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# Investigating the Influence of Chief Executive Officer Characteristics on Accounting Software Technology Use among Jordanian Firms

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### ABSTRACT

This study aims to examine the influence of chief executive officer (CEO) characteristics (i.e., CEO innovativeness, CEO information system (IS) knowledge, and CEO trust in technology) on accounting software technology use in Jordanian companies from different industrial sectors. Data were gathered through a structured questionnaire distributed to CEOs/owners of small, medium, and large companies in Jordan. The Partial Least Squares Structural Equation Modeling (PLS-SEM) technique was employed on 315 usable questionnaires received. The finding reveals that CEO IS knowledge and CEO trust in technology have a significant positive impact on accounting software use. Surprisingly, CEO innovativeness has an insignificant impact on accounting software use due to the prevalence of avoiding uncertainties in undertaking a new system. The outcomes of this study can assist the government in devising relevant policies and support initiatives to encourage firms to adopt accounting software technology. Similarly, CEOs can benefit significantly from gaining a deeper understanding of the principal factors influencing accounting software use.

## 1. Introduction

The need for businesses to deploy information systems (IS) in their operations, particularly computerised ones, has arisen due to recent advancements in information technology (IT) and increased competition in the business world [1]. These systems are utilised in each organisation to streamline business processes and accomplish organisational goals [2]. Every organisation strives to implement IS or technologies to enhance the efficiency and effectiveness of their institutional management processes [2,3]. According to Amelia and Azliza [4] and Romney *et al.*, [5], IS involves the process of collecting, entering, storing data, processing, managing, controlling, and reporting the information to enable organisations to achieve their goals. As the benefits of IS usage became apparent, most organisations tend to invest a substantial amount of their resources in IS to reduce operational costs and improve the quality of their goods and services [6,7].

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Accounting information is used by all commercial companies, including non-profit organisations, to assist business stakeholders - both internal (e.g., management) and external agencies (e.g., the government, banks, and investors) - in achieving specific goals when making decisions [8]. The provision of accurate accounting information serves as the foundation for assisting managers in making appropriate business decisions, aligning suitable operations on a regular basis, effectively operating and managing the firm, and maintaining excellent internal control [9]. Furthermore, since accounting information is the most crucial in business organisations, the use of IS has been considered paramount and seen as an integral part of an accounting system. Consequently, it opens the door for the emergence of an accounting information system (AIS). AIS refers to a computerised information system designed for processing financial data and enhancing decision-making functions. According to Kurniati and Alias [10], AIS encompasses a collection of forms, records, and reports that are generated and organised through computerised accounting software packages to provide management with the necessary financial information for a company's management processes.

Businesses are increasingly adopting technology to streamline their daily accounting operations, which has led to the widespread use of computerised accounting software [11]. This software is designed to be user-friendly for accountants, resulting in accurate and timely completion of accounting tasks [11]. As a result, many businesses have transitioned from traditional manual accounting systems to computerised accounting systems [12]. The use of accounting software technology to automate various business operations serves a lot of benefits to the industry, including time-saving, processing high-volume transactions, minimising errors, and providing accurate and timely reports for making informed decisions [13]. In addition, Hassan *et al.*, [14] and Chong and Nizam [15] reiterated that successful firms must use accounting software to secure their sustainability and survival in an increasingly competitive market and enhance their business operations' efficiency and competence. Moreover, accounting software technology implementation significantly affects accounting information quality [16]. Several researchers stressed that the low adoption of accounting software technology may be due to the lack of awareness of the potential benefits of accounting software, lack of knowledge and expertise in using the accounting software, and company culture [17-19]. These factors can contribute to poor data quality, which can have a negative impact on decision-making processes [20].

The effective use of accounting software is vital to all businesses since it enables a company to improve revenue over time, attain cost savings, increase productivity, and remain competitive [20,21]. Nonetheless, despite the various benefits associated with accounting software, its adoption and use remain relatively low, particularly in developing countries such as Jordan, as reported by Munasinghe and Munasinghe [17], Sinarasri and Zulaikha [19], Abate [22], Habiba *et al.*, [23] and Lutfi *et al.*, [24]. For example, Smirat [25] indicated that only 14% of firms in Jordan had included accounting software for their business reporting. In a similar vein, Lutfi [26], Lutfi *et al.*, [20,24] and Idris and Mohamad [27] also revealed low usage/adoption of accounting software among firms in Jordan. These findings are consistent with the Department of Statistics Jordan's report that stated only 38.1% of the firms in Jordan use accounting software [28]. Among the reason was inadequate employee training, where only 17.7% of establishments in Jordan trained their employees on computer programs and software applications, such as human resources planning and enterprise resource planning (ERP) [28].

The present study's research framework is developed based on the technology-organisation-environment (TOE) framework established by Tornatzky *et al.*, [29]. According to the TOE framework, the adoption and usage of technology innovations are influenced by contextual factors related to technology, organisation, and the environment [30]. Given the important roles of CEOs in making IT adoption decisions, the present study extends the TOE framework by adding CEO characteristics, as

recommended by Thong [31] and Thong and Yap [32]. The conceptualisation of CEO characteristics in this study includes CEO IS knowledge, CEO innovativeness, and CEO trust in technology.

From the perspective of the Resource-Based View (RBV) theory, internal mechanisms (e.g., accounting software technology) can be used by a firm to build a competitive advantage [33,34]. Hence, promoting the use of technology like accounting software for companies in Jordan is essential for future growth in order for them to accomplish competitive advantage and survive in a dynamic and changing environment [35]. Accordingly, it is crucial to investigate significant determinants that contribute to accounting software technology use among Jordanian companies. As such, the CEO plays a crucial role in companies where CEO characteristics remain a significant factor that can influence technology adoption [31,36-38]. Furthermore, as identified in the literature, CEOs that are innovative, knowledgeable, and have trust in technology are more likely to adopt technology (e.g., accounting software) [39-41]. Therefore, this paper examines the influence of CEO characteristics (i.e., CEO innovativeness, CEO IS knowledge, and CEO trust in technology) on accounting software technology use in Jordanian companies in various industrial sectors with the control effect of firm size on the relationship being tested.

