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# The Effect of Internal Control on Employee Performance of Small and Medium-Sized Enterprises in Jordan: The Role of Accounting Information System

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## Abstract

This study explores the role of the Accounting Information System (AIS) in mediating the relationship between internal control and the performance of employees. This study examines whether internal control would influence the performance of employees and whether the AIS would impact the performance of employees in Jordan's industrial small and medium-sized enterprises (SMEs). Internal control is expected to impact employee performance. The survey questionnaire was used to gather data. A random sampling approach was used to survey the respondents. A total of 270 questionnaires were distributed; only 203, with a 75% response rate, were available. The data was analyzed using AMOS and SPSS. The result from the analyses provides support for the hypothesis that AIS mediates the relationship between internal control and the performance of the employee. Specifically, this study found evidence that internal control yielded a strong positive relationship with employee performance and a positive relationship with AIS. The study also found that AIS had a positive relationship with the performance of the employee. In brief, internal control has major effects on employee performance. Also, the AIS mediates the relationship between internal control and the performance of the employee. The result of this research found that in the relationship between internal control and employee performance, AIS plays an important role.

**Keywords:** Internal Control, Employee Performance, Accounting Information System, Industrial SMEs, Jordan

**JEL Classification Code:** M40, M41, H83

## 1. Introduction

In a highly competitive and dynamic market, growing businesses face a range of challenges. As a business grows, different problems and opportunities demand different solutions. This creates greater difficulties in carrying out monitoring functions and can produce risks that can prevent the business from achieving its objectives. Each organization must assess and improve the effectiveness of the aspects of control. Company leadership cannot do it alone because of its limits when exercising direct control over its business

activities. As the company tries to establish an efficient and reliable work standard, accounting information system (AIS) guidelines will play an important role in the efficacy of internal control (Li, 2020; Nzomo, 2013; Rotich, 2017). An accounting information system (AIS) refers to instruments and processes designed to gather and view accounting information so that informed decisions can be taken by accountants and executives. It is considered a crucial component of finance offices around the globe. This involves the provision of teamwork, information with the chain of command, the cycle of management, and decentralization. AIS provides numerous approaches and processes that facilitate the operations of the internal control structure (Susanto, 2016). AIS requires a number of processes and procedures that must facilitate the operations of the internal control structure.

One of the fundamental and necessary factors for efficient and effective management is Internal Control. It encompasses an organization's entire management structure, either financial or non-financial. However, there is a notice

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to include the process and guidance work on the efficacy of internal control (Spira & Page, 2003). It needs to be focused on employee ability. Companies with more staff-friendly practices are less likely to encounter deficiencies in internal control. The rapid growth and changes in the market climate have led to the emergence of multiple challenges faced by several businesses, particularly following the current financial crisis and the collapse of various leading organizations due to weak internal control structures (Dimitrijevic et al., 2015; Liu et al., 2017). Therefore, the basis for effective management and eventually excellent organizational efficiency is an efficient internal control structure. Consequently, AIS only operates effectively when businesses have updated their internal control mechanism system, which is a key component of any establishment (Chang et al., 2014; Hla & Teru, 2015). The use of internal control goals and objectives has been defined by several researchers, but they have been presented in a variety of ways. Al-Waeli et al. (2020) argued that the efficiency of the financial information processing of the companies can be assured and their control measures strengthened only with certain regulations and changes. While several internal control analysis studies have been undertaken (Chalmers et al., 2019; Li et al., 2020; Shu et al., 2018), there is also little understanding among researchers of the relationship between internal control, AIS, and employee performance. In developing countries, empirical research focusing on control of internal, AIS, and performance of employee is missing. Therefore, this study seeks to explore the mediating effect of the AIS in the Jordanian industrial sector on the relationship between internal control and organizational/employee performance.

In the Jordanian industrial economy, small and medium-sized enterprises (SMEs) have a major role to play. The achievements of industrial SMEs are directly connected to individual countries' economic growth, 10% of Jordan's GDP is accounted for by industrial SMEs (JEGP, 2018). In particular, Because of the large number of firms, small and medium-sized companies in the industrial sector in Jordan have been chosen. The goal of this paper is therefore to provide a detailed study of the impact of internal control, as mediated by AIS, on the employee performance of SMEs in Jordan. To define the research gap in the relationship between internal control, AIS, and employee performance, this paper aims to review previous empirical studies on internal control, AIS, and employee performance to provide a framework for future empirical research.

