





## Article

# Accounting Information Systems as Mediator for Digital Technology and Strategic Performance Interplay

Abdelmohsen A. Nassani <sup>1</sup>, Zahid Yousaf <sup>2,\*</sup>, Adriana Grigorescu <sup>3,4,\*</sup>, Oana Oprisan <sup>5</sup>  
and Mohamed Haffar <sup>6</sup>

- <sup>1</sup> Department of Management, College of Business Administration, King Saud University, P.O. Box 71115, Riyadh 11587, Saudi Arabia; nassani@ksu.edu.sa
- <sup>2</sup> Higher Education Department, Government College of Management Sciences, Mansehra 21300, Pakistan
- <sup>3</sup> Department of Public Management, Faculty of Public Administration, National University of Political Studies and Public Administration, Expozitiei Boulevard 30A, 012244 Bucharest, Romania
- <sup>4</sup> Academy of Romanian Scientists, Ilfov Street 3, 050094 Bucharest, Romania
- <sup>5</sup> Department of Finance and Accounting, Faculty of Economic Science, Ovidius University of Constanța, Mamaia Boulevard 124, 900527 Constanta, Romania; oana.oprisan@gmail.com
- <sup>6</sup> Department of Management, Birmingham Business School, University of Birmingham, Birmingham B15 2TY, UK; m.haffar@bham.ac.uk
- \* Correspondence: muhammadzahid.yusuf@gmail.com (Z.Y.); adriana.grigorescu@snspa.ro (A.G.); Tel.: +92-321-980-4474 (Z.Y.); +40-722-53666 (A.G.)

**Abstract:** Digital technology (DT) has been broadly studied in industry and in scholarly research. This study aimed to examine the use of digital technology in the attainment of strategic performance and considered the mediating role of the accounting information systems (AISs) between them. Furthermore, this study explored the moderation of digital innovation in the linkage between DT and strategic performance. For data collection, 326 questionnaires were collected, and quantitative methods and random sampling techniques were used. The results showed that digital technology is directly associated with strategic performance. The findings also confirm that AISs play a mediating role, and digital innovation plays a moderating role in the association between digital technology and strategic performance. The results of this research encourage businesses to utilize opportunities for growing advanced technologies and developments in the industry to take up novel digital technologies, to advance their digital abilities to grow to be innovation leaders, and to boost the strategic performance of their firms. This study is one of the first pieces of research to provide information on how the latest technologies could have an influence in making innovative products/services and, afterward, boost firms' strategic performance. This study also fills a gap in the literature regarding the driving factors of strategic performance by defining the mediating role of AISs and the moderating role of digital innovation in the association between dynamic factors and performance. The outcomes of this research demonstrate that AISs are extremely helpful and have an influence on the strategic performance of electronics firms.

**Keywords:** digital technology; AIS; digital innovation; strategic performance; SMEs



**Citation:** Nassani, A.A.; Yousaf, Z.; Grigorescu, A.; Oprisan, O.; Haffar, M. Accounting Information Systems as Mediator for Digital Technology and Strategic Performance Interplay. *Electronics* **2023**, *12*, 1866. <https://doi.org/10.3390/electronics12081866>

Academic Editor: Fabio Grandi

Received: 18 March 2023

Revised: 7 April 2023

Accepted: 13 April 2023

Published: 14 April 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

In the contemporary era of Industry 4.0, digital technologies development and implementation have been growing to become one of the most trending subject matters in both academia and the scholarly area [1]. Industry 4.0 conceptualizes rapid transformation in industries, technologies, communal practices, and societal patterns in the 21st century due to growing interconnectivity and smart robotics [2]. Digital technology refers to the paradigm and collection of different modern and intelligent technologies in the period of Industry 4.0, including cloud computing, big-data analytics, and the IoT, which facilitate automation, connectivity, and communication [3]. In digitally driven industrialized systems, the latest

emerging technologies facilitate the adoption by firms of strategies for gathering information and data across product life cycles starting from material properties to development parameters [3]. Digital transformation brings innovative opportunities and challenges for the sustainable growth of electronics firms and boosts its strategic performance [2,4]. Therefore, businesses that participate in growing advanced technological opportunities and developments in industry and respond to challenges successively improve their digital abilities and become innovation leaders, which supports them in the improvement of their strategic performance in markets. This study is one of the first pieces of research to provide information on how the latest technologies could have an influence in making innovative products/services and, afterward, boost firms' strategic performance. With the deep incorporation of the latest intelligent technologies in electronic firms, there has been a digital revolution that has modified traditional operations management techniques and has opened the way for the enhancement of product expansion, customer service, and production efficiency [5]. Digital technologies include technological services, platforms, and devices that gather, process, and frequently use information and data, as well as connect to apps, the Internet, and other devices and support the enhancement of strategic performance [6,7]. An accounting information system (AIS) is a piece of software that an organization employs to collect, process, store, retrieve, manage, and report their financial data; therefore, it can be used by managers, consultants, business analysts, accountants, chief financial officers (CFOs), regulators, auditors, and tax authorities [8]. In addition, these developed technologies can facilitate the competent allocation of resources and thus unlock the complete prospective of ecological sustainability [7]. In this way, advanced technologies could further boost competitive dynamics in surrounding industries, and this could entail strategic burdens on SMEs such as electronic firms. Digital technologies capable of leading strategic performance are currently under-explored. Strategic performance is an approach for performance monitoring, improvement, and measurement that supports plans and strategies throughout an organization to make sure that all goals and objectives are achieved [2]. It is a systematic approach that organizations use to apply their strategies across their teams and departments to ensure the achievement of business goals [8]. Strategic performance aligns its overall organizational strategy and policy with employees' performance expectations, information exchange, and leadership to guarantee that everybody works toward the same goal [6].

AISs are tools that incorporated in the playing field of IT and are meant to facilitate management controls related to topics in organizations; significant advancements in technology have opened up opportunities to use and create information from the strategic performance viewpoint [8]. This study argues that improving the impact of digital technology on strategic performance requires them to be recognized through well-established AISs. Since electronic firms' financial systems require proper management of balance, cash, debts, etc., instead of using traditional methods, AISs enable considerable information collection and the discarding of outstanding collaborations and incorporations, which help in the maintenance of transparent records that in-line boost strategic performance of organizations [9]. To accomplish sustainable growth, SMEs are encouraged to expand their applications of digital technologies in their AISs and to interact with other stakeholders [10]. Even as researchers aim to connect the latest digital technologies with AISs, few scholars have experimentally examined how digital transformation influences strategic performance through the establishment of an AIS [11].