Many researchers investigated the factors affecting accounting software adoption and implementation, such as technological factors (e.g., relative advantage, compatibility, complexity); organisational factors (e.g., organisation readiness and employees' IT competence); environmental factors (e.g., competitive pressure and government support); and CEO characteristics (e.g., CEO innovativeness and CEO trust in technology) [22,23,42-50]. Among the previously mentioned factors, CEO characteristics were more recently studied by researchers as a critical determinant for some variables, such as accounting software implementation, accounting software adoption, accounting software intention to adopt, and accounting software alignment [51,52]. Consequently, it has been revealed that only a few studies were carried out on the relationship between CEO characteristics and accounting software technology use in many developing countries, including Jordan. Therefore, the present study tends to fill this gap, thereby contributing to the body of knowledge and benefiting future researchers in the field of IS and technology. In the practical aspect, this study would benefit the practitioners, such as CEOs and governmental agencies in terms of making decisions and formulating better strategies for accounting software use.

This paper is organised into nine sections, including the introduction, literature review, research framework and hypotheses development, study methodology, data analysis and findings, discussion of study findings, implications of the study, and limitations and recommendations for further research. The final section concludes the study.

## **2. Literature Review**

### **2.1 Accounting Software**

Accounting software is defined as a software application and management process designed to process data and provide necessary information for making appropriate decisions, whether they are administrative or financial in nature, from within the company [53-55]. Napitupulu [56] observed that accounting software is a framework integrated into an organisation to provide valuable and timely information to management and employees. This consists of financial and non-financial information used for making a decision to attain the organisational goals. Ahmad and Al-Shbiel [57] highlighted that accounting software comprises multiple forms of records and equipment, including communication tools, computers, personnel, and closely coordinated reports, designed to translate data into information relevant to financial management. Accounting software is considered the lifeblood of an enterprise, as it enables coordination, integration, and control of business activities.

Without it, an organisation would lack the necessary tools to effectively manage its financial data and operations [55,58]. Moreover, according to Hassan *et al.*, [14], accounting software technology is computerised software used to record, process business transactions, and report financial data. In the present study, accounting software technology refers to the extent of using computer accounting applications to support operations, management, and decision-making in their business to create value and impact in organisational activities [59,60].

Accounting software is crucial in adding value to a company by generating internal financial statements that aid in better strategic planning [61,62]. It offers several benefits, such as producing better financial reports, enhancing business processing efficiency, reducing duplications, increasing flexibility in generating information, lowering paperwork and costs, improving integration of financial reports and forms, and facilitating rationalised decision-making by providing accurate accounting information [62,63]. In addition, Hassan *et al.*, [64] and Ahmed *et al.*, [65] emphasised that accounting software technology allows businesses to drastically reduce operational costs while increasing profitability and gaining a competitive advantage. Consequently, accounting software technology is considered an essential aspect of organisational mechanisms because several public and private organisations have widely adopted it.

Extensive research has proposed and reported a positive connection between the use of technology like accounting software and firms' performances [57,66-68]. Furthermore, Ali *et al.*, [59] stated that companies that make effective use of accounting software are more likely to see the positive impact of the software on their overall performance compared to companies that only use it to a limited extent. As a result, the use of accounting software technology is crucial for all organisations, regardless of whether they are profit or non-profit oriented, and should be maintained by every organisation.

Due to the rapid advancements in technology and digital development, the study of AIS holds significant importance [9]. As a result, numerous studies have been conducted on the factors influencing AIS in various countries, such as Thuan *et al.*, [8] and Kouser *et al.*, [69]. However, to the best of our knowledge, research on the factors affecting accounting software technology use among companies in Jordan remains limited. Furthermore, no specific research has been conducted to investigate the relationship between CEO characteristics and accounting software use in Jordan. Hence, this research gap justifies the need for the present study.

Previous research on technology innovations identified four factors affecting technology adoption. These factors are divided into two main categories: internal factors and external factors [31,70,71]. Internal elements include the features of the organisation itself and the features of the organisation's decision-makers. External factors consist of environmental characteristics and technical innovation features. Therefore, since CEO characteristics, the focus of this study is one of the internal factors, which is further discussed below.

## 2.2 CEO Characteristics

Numerous studies examining technology adoption at the organisational level demonstrate the considerable influence of the CEO on the firm's innovativeness and their decision to adopt technology [31,41]. As stated by Thong and Yap [32], the CEO of a company is directly involved in making technology adoption decisions because their characteristics are essential in determining technology adoption. These characteristics, which are used in the conceptualisation of CEO characteristics in this study, include CEO IS knowledge, CEO innovativeness, and CEO trust in technology.

The first characteristic, that is, CEO IS knowledge pertains to the extent to which the CEO possess knowledge and expertise in utilising technology applications and accounting techniques (e.g.,

accounting software) in a company [32]. CEOs who are more knowledgeable and aware of the benefits of accounting software will be more likely to use accounting software. The second characteristic, that is, CEO innovativeness, denotes the level to which CEO is able to introduce new ideas and create something new to use technology (e.g., accounting software) in the company [32]. As a result, the more innovative the CEO, the more positive the attitude toward accounting software adoption and usage. The third characteristic, that is, CEO trust in technology, involves integrity, trust, and competence of technology applications to use accounting software in the company [52]. Hence, it is suggested that the CEOs' trust in technology may help to speed up the use and adoption of accounting software technology. In respect of the above explanations, CEO innovativeness, CEO IS knowledge, and CEO trust in technology were the important determinants of technology usage and adoption by the firm [31,32,41].