The paper is structured as follows; section 2 sets out the literature review and the proposed conceptual model. Section 3 outlined the research method. In Section 4, the results are given. Lastly, review of the key results and concludes the article are present in section 5.

## 2. Literature Review and Hypotheses

### 2.1. Internal Control and Employee Performance

Internal control requires the organization's strategy and all the organized procedures and steps implemented within a corporation to safeguard its properties, verify the quality and reliability of its accounting data to promote operational efficiency and promote compliance with the specified management policies (Rahim et al., 2012). Internal control, as defined by accounting and auditing, is a process for assuring an organization's objectives in operational effectiveness and efficiency, reliable financial reporting, and compliance with laws, regulations, and policies (Tackett et al., 2006). Management will use the awareness of greater trust to ensure the proper functioning of their business operations provided by AIS if there is good internal control in any business. The purpose of internal controls is the mechanisms, rules, and procedures implemented by a company to ensure the integrity of financial and accounting information, promote accountability, and prevent fraud. Internal control is an interlocking set of activities that are layered onto the normal operating procedures of an organization, with the intent of safeguarding assets, minimizing errors, and ensuring that operations are conducted in an approved manner (Chang et al., 2019; Hogan & Wilkins, 2008).

Financial Control and Administrative Control are two types of controls. A part of financial management is the reliability of financial documents and the protection of properties. Administrative controls alter the way the work is done, including the timing of work, policies and other rules, and work practices such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices) (Kisanyanya, 2018). In the AIS perspective, the features of adaptation to internal controls affect processes and management and therefore impact internal control. Internal controls are carried out to ensure that organizational priorities and results are achieved.

There are five main components of internal control, including the control environment, control procedures implementation, assessment of risk, communication and information, and monitoring (Abu Naser et al., 2017; Chan et al., 2020). The first category is the control environment, which is perceived to be a significant indicator of successful internal regulation (Chan et al., 2020). The control environment is the attitude toward internal control and controls consciousness established and maintained by the management and the employees of an organization (Liu et al., 2019; Pham, 2021). It is a product of management's philosophy, style, and supportive attitude, as well as the competence, ethical values, integrity, and morale of the organization's people. The organization structure

and accountability relationships are key factors in the control environment. The second category is control activities, which are both manual and automated resources that help to prevent or mitigate risks that can impede the organization's objectives and mission achievement. Management should set up monitoring activities to efficiently and effectively accomplish the company's objectives and purposes (Mjaku & Pristina, 2019).

Assessment of risk is the third form. Risks are incidents that impede the achievement of goals. Ultimately, they have an effect on an organization's ability to fulfill its purpose. Risk management is the technique of recognizing, judging and deciding how these events are handled. Both internal and external threats may impede the achievement of the goals set at all levels of the organization (Wang, 2019). Communication and information is the fourth control type. Communication is an exchange of useful information within and between individuals and organizations to help decisions and plan activities. Within the organization, information should be communicated to the management and other employees who need it in a way and within a timeframe that enables them to fulfill their responsibilities. Communication also takes place with outside parties such as customers, suppliers, and regulators. (Rae et al., 2017; Salameh, 2019) The fifth category is monitoring, which is the method of evaluating the output of internal regulation over time. Monitoring is an analysis of an entity's operations and transactions in order to assess the service level over time and to decide if controls are effective. Management should concentrate monitoring efforts on internal control and accomplishment of the goals of the company. For monitoring to be most effective, all employees need to understand the organization's mission, objectives, and responsibilities, and risk tolerance levels. (Shoimah, 2015; Ariesa & Berasategu, 2009; Febriana et al., 2017). Therefore, the following hypothesis is tested:

*H1: internal control is positively related to employee performance.*

## 2.2. Internal Control and Accounting Information System

There is a mutually beneficial relationship between internal control and AIS (Susanto, 2016). The accounting information system requires a number of processes and procedures that must facilitate the operations of the internal control structure (Yusuf & Kanji, 2020). Previous studies show that internal control has a positive and important impact on the AIS. Since internal control and AIS have a mutual effect (Guan, 2010; Sumaryati et al., 2020; Yusuf & Kanji, 2020), our second hypothesis is

