The Influence of Accounting Information System on the Quality of Decision-Making: Evidence from Jordan

Ahmad Farhan Alshira'h,

Accounting Department, Faculty of Administrative and Financial Sciences, Irbid National University, Irbid, Jordan; Email: alshraah.ahmad@yahoo.com

Abstract: The purpose of this research is to investigate the influence of accounting information systems on decision-making quality. To measure the data acquired, a quantitative technique was used via questionnaires. A questionnaire was utilized to collect information from her 157 medium-sized business owners and managers who were familiar with the usage of AIS. This study also used Smart Partial Least Squares Structural Equation Modeling (Smart PLS-SEM) and data analysis to evaluate the hypothesis. Accounting information systems impact the quality of decision making, according to PLS-SEM research.

Keywords: Accounting Information System, Jordanian SMEs, Decision-making,

1. Introduction

Manual accounting techniques have fallen short of addressing the information demands of the decision-making process as information technology (IT) improves (Al-Okaily, Alqudah, Matar, Lutfi, & Taamneh, 2020; Alsyouf et al., 2022). In general, firms all over the world realize the importance of an Accounting Information System (AIS) in order to fulfill their business and strategic objectives(Almaiah, Ayouni, et al., 2022; Lutfi, Alsyouf, et al., 2022). An AIS is traditionally defined as a computerized system that gathers, inputs, and processes accounting data as well as stores, maintains, regulates, and reports accounting information that may be utilized for a variety of functions such as planning and decision making(Abdalwali Lutfi et al., 2023). The system is critical in the processing of non-financial and financial transactions, and it generates high-quality data for managing, planning, controlling, monitoring, coordinating, and analyzing corporate activities(Lutfi, Al-Khasawneh, Almaiah, Alsyouf, & Alrawad, 2022).Furthermore, the system saves organizational expenses, improves business process efficiency, delivers on-demand, trustworthy real-time data, global knowledge and innovative reporting capabilities, and enables integration and cooperation across risk areas and business processes (Al-Okaily, Lutfi, Alsaad, Taamneh, & Alsyouf, 2020; Almaiah, Alhumaid, et al., 2022).

The use of AIS as an information system (IS) is critical for successful service delivery, higher efficiency, decision support, and better management(Lutfi, Al-Okaily, Alsyouf, & Alrawad, 2022; Lutfi, Alkelani, Al-Khasawneh, et al., 2022). In summary, AIS applications are critical for adapting and developing best practices. Managers (decision makers) require accounting information from AIS in order to plan and anticipate the company's future strategic goals (M. H. Alshirah, Alshira'h, & Lutfi, 2022; Lutfi, Al-Okaily, Alsyouf, Alsaad, & Taamneh, 2020). The successful and effective use of AIS is critical to achieving corporate objectives and performance. As a result, accounting information must be meaningful, of high quality, and relevant to the decision-making process for successful decision-making(Lutfi, 2022a).SMEs throughout the world are now facing issues such as excessive expenses and insufficient resources, however based on the current business climate, SMEs have a lower risk exposure than their bigger rivals. at the top of the list. In other words, in competitive, knowledge-driven business settings(A. F. Alshira'h, M. d. Alsqour, A. Lutfi, A. Alsyouf, & M. Alshirah, 2020; Malek Alshirah et al., 2021; Lutfi, 2021), SMEs are more likely to fail(Lutfi, 2020b). According to related research smaller enterprises are more likely to fail in their first five years of existence, that the employment rate and national income are vulnerable to these impacts (Alshira'h, Al-Shatnawi, Al-Okaily, Lutfi, & Alshirah, 2021;Lutfi, Al-Khasawneh, Almaiah, Alshira'h, Alshirah, Alsyouf, Alrawad, Al-Khasawneh, Saad, & Ali, 2022;Lutfi, Alkelani, Alqudah, et al., 2022). The failure of small and medium-sized businesses has an impact(Lutfi, Ashraf, Watto, & Alrawad, 2022).

SMEs are also notorious for creating and shedding employees more quickly than larger corporations(M. Alshirah, Alshirah, & Lutfi, 2021). As a result, when businesses fail, many jobs are lost. Among the numerous advantages that IT provides for SMEs, the usage of IT is a must for the application of best practices, such as rapid access to accounting information, better communication, and enhanced management(Lutfi, Alkilani, et al., 2022). As its efficient accounting record and effective implementation influence the whole company process, AIS should be seen as a vital and rich source of information for accounting(Alsyouf et al., 2023). IT is definitely altering operations in all industries throughout the world, and industrialized nations have been effectively incorporating IT in their economies for years, including SMEs(A. Alshira'h, M. Alsqour, A. Lutfi, A. Alsyouf, & M. Alshirah, 2020; Lutfi, 2020a; Saad et al., 2022). Middle Eastern developing nations, on the other hand, are falling behind in implementation due to the pressing requirement for professional IT use by state-supported SMEs(Bani-Khalid, Alshira'h, & Alshirah, 2022; Lutfi, Alkelani, Al-Khasawneh, et al., 2022; Abdalwali Lutfi et al., 2023; Lutfi, Alshira'h, et al., 2022a). Jordan is now one of the Middle Eastern countries confronting accessibility, poor resource utilization, inefficient management, and inadequate AIS. As a result, regardless of AIS adoption, most developing nations, including Jordan, confront a slew of issues, including poor AIS usability, lack of usage, and

lack of usability(Lutfi, Al-Khasawneh, Almaiah, Alshira'h, Alshirah, Alsyouf, Alrawad, Al-Khasawneh, Saad, & Ali, 2022).Jobs may also suffer as many benefits promises are broken and employees remain unskilled and misinformed. Such challenges can impede employee performance and diminish production(Alshira'h & Abdul-Jabbar, 2019, 2020; Alshira'h, 2019; M. H. Alshirah, Alfawareh, et al., 2022), with some users finding his usage of AIS to be tough tedious, challenging, and annoying(Ananzeh, Alshirah, Alshira'h, & Al-Hazaima, 2022; Saad et al., 2022).