Many researchers (e.g., Thong and Yap [32], Alnajjar [44] and Abduljalil and Zainuddin [72]) indicated that CEO characteristics play a vital role in a company's implementation or intention to adopt accounting software. This notion was supported empirically by researchers (see, for example, [22,23,42-50]). Furthermore, CEO characteristics were found to significantly impact accounting software technology in an organisation (see Table 1). For example, Abduljalil and Zainuddin [73] examined the relationship between CEO characteristics (i.e., CEO innovativeness, CEO trust in technology, and CEO IS knowledge) and AIS adoption in Libyan SMEs. The findings showed that CEO characteristics have a significant relationship with the intention to adopt accounting software. In another study, Khalil and Zainuddin [52] investigated the influence of CEO characteristics (i.e., CEO innovativeness, CEO trust in technology, and CEO IS knowledge) on accounting software adoption directly and indirectly through the CEOs' intrinsic motivations among SMEs in Libya. The findings revealed that CEO characteristics significantly influence behavioral intentions in terms of technology adoption among SMEs in Libya.

**Table 1**

Prior studies of accounting software technology by CEO characteristics

No.	Author(s)	Dependent Variable	CEO IT/Accounting Knowledge	CEO Innovativeness	CEO Trust in Technology
1	Alnajjar [44]	Accounting software implementation	✓*	✓*	✓*
2	Khalil and Zainuddin [52]	Accounting software adoption	✓*	✓*	✓*
3	Abduljalil and Zainuddin [72]	Intention to adopt accounting software	✓*		
4	Abduljalil and Zainuddin [73]	Intention to adopt accounting software	✓*	✓*	✓*
5	Ismail and King [51]	Accounting software alignment	✓*		
6	Nabizadeh and Omrani [78]	Accounting software alignment	✓*		

In the context of Jordan, limited research has examined the factors affecting accounting software technology usage among companies in Jordan [20,24,27]. These factors are technological factors (compatibility and relative advantage); organisational factors (owner/manager commitment and organisational readiness); and environmental factors (government support, competitive pressure, and networking (informal factors)). However, the state of CEO characteristics is unknown in Jordan. Hence, the present study addresses this imperative gap by examining the effect of CEO characteristics on accounting software use in Jordanian companies. This research adds to the body of knowledge on

AIS and advances earlier research in the field of AIS by revealing and providing valuable knowledge on the variables influencing accounting software use, notably in Jordan.

### 3. Research Framework and Hypotheses Development

The present study's model is designed based on a literature review of organisational technology adoption, which builds on CEO characteristic factors, such as CEO innovativeness, CEO IS knowledge, and CEO trust in technology. These factors are hypothesised to impact the use of accounting software in companies based in Jordan. CEO characteristics are considered organisational as their characteristics are essential in determining technology adoption [38]. Thus, the study model is illustrated in Figure 1.

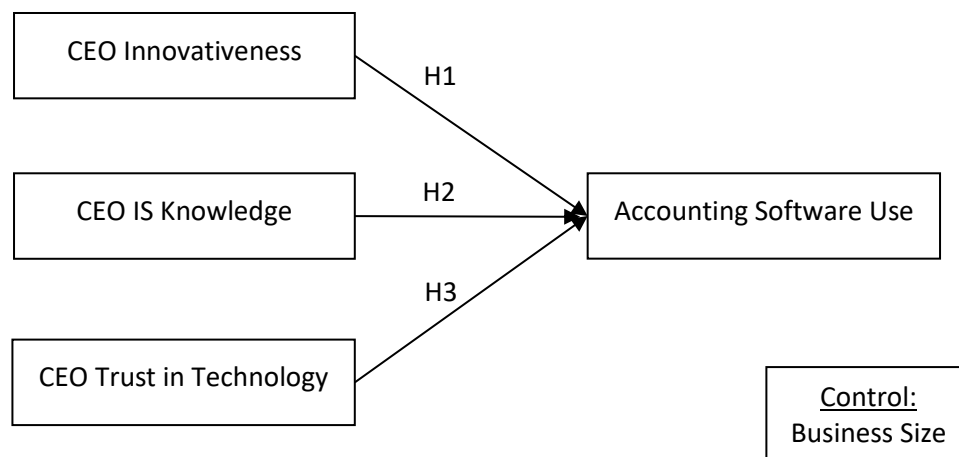


Fig. 1. Research framework

Several existing studies have confirmed that CEO innovativeness positively correlated with the adoption of technology innovation. For instance, Thong [31], and Thong and Yap [32], Fogarty and Armstrong [74], and Prabowo and Noegrahani [75], found that CEO innovativeness has a significantly positive relationship with technology adoption/use studies. In addition, Ramayah *et al.*, [41] affirmed the importance of CEOs in Malaysian firms. Similarly, CEO innovativeness is positively associated with IS/IT usage and adoption in Singapore [31]. CEOs, as innovators, are not just risk-takers but also responsive to new technologies and have different perspectives. Moreover, they consistently and visibly dedicate finances and resources towards new technology [76]. This study, therefore, predicts that the higher the innovativeness of the CEO, the more likely they are to use accounting software technology. Accordingly, the following hypothesis is proposed

**H<sub>1</sub>**: There is a positive relationship between the innovativeness of the CEO and the use of accounting software in Jordanian firms.

Previous studies have shown that CEO or managerial IT knowledge plays a critical role in the adoption of innovation at the organisational level [31,32,40,77]. Thong [31] suggests that CEOs' IS knowledge is essential for adopting IS. Similarly, Ramayah *et al.*, [41] found that higher levels of CEO innovativeness and IT knowledge are positively associated with the adoption and use of website technology. In the context of AIS, several studies have found the effect of CEOs' knowledge of AIS implementation to be significant [44,51,78]. This study also anticipates that CEOs who are more IS/IT savvy and more aware of the benefits of accounting software technology will be more likely to use accounting software. Hence, it is hypothesised that

**H<sub>2</sub>**: There is a positive relationship between CEO IS knowledge and the use of accounting software in Jordanian firms.