*H2: internal control is positively related to accounting information systems.*

## 2.3. Accounting Information System and Employee Performance

AIS is an approach used in accounting to aid in the preparation, supervision, and monitoring of an organization's economic operations by management. This interconnected structure works on certain priorities and helps make decisions (Azmi & Sri, 2020). AIS provides policymakers with valuable knowledge that aids in decision making, as reinforced by Louadi (1998). AIS is important for controlling an enterprise and enforcing system of internal control. Inefficiency in internal monitoring has been highlighted by accounting anomalies and financial statement abuse. AIS is regarded as a successful way of dealing with internal and external changes (Al-Okaily et al., 2020; Ha, 2020) by analyzing records and transactions to produce valuable information for corporate activities preparation, control, and activity (Petratos & Faccia, 2019) as well as promoting and gaining organizational efficiency. The efficacy of AIS can be evaluated on three dimensions, namely the scope of information, aggregation and timeliness (Neogy, 2014; Sumaryati et al., 2020). According to the scope of the information, in the forecasting of future events, financial and non-financial information and internal and external information play an important role. While timely quality refers to the ability to fulfill information requirements by supplying external and internal users with systematic reports, information aggregation emphasizes the compilation and summary of information over a period of time. (Sajady et al., 2012). Previous researches stated that the AIS has a positive and important impact on the performance of employees. This illustrates that one of the essential variables in generating employee performance is the AIS. Hence, AIS has a direct effect on the completion of the work by employees, which would eventually boost organizational efficiency (Gupta et al., 2007; Maharani & Damayanthi, 2020). Therefore, the following hypothesis is tested:

*H3: AIS is positively related to employee performance.*

*H4: AIS has a mediating effect on the relationship between internal and employee performance.*

## 2.4. Proposed Model

This suggested conceptual model explores the relations between internal control and performance of employees, as well as the mediating role of AIS.

## 3. Research Method

The data was obtained using a questionnaire; it contains 13 items relating to the study factors adapted from previous studies. For example, internal control contains 4 items

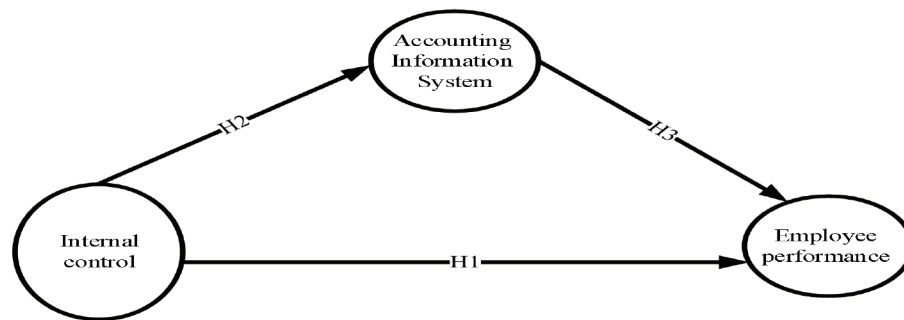


Figure 1: Research Conceptual Model

adapted from Feng et al. (2009), and Zhou et al. (2016). AIS includes 5 items adapted from Al-Waeli et al. (2020), Hutahayan (2020), and Alawaqleh (2020). Employee performance includes 4 items adapted from Chen et al. (2020), Roberts and David (2020), Paaïs and Pattiruhu (2020), and Naseer et al. (2020). This study adopted a five-point Likert-scale to assess respondents' perception based on the study constructs in which 5 stated 'strongly agree', 4 stated 'agree', 3 stated 'Neutral', 2 stated 'disagree' and 1 stated 'strongly disagree'. To determine the participants' responses, the questionnaire was distributed to employees of industrial SMEs in Jordan. The survey questionnaire was used to gather data. A random sampling approach was used to survey the respondents. There were 270 questionnaires distributed in total; only 203 were available, with a response rate of 75%. The survey was conducted in the traditional way in which the questionnaires were handed out in person to the participants. This study used AMOS and SPSS version 25 because of the adequate environment, distribution assumptions, sample size, and design requirements.

## 4. Results

### 4.1 Measurement Model

Until performing the SEM model evaluation, the measurement model must be checked by testing the latent constructs' reliability, convergent validity, and discriminant validity in order to decide if the latent constructs extended to their observed variables. Additionally, the parameters in the reliability validity evaluation were factor loadings of more than 0.6 (meeting the reliability) (Al-Naimat et al., 2020; Al Shbail et al., 2018; Shbail & Shbail, 2020). The results as shown in Table 1 met the threshold requirements.