Digital innovation refers to the generation of market offerings, business models, and processes that result from the utilization of digital technologies [2,12,13]. It involves the development of the new services, solutions, and products through the use of digital technologies to encourage digitalization among electronics firms. Additionally, we also explore how the impact of digital technology could be different through contingency factors affecting digital innovation. Firms' information processing abilities should conform with AIS requirements and be directed toward high strategic performance [2,14]. This study recommends that digital technology adoption and AISs be influenced through digital

innovation. Our research emphasizes digital innovation, which refers to the volatility and instability of an organization, and states that the impact of digital technology and AISs on strategic performance is reliant upon digital innovation.

Existing research has explored the roles of the latest digital technologies in the attainment of strategic performance in various contexts such as the role of strategic importance [9,15], how IT strategy and investments influence firms' performance [8,16], and how digital technology usage benefits firms' performance [11]. To the best of our knowledge, no research has been conducted with variables such as digital technology, AIS, digital innovation, and strategic performance in an empirical model. To fill this gap, our study proposes a unique conceptual model and significantly contributes to the study of these three factors. Firstly, we aim to explore the association between digital technology and strategic performance, which could assist in improving the perception of the implementation of advanced technologies within business operations. Secondly, we suggest a mediating role of AISs in the relationship between digital technology and strategic performance by establishing a mechanism of AISs interpreting how digital technologies determine strategic performance. Thirdly, we explore contextual aspects, i.e., digital innovation, to establish the effectiveness of digital technologies in the achievement of strategic performance [8,9,16].

This study's theoretical foundation is drawn from the information processing theory; operational management is recognized as an information-intensive process. The information processing theory (IPT) shows that the adoption of the latest technologies can support the achievement of strategic performance by enhancing a firm's accounting information-system abilities and data quality [17]. Advanced digital technologies such as those of internal data architecture represent organizational data processing abilities. Furthermore, AISs serve as a means of exchanging information between stakeholders, which are considered key sources of external information [12]. Improved information processing abilities lead to the improved strategic performance of businesses. Thus, depending on the IPT, this research investigates how digital technology is useful in AISs and the resulting positive influence on strategic performance.

This article's structure is set out as follows. Section Two evaluates the relevant literature and provides hypotheses development, the following section includes the methodology, and Section Four presents the outcomes. Lastly, this paper ends with a discussion and a conclusion.

## 2. Literature Review

### 2.1. Digital Technology and Strategic Performance

In the current uncertain and multifaceted business climate, the various effects of digitalization impact all aspects of business, and digital technology will certainly continue to be an important consideration in the near future [18]. Due to this, a large majority of existing research has focused on digital transformation with the use of the latest digital technology to increase the strategic performance of firms [19]. Digital technologies include digital infrastructure, digital platforms, and digital artifacts, including data analytics, the IoT, social networking, cloud computing, mobile communication, ecosystems, etc. [20]. It is critical for practitioners to unite their insights on operation management, information systems, and corporate strategies to make rational decisions regarding the digital revolution within entire organizations to improve the strategic performance of their firms [21]. Digital transformation directed toward collaborative firm operations, agile trade practices, integrated business ecosystems, and intellectual executive decision-making also provides support in reshaping logical business operations [22]. In the advanced era of the digital economy, every business needs to be digitalized, and industries are facing challenges with digital upgrading [23]. Digital technologies consist in firms' capacities to employ IT machinery to successfully manage information that should overcome costs and improve performance through the efficient management of resources that guide enhanced strategic performance [24]. Digital technology enables businesses to successfully integrate and support diverse system components and processes under shifting business processes. Digital transformation is a

necessity nowadays in the socio-economic environment affected by substantial changes in performance, quality of life, work, life balance, and so on [20,25]. Accordingly, on account of digital technology, digitalization is closely linked with the strategic performance of business prototypes [26]. Digital technology develops novel business models, and firms create and achieve value by implementing the latest business architectures and leading primary changes in previous management processes, capabilities, and schedules to boost strategic performance and enable firms to enter new markets and depart from their current markets [27].

**Hypothesis 1 (H1).** *Digital technology is positively related to strategic performance.*

## 2.2. AISs as Mediators

AISs are described as tools that, as soon as incorporated into an IT system, are created to assist in control and management topics concerning a firm's strategic performance [28]. Recently, numerous researchers have investigated whether firms' digital-technology choices vary in AIS design, recognizing that AISs have great potential in aiding strategy management and support-designed strategies that enhance strategic performance [29]. An accounting information system (AIS) is a piece of software that an organization employs to collect, process, store, retrieve, manage, and report their financial data; therefore, it can be used by managers, consultants, business analysts, accountants, chief financial officers (CFOs), regulators, auditors, and tax authorities [8]. Digital technologies provide a proper review between the development of AISs and the achievement of strategic performance of business units by evaluating strategies and elucidating the fact that high-strategic performance of business entities depends on the extensive ranges of their accounting information systems [30]. Previous studies have provided scarce evidence on the linkage between AISs and strategic performance, even though it is necessary to highlight the antecedent of digital technology in their relationship. Thus, this paper proposes AISs as mediators that act as bridges between digital technology and strategic performance links. Digital technology is considered a critical mechanism in firms that support the design of AISs, which are essential for the efficiency of decision management, organizational funds, and time control [31]. The successful execution of AISs could generate value and assess enterprises' precedent performance to help firms create future plans that could lead toward high strategic performance [32]. AISs are some of the most significant systems in firms, and their way of processing, distributing, capturing, and storing information has been modified [33]. At present, online and digital knowledge and information is progressively utilized in AISs. Strategic performance incorporates activities that make sure that objectives are constantly met in efficiently and effectively [34]. Digital technologies are one of the competitive benefits for firms; in AISs, information and output are vital to the success of the system and support management decisions regarding strategic performance [29,35].

**Hypothesis 2 (H2).** *AISs mediate the association between digital technology and strategic performance.*

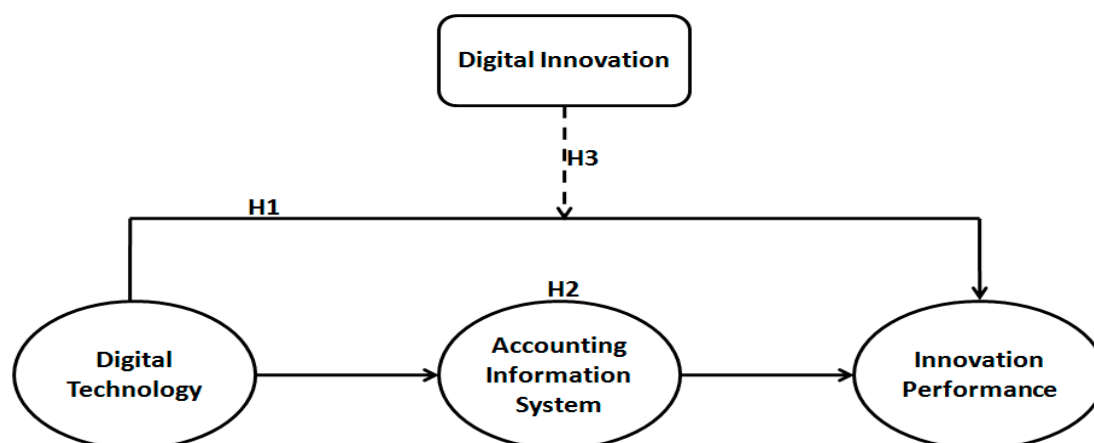
## 2.3. Digital Innovation as a Moderator