Literature reviews have reported a significant positive effect of CEOs' trust in technology on IS and technology usage [37,52,74,79]. When deciding to use and adopt IS and technology, the CEOs' trust in technology is crucial [79,80]. Innovations that are successfully developed may be linked to trust in technology among managers, professionals, and employees. Therefore, this study expects that the CEOs' trust in technology will facilitate and hasten the adoption and use of accounting software technology, thus leading to the following hypothesis:

**H<sub>3</sub>**: There is a positive relationship between CEOs' trust in technology and the use of accounting software in Jordanian firms.

### *3.1 Business Size as a Control Variable*

Firm size has often been considered critical in any IS/IT adoption literature. Prior studies have identified firm size as a significant factor that affects technology innovation adoption [81-86]. Furthermore, it is generally believed that larger companies have better resources, like internal IT expertise [87,88]; hence, they are more likely to attain effective technological innovation adoption. In addition, Idris and Mohamad [27] recommended that firm size is a possible factor that may influence accounting software use and needs to be examined in future research. Although previous technology innovation studies have considered firm size only as a factor in the adoption process, only a limited number of studies have considered firm size as a control variable in technology innovation adoption literature [87,89]. Accordingly, firm size is added as a control variable for accounting software use.

## **4. Methodology**

### *4.1 Research Design, Measures, and Sampling Technique*

A research design is a method employed to carry out the study, obtain data, and analyse the variables outlined in the research problem. It serves as a plan and outline for conducting research to address research questions. The present study employed a cross-sectional survey design, which is a type of survey research that examines the relationship between different social system variables, such as institutions, organisations, and communities. Furthermore, the unit of analysis refers to the object being researched [90]. Relevant to the researcher's studies, the subject may be an individual, an organisation, or a family [91]. The organisation in Jordan serves as the unit of analysis in this study, and firms' CEOs are considered respondents. The rationale for choosing CEOs as the focus of this study is because they play a significant role as the key decision-makers responsible whether or not to use accounting software technology in their companies [31,32].

The present study was based on a closed-ended questionnaire comprised of two parts: The first consists of questions regarding the constructs used in the present study's research framework, and the second consists of demographic information regarding the respondents and their firms. Furthermore, the following provides a concise summary of both parts: Part A consists of four (4) questionnaires adapted from previously published journal articles; the scale of CEO innovativeness was adapted and modified to fit the study by Thong and Yap [32]; to measure CEO IS knowledge, five (5) items scale was obtained from Thong and Yap [32]; and six (6) items measuring CEO trust in technology was adapted from Khalil and Zainuddin [52]; accounting software use was measured by

adapting twelve (12) items scale from Ali *et al.*, [59] and Amelia and Azliza [4]. Part B is comprised of ten (10) questions; five questions about the respondent's profile, such as age, gender, educational qualification, duration in the current position, and position in the company; the remaining five questions about the firm, i.e., firm's sector, firm's age, and years of using accounting software.

The present study identifies small, medium, and large-sized in three industries (Manufacturing sector; Wholesale and Retail Trade, Repair of Motor Vehicle and Motorcycle; and Accommodation and Food Service) in Jordan based on export participation in the country. Using a proportionate stratified random sampling technique. According to the chambers of industry and commerce in Jordan (2021), the total population of the small, medium, and large industries is 9,473, as shown in Table 2 below.

**Table 2**  
 The population of the study

Population	No. of Companies
Manufacturing sector	3,457
Wholesale and retail trade, repair of motor vehicle and motorcycle	4,506
Accommodation and food service activities	1,510
Total	9,473

Based on the sample size table provided by Krejcie and Morgan [92], a total of 368 firms were selected. To account for the possibility of a low response rate, a total of 700 questionnaires were distributed to CEOs of companies operating in the selected industries, as shown in Table 3 below.

**Table 3**  
 The sample size calculation based on the sampling technique

Strata	Proportionate	Proportionate Sample from Small Companies	Proportionate Sample from Medium Companies	Proportionate Sample from Large Companies	Sample Size (S)
Manufacturing sector	$3457/9473 = .364$	$2885/3457 = .834$ $.834 * 255 = 213$	$265/3457 = .076$ $.076 * 255 = 19$	$307/3457 = .088$ $.088 * 255 = 23$	$700 * .364 = 255$
Wholesale and retail trade, repair of motor vehicle and motorcycle	$4506/9473 = .475$	$4264/4506 = .946$ $.946 * 333 = 315$	$128/4506 = .028$ $.028 * 333 = 9$	$114/4506 = .025$ $.025 * 333 = 9$	$700 * .475 = 333$
Accommodation and food service activities	$1510/9473 = .159$	$1304/1510 = .863$ $.863 * 112 = 97$	$142/1510 = .094$ $.094 * 112 = 10$	$64/1510 = .042$ $.042 * 112 = 5$	$700 * .159 = 112$
Total					700

#### 4.2 Data Collection Procedure

The data for this study were collected by administering an adapted questionnaire to CEOs of various companies in Jordan representing different industries. The questionnaire utilised a seven-point Likert scale, ranging from "Strongly disagree" (1) to "Strongly agree" (7), with the exception of the question related to accounting software use, which was measured using a seven-point Likert-type scale ranging from "Not used at all" (1) to "Used very extensively" (7). The questionnaire was structured to investigate the factors influencing the use of accounting software in Jordanian companies.