Discriminant validity is demonstrated by evidence that measures of constructs that theoretically should not be highly related to each other are, in fact, not found to be highly correlated to each other (Fornell & Larcker, 1981). AVE is the average amount of variance in indicator variables that a construct is managed to explain. AVE for each construct

Table 1: Measurement Model Result

Factor	Code	Factor loading	Cronbach's Alpha	KMO
Internal control	IC1	0.868	0.834	0.853
	IC2	0.771		
	IC3	0.705		
	IC4	0.855		
	IC5	0.762		
AIS	AIS1	0.865	0.874	0.782
	AIS2	0.847		
	AIS3	0.852		
	AIS4	0.845		
Employee performance	EP1	0.866	0.847	0.797
	EP2	0.804		
	EP3	0.848		
	EP4	0.797		

can be obtained by the sum of squares of completely standardized factor loadings divided by this sum plus a total of error variances for indicators. According to this criterion, if the square root of the AVE of each latent variable is greater than the correlation coefficients between that latent variable and other latent variables in the measurement model, then the model satisfies the discriminant validity criterion. (Al-Olimat & Al Shbail, 2020; Al Shbail et al., 2018; Obeid et al., 2017). The outcome in Table 2 showed that the discriminant validity was obtained by the measurement model.

### 4.2. SEM Results

The structural model findings displayed in Figure 2 including the fit indices were achieved by RMSEA (0.050), NFI (0.922), and CFI (0.976) (Hu & Bentler, 1999).

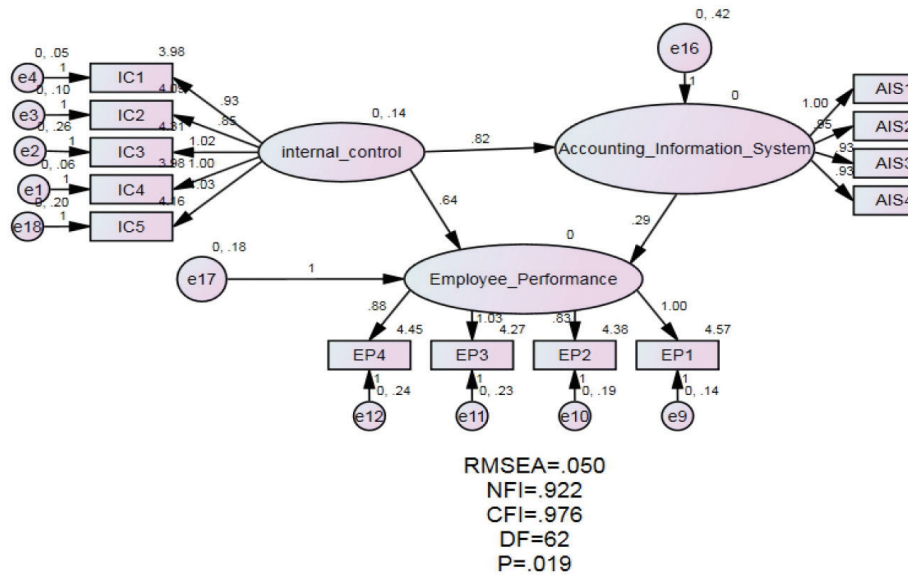
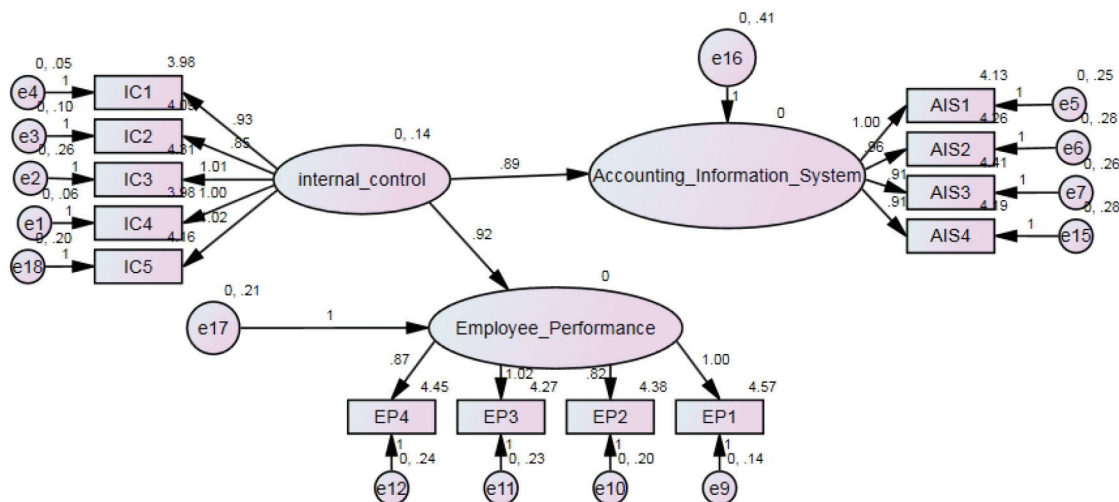
The properties of the beta coefficient direction ( $\beta$ ) and their  $p$ -value are shown in Figure 3 and Table 3. In general,