Digital innovation is considered a key strategic means for firms to increase their competitiveness and strategic performance [36]. In the digital economy context, several studies have been carried out that have shown that effectiveness and profit generation are high when there is above-standard digital innovation [37]. Correspondingly, an increase in the strategic performance and profit margins of firms were observed when they adopted digital technologies and operated them within digital ecosystems [38]. This current study identifies and incorporates factors that could impact the linkage between digital technology and strategic performance because the relationship between digital technology and strategic performance has not yet been established from the perspective of hi-tech firms. Digital technology affects performance across organizations, departments, and even nations; innovation is a competitive advantage for an organization [39]. Businesses mostly use digital

technologies to provide support for executive decisions and to adopt digital innovation that enhances strategic business performance [40]. Firms use digital technologies to compare information regarding present performance to prior periods, budgets, and forecasts and other standards to determine the degree to which objectives and ideas are being attained and to recognize unexpected outcomes or unusual situations that need to be addressed to enhance strategic performance [41]. Likewise, management is principally responsible for recognizing compliance risks and using digital innovation techniques for designing, monitoring, and implementing in-house control systems [42]. Internal control systems usually center on a firm's AIS, which serves the basic purpose of moving strategic information within a company [43]. Hence, digital innovation supports management to measure and scrutinize the effectiveness of its accounting functions in the firm and plays a critical role in enhancing the strategic performance of an enterprise [44]. The justification behind the moderating role of digital innovation is to facilitate an organization by means of strong digital technology and innovation, which produce situations that are more conducive to for the introduction of innovative offers to satisfy customers, thereby improving sales and strategic performance. Based on the above rationale, we claim that digital innovation performs mediation by translating digital technology and strategic performance. Therefore, we obtain the following hypothesis:

**Hypothesis 3 (H3).** *Digital innovation moderates the relationship between digital technology and strategic performance.*

The theoretical framework of the study is presented in Figure 1.



**Figure 1.** Theoretical Framework. Source: Authors' concept.

### 3. Methodology

To accomplish the study objectives and to respond to the study questions, this research used quantitative methods and SEM techniques to investigate the associations between variables through gathering and examining survey data to test the hypotheses. Furthermore, a questionnaire was used as a survey tool for data collection through random sampling. The analysis unit of this research is electronics firms that use AISs and digital technology. The following section describes the sample size, why the electronic firms of Pakistan were chosen, the selection criteria, and the how information was gathered.

#### 3.1. Sampling and Data Collection

To study the linkage between variables by testing the hypotheses, cross-sectional research designs were used and data were gathered from 35 electronic firms through 450 questionnaires in the IT industry of Pakistan. Pakistani electronics firms were chosen for the following reasons. Firstly, Pakistan is transitioning into a hi-tech digital economy, and its inventive digital solutions perform significant roles in the digital revolution of its



industries. Secondly, there is an imperative requirement to examine how digital technology could assist hi-tech electronics firms in accomplishing enhanced strategic performance and in turn contribute to the digital economy and GDP. A hi-tech firm comprises IT services, devices, communication services, and software. The selection criterion for the enterprises was that the electronics firms should be locally owned, their number of employees must not exceed 350, and they must use some kind of AIS. AIS software solutions are incorporated, modular, and organizational-level tools that various businesses use, and they make orders for these software designs such as Sage 50 Peachtree 2021, 22, Quick book pro 2021, telebar sheet RC 14.0.33.1, and Xerox 5.523.0, etc., which communicate procedure and alarm data, generate end-of-period reports, and manage documents and operational processes at key process facilities all over the globe. An AIS can create a shared dashboard for manifold departments that are interconnected. For example, a sales department can upload its sales budget for the inventory team to access. Subsequently, respective units will generate invoices. Data were collected in soft form via a web-based survey. Two research associates helped with data collection and identified the appropriate participants, such as financial managers, accountants, and administration departments of electronic firms in Pakistan and obtained their e-mails. Subsequently, e-mails along with cover letters and e-links to the questionnaire were sent to potential participants. During the first round, 180 questionnaires were completed and returned and in the second round, 146 questionnaires were completed and returned. Altogether, 326 questionnaires were returned, representing a return rate of 72.44%. For this paper, a response bias analysis was considered pointless because of the insignificant number of delayed responses.

Furthermore, the questionnaire was separated into two sections. Section 1 consisted of demographic details of the targeted audiences. The other section included the main item questions, which were specifically designed to gather relevant data.

### 3.2. Measurement

Following the broad examination of the previous literature and discussions with IT experts who are very knowledgeable regarding accounting and digital technology, we created this study analysis instrument. Various questionnaire items were rephrased according to the digital context. To test the items' reliability and validity, five-point Likert scales were used, ranging between 1—"strongly disagree" to 5—"strongly agree".

**Digital technology**—for the measurement of digital technology, a four-item scale was used, which was adapted from [45]. This construct measures digital transformation support in response to challenges related to designing the latest products/services. An example statement is: "Our firm designs innovative processes and inventive services using digital technologies".

**AIS**—AIS was measured through a six-item scale that was adapted from [46]. This variable measured how accounting data and procedures help in decision-making and internal controls. A sample item is: "Data storage contributes to the integrity of the financial reporting process".

**Digital innovation**—to measure digital innovation, a six-item scale was used, which was adapted from [47]. This construct measured how digital innovation transforms business models into digital businesses via the latest technologies. A sample statement is: "Some of our digital solutions are new to the market at the time of launch".

**Strategic performance**—for the measurement of strategic performance, a four-item scale was used, which was adapted from [48]. This construct measured firms' policies, strategic objectives, and plans that help in the overall achievement of their goals. An example item is: "Our firm is responding to challenges created by competitors".

Details about the questionnaire structure are presented in Appendix A.

## 4. Analysis and Results

### 4.1. Correlation Results

Table 1 shows the results of correlations for the studied variables.

**Table 1.** Correlation results.

Variables	M.Value	S-Deviation	1	2	3	4	5	6
1 Education	2.48	0.910	1.00					
2 Experience	3.12	0.719	0.08	1.00				
3 Digital Technology	3.58	0.627	0.06	0.09	1.00			
4 AIS	3.64	0.110	0.09	0.016	0.012	1.00		
5 Digital Innovation	3.14	0.132	0.014	0.011	0.014	24 **	1.00	
6 Strategic Performance	3.54	0.808	0.011	0.013	32 **	26 **	34 **	1.00

Note: \*\*  $p < 0.005$ . Source: Authors' computation.