The survey was administered online using Google Forms, and the questionnaire was shared with participants via email or WhatsApp number, using the sample frame retrieved from the chambers of industry and commerce in Jordan. Out of the 700 questionnaires that were distributed, 315 of them were completed, returned, and usable, representing a usable response rate of 45%; these responses were used for the analysis.

## 5. Data Analysis and Findings

This study used SPSS 23 to calculate its descriptive statistics. For inferential statistics, Structural Equation Modeling (SEM) using Partial Least Square (PLS) 3.3.2 was used for data analysis.

### 5.1 Respondent's Profile

Table 4 presents the demographic information related to the firms' profile. The table indicates that the majority of responding firms were either related to the accommodation and food service activities (f=115, %=36.5) or manufacturing (f=113, %=35.9) sector. Nearly one-third of the responding firms were operating in the Wholesale and retail trade of motor vehicles and motorcycle repair services (f=87, %=27.6).

**Table 4**

Firm's profile

No.	Demographics	Categories	Frequency (f)	Percentage (%)
1	Sector	Manufacturing	113	35.9
		Wholesale and retail trade; repair of motor vehicles and motorcycles	87	27.6
		Accommodation and food service activities	115	36.5
2	Firm's age	< 5 years	36	11.4
		5-10 years	73	23.2
		11-15 years	95	30.2
		> 15 years	111	35.2
3	Firm size	1-9 employees	84	26.7
		10 - 49 employees	82	26.0
		50 - 99 employees	72	22.9
		≥ 100 employees	77	24.4
4	Legal status	Limited company	100	31.7
		Partnership	100	31.7
		Sole Proprietorship	115	36.5
5	Years using accounting software	≤ 2 years	52	16.5
		3 to 5 years	70	22.2
		6 to 10 years	101	32.1
		> 10 years	92	29.2

The table further indicates that the majority of the responding firm were mature and established, as most of them were operating for more than 15 years (f=111, %=35.2). This is followed by firms operating for 11 to 15 years (f=95, %=30.2), and 5 to 10 years (f=73, %=23.2). The least of the firms were operating for less than 5 years (f=36, %=11.4). According to the definition of the Amman Chamber of Commerce (2019), more than half of the firms were small-sized, as they had less than 49 employees (f=166, %=52.7). Nearly one-third of the firms were large-sized (f=77, %=24.4), as they had more than 100 employees. Less than one-third of the firms were medium-sized, as they had 50 to 99 employees (f=72, %=22.9).

According to the legal status of the firms, the majority of the firms were based on a sole proprietorship (f=115, %=36.5). The remaining one-third of the firms were limited companies (f=100, %=31.7), and one-third of the firms were based on partnership (f=100, %=31.7). Furthermore, most of these firms were using accounting software for a long time, as the majority of them were using accounting software for 6 to 10 years (f=101, %=32.1), and more than 10 years (f=92, %=29.2). A fair number of companies were using accounting software for 3 to 5 years (f=70, %=22.2), and the least were using accounting software for less than 2 years (f=52, %=16.5).

Table 5 provides a summary of the demographic characteristics of the respondents who participated in the study. The table indicates that the majority of respondents were male (f=270, %=85.7), and were in their thirties (f=96, %=30.5), and forties (f=98, %=31.1). Almost half of the respondents had a bachelor's degree (f=166, %=52.7), followed by a master's degree (f=69, %=21.9). Some had diplomas (f=48, %=15.2), and the least of them had a PhD degree (f=32, %=10.2). Furthermore, the majority of the respondents were owners of the firms (f=105, %=33.3), followed by managers (f=81, %=25.7), managing directors or CEOs (f=68, %=21.6), and the least were senior managers (f=61, %=19.4). Most of these respondents were highly experienced, as they had working experience of 11 to 15 years (f=109, %=34.6). While respondents with working experience of 5 to 10 years (f=92, %=29.2), and more than 15 years (f=71, %=22.5). At least of them had working experience of less than 5 years (f=43, %=13.7).

**Table 5**  
 Respondent's Profile

No.	Demographics	Categories	Frequency (f)	Percentage (%)
1	Gender	Male	270	85.7
		Female	45	14.3
2	Age	< 30	52	16.5
		30 – 39	96	30.5
		40-49	98	31.1
		≥ 50	69	21.9
		Diploma or below	48	15.2
3	Level of education	Bachelor's degree	166	52.7
		Master	69	21.9
		PhD	32	10.2
4	Current position in the company	Owner/Proprietor	105	33.3
		Managing Director/CEO	68	21.6
		Senior Manager	61	19.4
		Manager	81	25.7
5	Working duration in the current position	< 5 years	43	13.7
		5-10 years	92	29.2
		11- 15 years	109	34.6
		≥ 15 years	71	22.5