**Table 2:** Discriminant Validity Results

	Internal_Control	AIS	Employee performance
Internal_Control	1		
AIS	0.341	1	
Employee performance	0.478	0.484	1

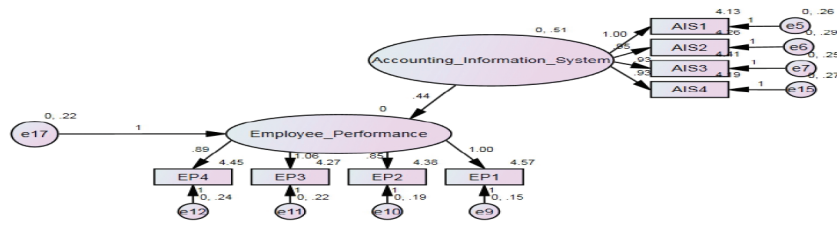
internal control have significant impact on employee performance ( $\beta = 0.920$ ; CR = 6.958;  $p = 0.000$ ). Also, it found there a positive relationship in terms of the association between internal control and AIS ( $\beta = 0.889$ ; CR = 5.283;  $p = 0.000$ ). Thus, H1 and H2 are accepted.

The analysis has demonstrated that AIS has an important and beneficial effect on the consistency of employee performance ( $\beta = 0.435$ , CR = 6.170;  $p = 0.000$ ), as demonstrated in Table 4. Thus, H3 is accepted.

**Figure 2:** Research Model Results**Figure 3:** Results of Hypothesis 1 and Hypothesis 2

**Table 3:** Results of Hypotheses 1 and 2

Hypo.	Relationship	Estimate	S.E	C.R.	P	Decision
H1	Employee_Performance ← internal_control	0.920	0.132	6.958	0.000	Supported
H2	Accounting_Information_System ← internal_control	0.889	0.168	5.283	0.000	Supported

**Figure 4:** Results of Hypothesis 3**Table 4:** Results of Hypothesis 3

Hypo.	Relationship	Estimate	S.E.	C.R.	P	Decision
H3	Employee_Performance ← Accounting_Information_System	0.435	0.071	6.170	0.000	Supported

**Table 5:** Results of Hypothesis 4

Hypo.	Relationship	Estimate	S.E.	C.R.	P	Decision
H4	Accounting_Information_System ← internal_control	0.824	0.168	4.904	***	Supported
	Employee_Performance ← internal_control	0.638	0.133	4.813	***	
	Employee_Performance ← Accounting_Information_System	0.294	0.069	4.234	***	

The mediator (AIS) was reduced to the predictor (internal control) as shown in Table 5, and the findings were found to be important. In the second point, regressing the criteria variable to the indicator, the value is assumed to be important. In the third step, the correlation between internal control and employee performance decreased, i.e., it was smaller than the second. All the conditions were fulfilled, as suggested by Hofmann et al. (2020), Jose (2016), and Kim et al. (2018). The full mediating effect of AIS between the variables of the predictor and the criteria was defined. Thus, H4 was approved.

## 5. Conclusion

The relationship between internal control and employee performance is discussed in this research. One of the key

objectives of internal control is to increase the efficacy and consistency of all activities. A significant connection will then be anticipated between internal control and the performance of employees. As demonstrated by this report, employee performance is influenced by internal control. This study examines whether internal controls affect the performance of employees and whether the AIS affects the performance of employees in Jordanian industrial SMEs. The result of this study finds that employee performance improved by internal control. Also, the result demonstrated the significant impact of internal control on AIS, and AIS and employee performance. This study also investigates whether AIS mediates the relationship between internal control and employee performance and whether the AIS would affect such a relationship. In summary, internal control has a major influence on the performance of employees. The relationship

between internal control and employee performance is often mediated by the AIS. The outcome of this study shows that in the relationship between internal control and employee performance, AIS plays a significant role. The results of the study will have consequences for regulators and policymakers with respect to the significance of internal control in corporate governance and the efficacy of the application of internal control principles and recommendations in SMEs.

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