#### 4.2. Hypothesis Testing

Firstly, this study examined the affiliation results as we aimed to learn whether the connection between the constructs' correspondence was negative or positive. Table 1 displays the results of the correlation and mean values. Table 1 analytically proves that all variables are affirmative and correlated at a level of 1% significant values. The values of the correlation results show that digital technology is significantly linked to strategic performance ( $\beta = 0.32$  \*\*,  $p$  value = 0.000) and AISs were also positively associated with SP ( $\beta = 26$  \*\*,  $p$  value = 0.000). The results of digital innovation and strategic performance were significantly related ( $\beta = 34$  \*\*,  $p$  value = 0.000).

These confirm that Hypothesis 1—Digital technology is positively related to strategic performance—is accepted.

#### 4.3. Estimated Model

Our proposed estimated model contained digital technology (DT), AIS, digital innovation (DI), and strategic performance (SP). The measurement was evaluated by applying a confirmatory factor analysis (CFA). All the items showed a positive association with their particular variables. The satisfactory values of the ratio  $\chi^2 = 1035.75$ ,  $Df = 475$ ,  $\chi^2/Df = 2.181$ , GFI = 0.92, and CFI = 0.93 showed that the measurement model is suitable for the data. Table 2 presents the Cronbach's alpha, the average variance extracted, and the discriminant validity.

**Table 2.** Hypothesis testing.

Hypothesis Detail	Effects	Coefficient	Remarks
(H1) DT → Strategic performance	+	0.32 **	Accepted
(H2) DT → AIS	+	0.26 **	Accepted
(H3) AIS → Strategic performance	+	0.34 **	Accepted

\*\*  $p < 0.1$ . + shows positive effect.

The average variance extract results show that all values are not lower than 0.5; our results achieve the standards of Fornell and Larcker [49]. The results show that all the values of the Cronbach's alpha and composite reliability (CR) are higher than 0.70 and are adequate. Thus, the scales established adequate levels of discriminant validity and convergent control. The Cronbach alpha ( $\alpha$ ) > 0.70. After checking the convergent and discriminant validity, we continued with the structural model.

#### 4.4. Hypothesis Testing (Direct and Indirect Effect)

The direct association of digital technology with strategic performance was identified in structural model no 1 [50]. The results (Table 3) prove that there was a significant positive connection between digital technology and strategic performance ( $\beta = 0.34$ ,  $p < 0.001$ ); hence, H1 was accepted.

**Table 3.** Discriminant, Convergent, and Reliability Results.

Variables Detail	1	2	3	Cronbach' Alpha	AVE	CR
1 Digital Technology	0.7			0.78	0.58	0.92
2 AIS	0.4	0.8		0.84	0.65	0.96
3 Digital Innovation	0.5	0.3	0.4	0.86	0.62	0.94
4 Strategic Performance	0.3	0.7	0.6	0.82	0.57	0.96

Note: Results of AVE, CR, and Cronbach alpha. Source: Authors' computation.

The mediating role of AISs was also introduced in the relationship between digital technology and strategic performance using bootstrapping by selecting a sample size of 1000, according to an elaboration by [51–53]. After uncovering the role of AISs as mediating factors between DT and SP, their values became significantly positive ( $\beta = 0.016$ , L.L = 0.08, U.U = 0.28); hence, H2 was accepted. To examine the testing of the hypothesis, we used the technique of structural equation modeling [50,51]. Table 4 shows results of direct and indirect effect.

**Table 4.** Direct and Indirect Effect.

Parameters Measurements	$\beta$	L.L	U.P
Standardized Direct Effects			
Digital Technology $\rightarrow$ SP	0.34 *	0.18	0.46
<b>Standardized Indirect Effect</b>			
Digital Technology $\rightarrow$ AIS $\rightarrow$ SP	0.16 *	0.08	0.28

Source: Authors' computation, \* = significant

CFA analysis was used to examine the model's fitness. The discriminant validity and convergent validity were accepted. The factor loading (FL) > 0.70. We also applied Fornell and Larcker's [49] technique, which was used to check the AVE, and the results show that the AVE > 0.50, and that the value of Cronbach's alpha was higher than 0.70.

#### 4.5. Moderating Role of Digital Innovation between Digital Technology and Strategic Performance

H3 proposed that digital innovation acts as a moderator between digital technology and strategic performance. To examine H3, a multiple moderated regression analysis was used in Step 3 to examine the relationship between DT and IP; all of the values showed the significant role of DT and IP on SP in Table 5.

**Table 5.** Results of FL, AVE, CR, and Alpha.

Constructs	FL	AVE	CR	$\alpha$
Digital Technology	0.84 to 0.88	0.76	0.6	0.86
AIS	0.84 to 0.88	0.78	0.6	0.88
Digital Innovation	0.84 to 0.88	0.72	0.6	0.84
Strategic Performance	0.84 to 0.88	0.74	0.6	0.87

Source: Authors' computation.

The results show that the combined effect of DT-DI ( $\beta = 0.28$ ,  $p \leq 0.001$ ) on IP is positive and significant ( $p =$  less than 0.05). The results proved that DI strengthens the relationship between DT and SP; therefore, H3 is proven in Table 6 is shown moderating effect.



**Table 6.** Hierarchal regression results for the moderating effect of digital innovation.

Detail	Strategic Performance					
	$\beta$	T Value	$\beta$	T Value	$\beta$	T Value
<i>Step 1</i>						
Respondent education	0.14	0.3	0.8	0.11	1.02	1.32
Respondent experience	0.16	0.26	0.19	0.92	0.04	0.16
<i>Step 2</i>						
Digital technology			0.32 *	7.86	0.38 *	3.72
Digital innovation			0.32 *	5.48	0.36 *	4.65
<i>Step 3</i>						
DTxDI					0.28 **	2.28
F		4.18 **		18.45 *		18.52 *
R <sup>2</sup>		0.02		0.24		0.28
R <sup>2</sup>				0.22		0.02

Notes: \* $p < 0.0001$ , \*\* $p < 0.05$  (two tailed). Results of VIF were below the threshold level. Source: Authors' computation.

## 5. Discussion

This study was carried out with three objectives; first, the study investigated the direct influence of digital technology on strategic performance, and second, it aimed to examine the mediating role of AISs in the correlation between digital technology and strategic performance. Finally, this research discovered digital innovation moderation in the association between digital technology and strategic performance in the context of electronics firms in Pakistan. This study proposed a model that was tested to achieve the study objectives as well as to answer the research questions. The outcomes provide practical evidence supporting the claim that the conceptual model fulfils all of the hypotheses. Through empirical testing, the following three points with scholarly implications were primarily obtained.