## 5.2 Descriptive Analysis of Latent Construct

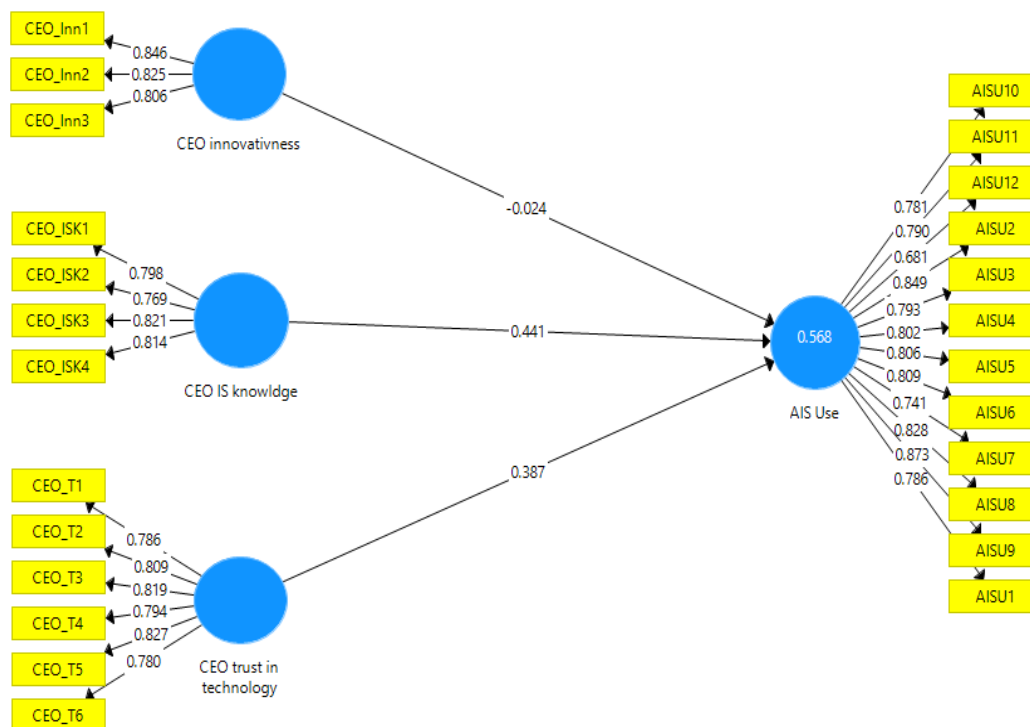
Table 6 presents the descriptive statistics of the study's variables, which were computed using a Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). The results of the descriptive analysis show that the mean values range from 2.49 to 5.57, while the standard deviation values range from .85 to 1.27. Moreover, the Cronbach's alpha values obtained indicate good reliability for the instrument used, with values ranging from .70 to .89. This is consistent with the recommended minimum value of .65 for average reliability and .70 or above for better reliability [93,94].

**Table 6**  
 Descriptive statistics and Cronbach’s alpha

	Min	Max	Mean	SD	Cronbach’s Alpha
Accounting software use	1.42	7.00	5.5685	1.27335	.947
CEO innovativeness	1.00	7.00	2.4889	1.11707	.762
CEO IS knowledge	2.00	6.80	4.8978	.85322	.813
CEO trust in technology	1.50	7.00	5.5630	1.14925	.889

### 5.3 Assessment of Measurement Model

The present study assessed the internal consistency reliability and validity of the measurement model, as shown in Figure 2 [95]. The composite reliability (CR) was examined to calculate the internal consistency reliability.



**Fig. 2.** The PLS algorithm of the measurement model

Table 7 demonstrates that all values are more than .60, fulfilling the criterion [96]. Similarly, Hair Jr *et al.*, [97] expounded convergent validity as “the degree to which a latent construct explains the variance of its indicators.” In addition, the findings indicate that 50% of each variance is attained by each construct (i.e., Average Variance Extracted (AVE) is equal to and higher than .50), which exceeds the threshold value provided by Hair Jr *et al.*, [97].

**Table 7**  
 Reliability and validity results

Construct	Items	Loading	CR	AVE
CEO innovativeness	CEO-Inn1	.846	.865	.682
	CEO-Inn2	.825		
	CEO-Inn3	.806		
CEO IS knowledge	CEO-ISK1	.798	.877	.641
	CEO-ISK2	.769		
	CEO-ISK3	.821		
	CEO-ISK4	.814		
CEO trust in technology	CEO-T1	.786	.916	.644
	CEO-T2	.809		
	CEO-T3	.819		
	CEO-T4	.794		
	CEO-T5	.827		
	CEO-T6	.780		
Accounting software use	AISU-1	.786	.954	.634
	AISU-2	.849		
	AISU-3	.793		
	AISU-4	.802		
	AISU-5	.806		
	AISU-6	.809		
	AISU-7	.741		
	AISU-8	.828		
	AISU-9	.873		
	AISU-10	.781		
	AISU-11	.790		
	AISU-12	.681		

Fornell and Larcker [98] used the square root of AVE to define discriminant validity. They suggested that the square root of AVE should be greater than the correlation coefficients between latent variables to indicate discriminant validity. The diagonal values of Table 8 shows that the square root of AVE values for each construct are higher than their corresponding correlation coefficients with other constructs, suggesting discriminant validity.

**Table 8**  
 Discriminant validity matrix (Fornell-Larcker Criterion)

	Accounting Software Use	CEO IS Knowledge	CEO Innovativeness	CEO Trust in Technology
Accounting software use	.796			
CEO IS knowledge	.685	.801		
CEO innovativeness	-.342	-.317	.826	
CEO trust in technology	.668	.611	.460	.803

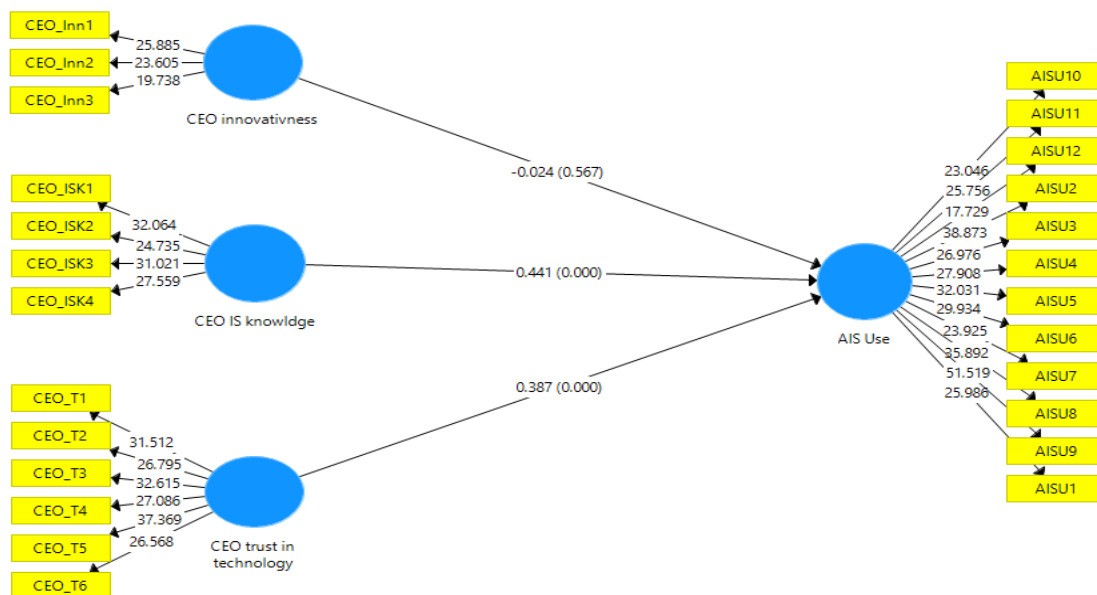
The second criteria involve assessing the soundness of the constructs suggested by Gold *et al.*, [99] and Kline [100], which entails calculating the HTMT values using the HTMT .85 and HTMT .90 cutoff points. The values presented in Table 9 are less than the threshold values.

