ghobakhloo, M., Hong, T. S., & C. (2014). Business-to-business electronic commerce success: A supply network perspective. Journal of Organizational Computing and Electronic Commerce, 24(4), 312-341.
- Grande, E.U., Estébanez, R.P. and Colomina, C.M., 2011. The impact of Accounting Information Systems (AIS) on performance measures: empirical evidence in Spanish SMEs. The international journal of digital accounting research, 11(1577-8517), pp.25-43.
- Granlund, M. (2009). On the interface between accounting and modern information technology.
- Hasan, Najmul; Miah, Shah Jahan; Bao, Yukun; Hoque, Md. Rakibul (2019). Factors affecting postimplementation success of enterprise resource planning systems: a perspective of business process performance. Enterprise Information Systems, (), 1–28. doi:10.1080/17517575.2019.1612099
- Holsapple, C. W., & Sena, M. P. (2005). ERP plans and decision-support benefits. Decision Support Systems, 38(4), 575-590.
- Hsu, M.H., Chang, C.M., Chu, K.K. and Lee, Y.J. (2014), "Determinants of repurchase intentions in online group-buying: the perspectives of DeLone & McLean in success model and trust", Computers in Human Behavior, Vol. 36, pp. 234-245