Firstly, through empirical analysis, it was proven that digital technology has a positive influence on strategic performance, which is congruent with the findings of existing studies in the advanced era of the digital economy wherein every business needs to be digitalized, and industries are facing challenges with digital upgrading [23]. Digital technologies represent a firm's capacity to employ IT machinery to successfully manage information that should overcome costs and improve performance through the efficient management of resources, which guides enhanced strategic performance [24].

Secondly, digital technology has an improved positive impact on strategic performance through the mediation of AIS. Therefore, AISs are critical for firms rather than digital technology. The outcomes show that AISs mediate the linkage between digital technology and strategic performance. Therefore, H2 was supported by answering whether AISs are critical mediators and driving factors of digital technology and strategic performance. This study's most significant finding is consistent with prior study outcomes that show that digital technology is considered a critical mechanism in firms that support the designing of AISs that are essential for the efficiency of decision management, organizational funds, and time control [31]. The successful execution of AISs could generate value and assess enterprises' precedent performance and help formulate future plans that lead toward strong strategic performance [32].

Lastly, RQ3 was tested. The findings show that digital innovation plays a moderating role in the linkage between digital technology and strategic performance. Therefore, H3 is supported by answering the third study query testing whether digital innovation translates DT into enhanced strategic performance. The outcomes with respect to the moderating role of digital technology in the current research show that businesses that are devoted to utilizing digital technology and enhancing their ability to enhance and administer digital technologies are better able to design inventive digitalized solutions that in turn enhance their strategic performance. In particular, electronics firms, wherein technologies are rapidly changing and products are becoming obsolete, require the nurturing

of a digitally oriented culture to act in response to the latest technological transformations to maintain their competitiveness. The results of this study are congruent with the findings of prior studies in which firms mostly used digital technologies to give support for executive decisions and adopted digital innovation that enhanced strategic business performance [40]. Firms used digital technologies to compare information regarding present performance to prior periods, budgets, and forecasts and other standards to determine the degree to which objectives and ideas were being achieved and the extent to which unexpected outcomes or unusual situations that needed to be addressed were being recognized to enhance strategic performance [41]. Likewise, management is principally responsible for recognizing compliance risks and using digital innovation techniques for designing, monitoring, and implementing interior control systems [42]. Specifically, the significant moderating impact of digital innovation provides evidence that innovation is influential in interpreting digital technology and transforming it into better strategic performance. Overall, the outcomes of this study emphasize that the digitalization strength of an organization should be influenced by digital innovation, which could alternatively boost business strategic performance.

### *5.1. Theoretical Implications*

This research contributes to the literature the following theoretical implications. Firstly, for businesses, it is essential to focus on the adoption of digital technology and to understand its significant impact in order to provide solutions and help in the digitalization of firms in different industries. Theoretically, this paper provides a better understanding of the digital technologies that contribute to strategic performance. With respect to research directions, various scholars noted that digital technology provides strategic and innovative frameworks that could be further expanded through future studies. Secondly, firms also need to focus on the impacts of digital technology that predict strategic performance through the use of AIS tools in an organization. Using the technological development within the explosion of digital transformation (for instance: big data, the IoT, cloud computing, and AI), enterprises can realize the advancement of their resources through local-to-worldwide optimization, business synergy in an enterprise designed for growth of the business chain, and the advancement of competition from single-venture competition to ecological-unit competition. Lastly, current research adds significantly to knowledge surrounding digital innovation by filling the gap in existing studies and offering an opportunity for future studies to expand this research model. Additionally, this paper's findings might be a good resource for SMEs with the aim of analyzing technological necessities and product requirements to stay at the forefront of technological advancement while developing business culture, approaches, and strategies, which must be directed toward digital transformation regarding novel digital demands. Prominently, SMEs need to support client firms to extract actual business significance from technological solutions as numerous business organizers have begun identifying the value of digital solutions for their enterprises, but they can be debilitated in tactically running digitalization practices to generate innovative value.

### *5.2. Practical Implications*

This study contributes to a better practical understanding of management, policymakers, and scholars in the following ways. Firstly, our study adds to firms' knowledge in parallel industries by highlighting the critical need to adopt emerging digital technologies and increase AIS capabilities to improve their strategic performance. Secondly, strategic performance can help obtain the benefits of technical opportunities to boost levels of innovation through the mediation of AIS digital solutions. Thus, this study suggests that firms should design AISs to enhance their strategic performance via antecedent digital technology. Thirdly, more organizations should recognize the potential advantages of innovation and understand how it could drive change so that businesses will more likely utilize such innovation.

Moreover, this study could be applied to various digital transformations adopted by companies, such as AI or IoT, and such companies can estimate the impact of these and similar digital transformations on their performance and the efficiency of their investments in infrastructure and human resources. AI can use information from AISs for decision making [54], which can stimulate the transition from financial accounting to managerial accounting [55]. The integration of AI and AISs is studied from the perspective of the managerial performance of the company [56,57]. AI can impact the audit procedure and performance as well, since raw data are extracted from AIS databases [58]. The IoT has impacted the AIS, and there have been consistent changes [59–62]. The block-chain era opens a new research window for AIS [63,64]. Thus, any digital innovations or development adopted by companies could be integrated with AISs and will be reflected in company performance. This study could be used to evaluate the impact of each digital technology adopted or the summative effect moderated through AIS.

### 5.3. Limitations and Future Directions

This study has the following drawbacks that need to be addressed in future studies. Firstly, in this research, we used quantitative methods and data collected from a relatively small sample size from SMEs in Pakistan. It is essential to examine the linkage between digital technology, AISs, digital innovation, and strategic performance by increasing the number of samples. Secondly, this research was carried out on electronics SMEs. In future studies, research should be conducted in diverse sectors such as cross-cultural environments, nations, and regions. Thirdly, our research focused on just two critical technological aspects, i.e., digital technology and digital innovation. This shortcoming provides an opportunity for future studies to investigate other potential technology-related drivers of innovation. Cross-country resilience and readiness studies and the human capital implication in digital transformation will offer a broader perspective [65,66]. Finally, due to the limited literature review and methodology conducted, it is essential for future studies to strengthen their literature reviews and methodologies and for them to explain answers to their research questions more accurately.

## 6. Conclusions

This research discussed the mechanism by which digital technology influences strategic performance, i.e., AISs and digital innovation. In this study, three hypotheses were tested to assess the influence of digital technology, AISs, and digital innovation on strategic performance. In H1, the direct relationship between digital technology and strategic performance was examined. In H2, the indirect impact of AISs in the relationship between digital technology and strategic performance was explored. Additionally, in H3, this study identified how digital innovation strengthens the relationship between DT and strategic performance.