**Table 9**  
 Heterotrait-Monotrait ratio of correlations (HTMT)

	Accounting Software Use	CEO IS Knowledge	CEO Innovativeness	CEO Trust in Technology
Accounting software use				
CEO IS knowledge	.775			
CEO innovativeness	.395	.401		
CEO trust in technology	.720	.716	.556	

### 5.4 Structural Model

The structural model was evaluated after assessing the measurement model. As described by Sarstedt *et al.*, [96], the structural model evaluation involves examining the path coefficients and t-values of the relationship. According to Hair Jr *et al.*, [95], a t-value greater than 1.96 is considered significant and is used to make decisions about the proposed hypotheses. Figure 3 depicts the structural model of the study.



**Fig. 3.** Assessment of structural model

#### 5.4.1 Assessment of structural model

Table 10 summarises the hypotheses testing results. Two out of the three hypotheses were supported in the present study. The first hypothesis (CEO-ISK) has a significant positive impact on the use of accounting software (AISU) ( $\beta = .441$ ;  $T = 5.672$ ;  $p < .05$ ), is supported. In addition, the third hypothesis is supported, as the CEO trust in technology has a significant direct impact on accounting software use ( $\beta = .387$ ;  $T = 5.140$ ;  $p < .05$ ). The second hypothesis (CEO-INN) is, however, not supported ( $\beta = -.024$ ;  $T = .566$ ;  $p > .05$ ). The results of this study show that the introduction of the control variable (firm size) to the research model does not alter the results.

**Table 10**  
 Hypotheses testing results

Relationship	$\beta$	t-values	p-values	Decision
CEO-ISK => AISU	.441	5.672	.000	Supported
CEO-INN => AISU	-.024	.566	.572	Not supported
CEO-T => AISU	.387	5.140	.000	Supported

Note: ISK = IS knowledge, INN=innovativeness, T = trust in technology, AISU =accounting software use

#### 5.4.2 Assessment of Coefficient of Determination ( $R^2$ ), Effect Size ( $f^2$ ), and Predictive Relevance ( $Q^2$ )

The coefficient of determination ( $R^2$ ) indicates the proportion of variance in the endogenous construct accounted for by the exogenous constructs. Hair *et al.*, [101] established the threshold values of .75, .50, and .25 for substantial, moderate, and weak degrees of  $R^2$ , respectively. Based on the  $R^2$  value shown in Table 11, the predictive accuracy of the endogenous variable (accounting software use) is moderately high.

**Table 11**  
 The coefficient of determination and effect size

Construct	$R^2$	$f^2$	$Q^2$
CEO IS knowledge (ISK)	.568	.281	.346
CEO innovativeness (INN)		.001	
CEO trust in technology (T)		.191	
Accounting software use (AISU)			

After the analysis of the coefficient of determination ( $R^2$ ), it is essential to determine the effect size ( $f^2$ ) of all of the latent constructs of the study. To measure the effect size ( $f^2$ ) of a particular model, the threshold values range from .02, .15, and .35 for no, medium, and high effect sizes. The present study revealed no and medium effect size for the studied model. Moreover, the acceptance level of predictive relevance ( $Q^2$ ) above 0 implies that exogenous constructs have predictive significance for the model's endogenous constructs [101]. Thus, it can be found in Table 11 that the  $Q^2 = .346$  value is greater than zero. Therefore, the present research model has sufficiently predictive relevance.

## 6. Discussion

The aim of this research is to examine the factors that influence the adoption of accounting software technology in various industries of Jordanian companies. The study concludes that the CEO's IS knowledge and trust in technology are significant determinants of the decision to adopt accounting software technology, while CEO innovativeness did not have a statistically significant effect.

The finding that CEO IS knowledge has a significant impact on accounting software use supports the common notion that companies with CEOs who possess greater knowledge about technology and IS (such as accounting software) are more likely to embrace technology. This suggests that the decision to adopt a particular technology depends on the CEO's level of technological experience and knowledge. This empirical result is consistent with previous research that identified CEO IS knowledge as the most significant factor associated with technology adoption [31,102-107], as well as with recent literature on technology innovation adoption [37,52,105,108-112].

As noted by Dewar and Dutton [113] and Mahliza [40], a deep understanding of technology innovations is crucial for adopting technical process innovation. Thus, the CEO must be knowledgeable about the potential of technology innovation and how to use it effectively. This result

also supports the findings of Sin and Sin's [106] recent study, which found that CEO technology knowledge is the most critical factor affecting e-commerce adoption among Malaysian SMEs. In addition, Hoti's [114] review of 87 published papers on technology adoption and use revealed that CEO innovativeness, CEO IS knowledge, and top management support are the most significant determinants of technology adoption. Hence, CEO IS knowledge is a vital determinant of the decision to use accounting software technology among Jordanian companies. Therefore, this noteworthy finding will help companies in considering a CEO's IS knowledge to achieve optimal outcomes by implementing accounting software in their organisations.