In the current digital era, all around the world, strategic performance is crucial for businesses and particularly for electronic firms. This model fits all businesses because all businesses are activated in the digital age, and thus digital transformation is necessary to support the achievement of strategic performance. Therefore, the proposed model in this paper could be used to evaluate the strategic performance and the impact of digitalization (in our case, AIS) for SMEs in any domain.

**Author Contributions:** Conceptualization, A.A.N. and O.O.; methodology, A.A.N.; software, A.G.; validation, A.G. and A.A.N.; formal analysis, O.O.; investigation, M.H. and O.O.; resources, A.G.; data curation Z.Y.; writing—original draft preparation, Z.Y. and A.G.; writing—review and editing, A.A.N., M.H. and O.O.; visualization, M.H. and Z.Y.; supervision, A.A.N. and A.G.; project administration, Z.Y.; funding acquisition, O.O. All authors have read and agreed to the published version of the manuscript.

**Funding:** Researchers Supporting Project number (RSP2023R87), King Saud University, Riyadh, Saudi Arabia.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of GCMS and FNO-3435-6554 dated 2 November 2022.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Data is available upon request.

**Acknowledgments:** Researchers Supporting Project number (RSP2023R87), King Saud University, Riyadh, Saudi Arabia.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

Variables	Items	Constructs
Digital technology	DT1	Our firm engages in practices that support in the implementation of latest digital technologies.
	DT2	Our firm seeks out new digital opportunities.
	DT3	Our firm responding to the modern digital transformation.
	DT4	Our firm design innovative processes and inventive services using digital technologies.
AIS		The Data storage contributes to the integrity of the financial reporting process
		The Data storage in sufficient details to accurately and fairly reflect company asset
	AIS1	The implementation of Data collection could save shareholder's money and time
	AIS2	Data processing has capable of making a difference in a decision by helping managers to form
	AIS3	predictions about the outcomes of past, present, and future events to evaluate financial
	AIS4	performance in organization.
	AIS5	Data processing caused the improvement of the quality of the financial reports and facilitated
	AIS6	the process of the company's transactions
		The automated data collection speed up the process to generate financial statements and
		overcome human weaknesses in data processing
Digital innovation	DI1	The quality of our digital solutions is superior compared to our competitors'
	DI2	The features of our digital solutions are superior compared to our competitors'
	DI3	The applications of our digital solutions are totally different from our competitors'
	DI4	Our digital solutions are different from our competitors' in terms of product platform
	DI5	Our new digital solutions are minor improvements of existing products
	DI6	Some of our digital solutions are new to the market at the time of launching
Strategic performance		Our Firm ...
	SP1	Gaining a foothold in the industry,
	SP2	Increasing awareness of the firm and brand,
	SP3	Responding to challenges created by competitors,
	SP4	Achieve financial performance.

## References

1. Evangelista, R.; Guerrieri, P.; Meliciani, V. The economic impact of digital technologies in Europe. *Econ. Innov. New Technol.* **2014**, *23*, 802–824. [\[CrossRef\]](#)
2. Govindarajo, N.S.; Kumar, D.; Shaikh, E.; Kumar, M.; Kumar, P. Industry 4.0 and business policy development: Strategic imperatives for SME performance. *Etikonomi* **2021**, *20*, 239–258. [\[CrossRef\]](#)
3. Ardolino, M.; Rapaccini, M.; Saccani, N.; Gaiardelli, P.; Crespi, G.; Ruggeri, C. The role of digital technologies for the service transformation of industrial companies. *Int. J. Prod. Res.* **2018**, *56*, 2116–2132. [\[CrossRef\]](#)
4. Matt, C.; Hess, T.; Benlian, A. Digital transformation strategies. *Bus. Inf. Syst. Eng.* **2015**, *57*, 339–343. [\[CrossRef\]](#)
5. Kraus, S.; Jones, P.; Kailer, N.; Weinmann, A.; Chaparro-Banegas, N.; Roig-Tierno, N. Digital transformation: An overview of the current state of the art of research. *Sage Open* **2021**, *11*, 21582440211047576. [\[CrossRef\]](#)
6. Khan SA, R.; Zia-Ul-Haq, H.M.; Umar, M.; Yu, Z. Digital technology and circular economy practices: An strategy to improve organizational performance. *Bus. Strategy Dev.* **2021**, *4*, 482–490. [\[CrossRef\]](#)
7. Trendov, M.; Varas, S.; Zeng, M. Digital technologies in agriculture and rural areas: Status report. In *Digital Technologies in Agriculture and Rural Areas: Status Report*; FAO: Rome, Italy, 2019. Available online: <https://www.cabdirect.org/cabdirect/abstract/20198400418> (accessed on 20 November 2022).
8. Hla, D.; Teru, S.P. Efficiency of accounting information system and performance measures. *Int. J. Multidiscip. Curr. Res.* **2015**, *3*, 976–984.

9. Latifah, L.; Setiawan, D.; Aryani, Y.A.; Rahmawati, R. Business strategy–MSMEs’ performance relationship: Innovation and accounting information system as mediators. *J. Small Bus. Enterp. Dev.* **2021**, *28*, 1–21. [\[CrossRef\]](#)
10. Gofwan, H. Effect of Accounting Information System on Financial Performance of Firms: A Review of Literature. Department of Accounting (bingham University)-2nd Departmental Seminar Series with the Theme–History of Accounting Thoughts: A Methodological Approach. 2022, Volume 2. No. 1. Available online: <http://localhost:8080/xmlui/handle/123456789/807> (accessed on 20 November 2022).
11. Tsou, H.T.; Chen, J.S. How does digital technology usage benefit firm performance? Digital transformation strategy and organisational innovation as mediators. *Technol. Anal. Strateg. Manag.* **2022**, 1–14. [\[CrossRef\]](#)
12. Fitzgerald, M.; Kruschwitz, N.; Bonnet, D.; Welch, M. Embracing digital technology: A new strategic imperative. *MIT Sloan Manag. Rev.* **2014**, *55*, 1. [\[CrossRef\]](#)
13. Yoo, Y.; Lyytinen, K.J.; Boland, R.J.; Berente, N. The next wave of digital innovation: Opportunities and challenges: A report on the research workshop ‘Digital Challenges in Innovation Research’. *SSRN Electron. J.* **2010**. [\[CrossRef\]](#)
14. Astuti, W.A.; Augustine, Y. The effect of digital technology and agility on company performance with management accounting system as mediation. *Int. J. Res. Appl. Technol.* **2022**, *2*, 11–29. [\[CrossRef\]](#)
15. Liu, S.; Wang, L. Understanding the impact of risks on performance in internal and outsourced information technology projects: The role of strategic importance. *Int. J. Proj. Manag.* **2014**, *32*, 1494–1510. [\[CrossRef\]](#)
16. Mithas, S.; Rust, R.T. How information technology strategy and investments influence firm performance. *Mis Q.* **2016**, *40*, 223–246. [\[CrossRef\]](#)
17. Hann, I.H.; Hui, K.L.; Lee, S.Y.T.; Png, I.P. Overcoming online information privacy concerns: An information-processing theory approach. *J. Manag. Inf. Syst.* **2007**, *24*, 13–42. [\[CrossRef\]](#)
18. Li, Y.; Dai, J.; Cui, L. The impact of digital technologies on economic and environmental performance in the context of industry 4.0: A moderated mediation model. *Int. J. Prod. Econ.* **2020**, *229*, 107777. [\[CrossRef\]](#)
19. Wang, H.; Feng, J.; Zhang, H.; Li, X. The effect of digital transformation strategy on performance: The moderating role of cognitive conflict. *Int. J. Confl. Manag.* **2020**, *31*, 441–462. [\[CrossRef\]](#)
20. Guo, H.; Wang, C.; Su, Z.; Wang, D. Technology push or market pull? Strategic orientation in business model design and digital start-up performance. *J. Prod. Innov. Manag.* **2020**, *37*, 352–372. [\[CrossRef\]](#)
21. Abudaqa, A.; Alzahmi, R.A.; Almujaani, H.; Ahmed, G. Does innovation moderate the relationship between digital facilitators, digital transformation strategies and overall performance of SMEs of UAE? *Int. J. Entrep. Ventur.* **2022**, *14*, 330–350. [\[CrossRef\]](#)
22. DiRomualdo, A.; El-Khoury, D.; Girimonte, F. HR in the digital age: How digital technology will change HR’s organization structure, processes and roles. *Strateg. HR Rev.* **2018**, *17*, 234–242. [\[CrossRef\]](#)
23. Spremic, M. Governing digital technology–how mature IT governance can help in digital transformation? *Int. J. Econ. Manag. Syst.* **2017**, *2*, 214–223.
24. Napoli, F. Corporate Digital Responsibility: A Board of Directors May Encourage the Environmentally Responsible Use of Digital Technology and Data: Empirical Evidence from Italian Publicly Listed Companies. *Sustainability* **2023**, *15*, 2539. [\[CrossRef\]](#)
25. Grigorescu, A.; Lincaru, C.; Pirciog, S.; Tudose, G. Strategical focus for change path to digital transformation in Romania–study case GIS open e-governance systems applications. In *Strategica. Challenging the Status Quo in Management and Economics*; Brătianu, C., Zbucnea, A., Vitelar, A., Eds.; Tritonic: Romania, Bucharest, 2018; pp. 1163–1174, ISSN 2392-702X, ISBN 978-606-749-365-8. Available online: <https://strategica-conference.ro/wp-content/uploads/2022/05/99.pdf> (accessed on 20 January 2023).
26. Nasiri, M.; Ukko, J.; Saunila, M.; Rantala, T.; Rantanen, H. Digital-related capabilities and financial performance: The mediating effect of performance measurement systems. *Technol. Anal. Strateg. Manag.* **2020**, *32*, 1393–1406. [\[CrossRef\]](#)
27. Bughin, J.; Kretschmer, T.; van Zeebroeck, N. Digital technology adoption drives strategic renewal for successful digital transformation. *IEEE Eng. Manag. Rev.* **2021**, *49*, 103–108. [\[CrossRef\]](#)
28. Ali, B.J.; Omar, W.A.W.; Bakar, R. Accounting Information System (AIS) and organizational performance: Moderating effect of organizational culture. *Int. J. Econ. Commer. Manag.* **2016**, *4*, 138–158.
29. Budiarto, D.S.; Prabowo, M.A. Accounting information systems alignment and SMEs performance: A literature review. *Int. J. Manag. Econ. Soc. Sci.* **2015**, *4*, 58.
30. Asonitou, S. Technologies to Communicate Accounting Information in the Digital Era: Is Accounting Education Following the Evolutions. In *Strategic Innovative Marketing and Tourism: 8th ICSIMAT, Northern Aegean, Greece*; Springer International Publishing: Berlin/Heidelberg, Germany, 2019; pp. 187–194. [\[CrossRef\]](#)
31. Saganuwan, M.U.; Ahmad, U.N.U. Technostress: Mediating accounting information system performance. *Inf. Manag. Bus. Rev.* **2013**, *5*, 270–277. [\[CrossRef\]](#)
32. Kareem, H.M.; Dauwed, M.; Meri, A.; Jarrar, M.T.; Al-Bsheish, M.; Aldujaili, A.A. The role of accounting information system and knowledge management to enhancing organizational performance in Iraqi SMEs. *Sustainability* **2021**, *13*, 12706. [\[CrossRef\]](#)
33. Daoud, H.; Triki, M. Accounting information systems in an ERP environment and Tunisian firm performance. *Int. J. Digit. Account. Res.* **2013**, *13*, 1–35. [\[CrossRef\]](#)
34. Ramli, I.; Iskandar, D. Control authority, business strategy, and the characteristics of management accounting information systems. *Procedia-Soc. Behav. Sci.* **2014**, *164*, 384–390. [\[CrossRef\]](#)