The use of accounting software technology was positively and significantly impacted by CEO trust in technology within Jordanian firms. This result aligns with previous research that has identified CEO trust in technology as a crucial factor associated with IT/IS adoption [39,44,52,79,80,115,116]. Additionally, Khayer *et al.*'s [117] recent study found that trust in technology has a significant effect on the adoption of cloud services within Bangladeshi SMEs, further supporting this finding. Moreover, Safari *et al.*, [37] have highlighted the critical role of CEO trust in technology in the success of cloud computing adoption. Therefore, it can be inferred that firms with CEOs who trust technology are more likely to adopt technology and IS, including accounting software technology. Consequently, this finding will assist company shareholders and policymakers in comprehending the significant factors that contribute to the adoption and usage of accounting software within their organisations.

On the other hand, CEO innovativeness was found to have an insignificant impact on accounting software use among Jordanian firms. This finding is in contrast to previous studies that have shown a direct and positive relationship between CEO innovativeness and IS/technology adoption (including accounting software) [31,41,75,102, 107,113,118]. These studies suggest that CEOs with higher levels of innovativeness are more likely to have positive attitudes toward technology adoption, such as the use of accounting software technology.

The insignificant impact of CEO innovativeness on accounting software use is consistent with the results of previous studies by Alrousan *et al.*, [109] and Muathe and Muraguri-Makau [105]. There may be several reasons for this finding. First, the use of accounting software may be more influenced by other internal factors, such as complexity and cost, as noted by Alrousan *et al.*, [109]. Second, the adoption of traditional innovation differs from technological innovation in that it may require changing the entire system of the firm, and decision-makers may be hesitant to undertake a new strategy that requires a new system. Another possible explanation for this result is that developing countries tend to be risk-averse, which hinders innovativeness. In the context of this study in Jordan, the prevalence of risk-aversion, as suggested by Hofstede [119], may hinder the emphasis on innovativeness and risk-taking, which are associated with accounting software technology use.

## 7. Implications

Based on the findings of the study, it is recommended that firms prioritise the development of CEO IS knowledge and trust in technology as essential factors for the adoption and use of accounting software technology. CEOs should understand that their level of technology knowledge and trust in technology are critical in ensuring the success of their companies in using accounting software technology. It is also important for CEOs to be educated on the advantages of accounting software technology in their business operations, which can help them achieve their business objectives effectively. By doing so, companies can gain a competitive advantage and improve their performance.

Furthermore, the Jordanian government can also create awareness of accounting software advantages among firm CEOs to increase the rate of accounting software use. In addition, the Jordanian government may take the necessary steps to develop and re-introduce training programs

for these CEOs concerning accounting software use and its benefits to firms. Hopefully, this would encourage greater interest among Jordanian companies to use accounting software and, consequently, allow them to accomplish a competitive advantage and enhance the efficiency and effectiveness of firms.

This study has made a valuable theoretical contribution to the existing literature on AIS by examining the impact of CEO characteristics on the use of accounting software. Given that CEO characteristics have been identified as a critical factor in technology adoption, this research adds to the body of knowledge by exploring and confirming their significance in the context of accounting software use. The model of the study can serve as a useful framework for future research, particularly in developing countries like Jordan. Researchers can apply the same model to investigate the impact of CEO characteristics on accounting software use in different countries and cultural contexts, providing comparative insights into the adoption of accounting software technology.

## **8. Limitations and Future Research**

This study has several limitations that require attention. The study relied on the perception of each CEO as a key informant, which may be influenced by cognitive and social desirability biases. Future studies should consider using a variety of sources, including employees working in the firm, to obtain a more comprehensive understanding of the factors affecting accounting software use. In addition, the study was limited to three industries in Jordan, which may restrict the ability to generalise the findings to other industries or countries, particularly developing countries. Therefore, future research could replicate the study in different industries and countries to increase the generalisability of the results.

It is important to note that while this study has limitations, it also provides valuable insights and contributes to the understanding of the determinants of accounting software use in Jordanian firms. The findings can be used as a foundation for future research to build upon and expand the knowledge in this area. The use of a quantitative approach provides a starting point for researchers to conduct further longitudinal and mixed-method studies to gain a more comprehensive understanding of the factors influencing accounting software use in Jordan and other developing countries. By identifying significant predictors for accounting software use, this study provides guidance for businesses and policymakers to improve the adoption and implementation of accounting software technology, ultimately leading to increased efficiency and competitiveness.

Indeed, the findings of this study provide a foundation for future research to explore and examine the determinants of accounting software use in Jordan and other developing countries. By building on the significant factors identified in this study and incorporating new factors and measures, future research can provide further insights into the factors that influence accounting software adoption and use in developing countries. Furthermore, exploring potential moderators and testing the proposed model using different research methods can provide more robust evidence and enhance the validity of the findings. Ultimately, these efforts can contribute to the development of more effective strategies to encourage and facilitate accounting software adoption and use in developing countries, which can have significant implications for the growth and competitiveness of firms operating in these regions.

## **9. Conclusion**

In conclusion, the findings of this study highlight the importance of CEO IS knowledge and CEO trust in technology as crucial factors that determine the adoption and use of accounting software



technology in Jordanian firms. Firms that prioritise these factors are more likely to successfully implement and use accounting software technology, which can lead to increased efficiency, effectiveness, and competitive advantage. The Jordanian government can also play a vital role in promoting the adoption of accounting software technology by creating awareness, providing training and financial incentives, and offering technical assistance to firms.

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