35. Al-Waeli, A.J.; Hanoon, R.N.; Ageeb, H.A.; Idan, H.Z. Impact of accounting information system on financial performance with the moderating role of internal control in Iraqi industrial companies: An analytical study. *J. Adv. Res. Dyn. Control Syst.* **2020**, *12*, 246–261. [\[CrossRef\]](#)
36. Hinings, B.; Gegenhuber, T.; Greenwood, R. Digital innovation and transformation: An institutional perspective. *Inf. Organ.* **2018**, *28*, 52–61. [\[CrossRef\]](#)
37. Di Vaio, A.; Palladino, R.; Pezzi, A.; Kalisz, D.E. The role of digital innovation in knowledge management systems: A systematic literature review. *J. Bus. Res.* **2021**, *123*, 220–231. [\[CrossRef\]](#)
38. Khin, S.; Ho, T.C. Digital technology, digital capability and organizational performance: A mediating role of digital innovation. *Int. J. Innov. Sci.* **2018**, *11*, 177–195. [\[CrossRef\]](#)
39. Shen, L.; Zhang, X.; Liu, H. Digital technology adoption, digital dynamic capability, and digital transformation performance of textile industry: Moderating role of digital innovation orientation. *Manag. Decis. Econ.* **2022**, *43*, 2038–2054. [\[CrossRef\]](#)
40. Hanelt, A.; Firk, S.; Hildebrandt, B.; Kolbe, L.M. Digital M&A, digital innovation, and firm performance: An empirical investigation. *Eur. J. Inf. Syst.* **2021**, *30*, 3–26. [\[CrossRef\]](#)
41. Rêgo, B.S.; Jayantilal, S.; Ferreira, J.J.; Carayannis, E.G. Digital transformation and strategic management: A systematic review of the literature. *J. Knowl. Econ.* **2021**, *13*, 3195–3222. [\[CrossRef\]](#)
42. Zhe, B.O.M.; Hamid, N.A. The impact of digital technology, digital capability and digital innovation on small business performance. *Res. Manag. Technol. Bus.* **2021**, *2*, 499–509.
43. Langfield-Smith, K.; Thorne, H.; Hilton, R.W. *Management Accounting: Information for Creating and Managing Value*; McGraw-Hill Education: Sydney, Australia, 2018. Available online: <https://pdfuni.com/sample/Accounting/AC101-200/AC174/sample%EF%BC%8DManagement%20Accounting%207th%207E%20Kim%20Langfield-Smith.pdf> (accessed on 20 January 2023).
44. Usai, A.; Fiano, F.; Petruzzelli, A.M.; Paoloni, P.; Briamonte, M.F.; Orlando, B. Unveiling the impact of the adoption of digital technologies on firms' innovation performance. *J. Bus. Res.* **2021**, *133*, 327–336. [\[CrossRef\]](#)
45. Mannheim, I.; Wouters, E.J.; van Boekel, L.C.; van Zaaen, Y. Attitudes of health care professionals toward older adults' abilities to use digital technology: Questionnaire study. *J. Med. Internet Res.* **2021**, *23*, e26232. [\[CrossRef\]](#)
46. Soudani, S.N. The usefulness of an accounting information system for effective organizational performance. *Int. J. Econ. Financ.* **2012**, *4*, 136–145. [\[CrossRef\]](#)
47. Paladino, A. Investigating the drivers of innovation and new product success: A comparison of strategic orientations. *Prod. Innov. Manag.* **2007**, *24*, 534–553. [\[CrossRef\]](#)
48. Khattak, A.; Yousaf, Z. Digital social responsibility towards corporate social responsibility and strategic performance of hi-tech SMEs: Customer engagement as a mediator. *Sustainability* **2022**, *14*, 131. [\[CrossRef\]](#)
49. Fornell, C.; Lacker, D.F. Structural equation models with unobservable variables and measurement error: Algebra and Statistics. *J. Mark. Res.* **1981**, *18*, 382–388. [\[CrossRef\]](#)
50. Ringle, C.; da Silva, D.; Bido, D. Structural Equation Modelling with the SmartPLS Brazilian. *J. Mark.* **2014**, *13*, 56–73.
51. Henseler, J.; Ringle, C.M.; Sinkovics, R.R. The use of partial least squares path modeling in international marketing. In *New Challenges to International Marketing (Advances in International Marketing, Volume 20)*; Sinkovics, R.R., Ghauri, P.N., Eds.; Emerald Group Publishing Limited: Bingley, UK, 2009; pp. 277–319. [\[CrossRef\]](#)
52. Hair, J.F.; Ringle, C.M.; Sarstedt, M. PLS-SEM: Indeed a silver bullet. *J. Mark. Theory Pract.* **2011**, *19*, 139–151. [\[CrossRef\]](#)
53. Qazi, W.; Qureshi, J.A.; Raza, S.A.; Khan, K.A.; Qureshi, M.A. Impact of personality traits and university green entrepreneurial support on students' green entrepreneurial intentions: The moderating role of environmental values. *J. Appl. Res. High. Educ.* **2020**, *in press*. [\[CrossRef\]](#)
54. Sun, T. Accounting Information Systems outputs: XBRL, AI and in-memory technologies. In *The Routledge Companion to Accounting Information Systems*; Routledge: London, UK, 2017; pp. 108–119.
55. Weimei, C. On the transition from financial accounting to management accounting in the era of artificial intelligence. *J. Front. Educ. Res.* **2021**, *1*, 171–175.
56. Chowdhury, E.K. Integration of Artificial Intelligence Technology in Management Accounting Information System: An Empirical Study. In *Novel Financial Applications of Machine Learning and Deep Learning*; Abedin, M.Z., Hajek, P., Eds.; International Series in Operations Research & Management Science; Springer: Cham, Switzerland, 2023; Volume 336. [\[CrossRef\]](#)
57. Rainer, R.K.; Prince, B. *Introduction to Information Systems*; Chapter Artificial intelligence; John Wiley & Sons: Hoboken, NJ, USA, 2021; pp. 420–487.
58. Kokina, J.; Davenport, T.H. The emergence of artificial intelligence: How automation is changing auditing. *J. Emerg. Technol. Account.* **2017**, *14*, 115–122. [\[CrossRef\]](#)
59. Cao, H.; Zhu, Z. Research on future accounting information system in the internet of things era. In Proceedings of the 2012 IEEE International Conference on Computer Science and Automation Engineering, Zhangjiajie, China, 25–27 May 2012; IEEE: New York, NY, USA, 2012; pp. 741–744.
60. Qiu, F. Overall Framework Design of an Intelligent Dynamic Accounting Information Platform Based on the Internet of Things. *Int. J. Online Eng.* **2016**, *12*, 14–16. [\[CrossRef\]](#)
61. Van Niekerk, A.; Rudman, R. Risks, controls and governance associated with internet of things technologies on accounting information. *S. Afr. J. Account. Audit. Res.* **2019**, *21*, 15–30.

62. Li, X. Optimization of accounting information system for enterprises in smart city by intelligent sensor under the internet of things. *Wirel. Commun. Mob. Comput.* **2022**, *2022*, 6205940. [[CrossRef](#)]
63. Wu, J.; Xiong, F.; Li, C. Application of Internet of Things and blockchain technologies to improve accounting information quality. *IEEE Access* **2019**, *7*, 100090–100098. [[CrossRef](#)]
64. Fullana, O.; Ruiz, J. Accounting information systems in the blockchain era. *Int. J. Intellect. Prop. Manag.* **2021**, *11*, 63–80. [[CrossRef](#)]
65. Grigorescu, A.; Pelinescu, E.; Ion, A.E.; Dutcas, M.F. Human capital in digital economy. Empirical analysis of Central and Eastern European Countries from European Union. *Sustainability* **2021**, *13*, 2020. [[CrossRef](#)]
66. Lincaru, C.; Pirciog, S.; Grigorescu, A.; Tudose, G. Low-Low (LL) High Human Capital Clusters in Public Administration Employment–Predictor for Digital Infrastructure Public Investment Priority-Romania Case Study. *Int. J. Entrep. Sustain. Issues* **2018**, *6*, 729–753. [[CrossRef](#)] [[PubMed](#)]

**Disclaimer/Publisher’s Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.