System difficulties can have a poor effect on usability, user performance, and productivity, all of which reduce user intent to use AIS after adoption, eventually leading to paper-based administration and information documentation. Management support is critical for AIS use since it may encourage and drive AIS adoption in SMEs(M. H. Alshirah, Abdul Rahman, Mustapa, & Alshira'h, 2020). Furthermore, knowledge and awareness of AIS, like other advances, can reduce uncertainty surrounding the adoption, implementation, and usage of AIS among administrators(Alshira'h, Abdul-Jabbar, & Samsudin, 2019). Management believe in and support for IS features decreases usability levels, while a lack of support leads to low staff morale, which eventually leads to AIS neglect (Alshira'h et al., 2019; Alshira'h, AL-Shatnawi, Alsqour, & Alshirah, 2020). Ineffective management strategies to promote recruiting behavior at various levels also reduce the overall efficacy of IS or negatively influence system utilization. can lead to repercussions. As a result, management assistance is essential(Lutfi, Alshira'h, et al., 2022b).

Current company models have been altered by general dynamic digitalization, globalization, competitiveness, and knowledge and information distribution(Alshira & Abdul-Jabbar, 2019; A. Alshirah, Magablih, & Alsqour, 2021). The contemporary technological era has resulted in substantial expenditures in the computerization of data processing in a variety of businesses(Malek Alshirah et al., 2021; Lutfi et al., 2021). These technical advancements are linked to the use of information technology (IT) and information systems. (IS). Apps and approaches that have resulted in several company conversions(Lutfi, Alkelani, Alqudah, et al., 2022). Thus, the usage of IT/IS may open up new prospects and benefits for both big and medium-sized (SME) businesses(A. F. Alshira'h, H. M. AL-Shatnawi, et al., 2020). SMEs have gotten on the corporate bandwagon in search of innovative methods to boost efficiency and stay competitive(Alshira & Abdul-Jabbar, 2019). All businesses employ computerized information systems to help them reach their goals and objectives, and all businesses require information systems(Lutfi, Alshira'h, et al., 2022b).

In particular, the accounting information system "AIS." It is the enterprise's beating heart, without which operations cannot be integrated, coordinated, or regulated(Malek Alshirah et al., 2021). AIS is a component of MIS that gathers, categorizes, acts on, and analyzes financial data to help third parties and management make educated choices(A. Alshirah et al., 2021). AIS as being interconnected in order to gather, process, and communicate information to internal and external stakeholders in order to make educated choices inside a company(M. H. Alshirah, Rahman, & Mustapa, 2020; Lutfi, 2022a). A collection of activities, records, and strategies that work together. AIS primarily serves to record events/transactions and provide data for performance evaluation, as well as to offer a comprehensive financial transaction recording and reporting procedure(Lutfi, 2022b).

Jordanian organizations have long sought to increase the capacity and efficiency of their business operations through the use of AIS. Because of the tremendous growth in the number of AIS users, the Jordanian government has offered incentives and programs to alleviate corporate resource constraints. Despite this, businesses in Jordan and other poor nations are struggling to achieve the full potential of AIS, particularly when it comes to business analysis and decision assistance. Decision modules' complexity and implementation costs. As a result, decision-makers elected to use real-time information delivery to review and analyze functional data, resulting in a successful decision-making outcome. Using AIS to facilitate efficient and effective information flow allows for more successful business choices, which leads to the attainment of company goals and objectives. As a result, as it is independent of AIS research, this study detects and examines the influence of AIS on the quality of management choices. This study investigates the influence of relationships between AIS and decision-making quality. The influence of factors on decision-making quality and how SMEs might enhance it is still unknown, and as the usage of AIS is simplified in organizations, awareness of the key chains and factors involved in enhancing decision-making quality is essential. extremely vital to the company.

2. Literature Review

2.1 Accounting Information System

An accounting information system (AIS) is a system that collects, stores, processes, and reports financial and accounting data. The primary purpose of an AIS is to provide accurate and timely financial information to decision-makers, such as managers, investors, and regulatory bodies. An AIS typically includes software, hardware, and personnel who work together to manage financial data. The system may include modules for general ledger, accounts payable, accounts receivable, payroll, and inventory management(Alqudah et al., 2022). It may also include features such as budgeting, forecasting, and financial reporting. AISs can be either manual or computerized. In a manual system, financial data is recorded and processed by hand, while in a computerized system, data is entered into a computer and processed electronically. Some of the benefits of using an AIS include-:Improved accuracy and reliability of financial data, Increased efficiency in processing financial transactions, Better control over financial

operations, Enhanced decision-making capabilities, Improved compliance with regulatory requirements(M. H. Alshirah, Abdul Rahman, & Mustapa, 2019).

An accounting information system can improve the quality of decision-making by providing timely and accurate financial information to decision-makers. The system can generate reports and analysis that help managers make informed decisions based on financial data. For example, AIS can provide financial statements, budget reports, cash flow statements, and variance analysis reports that can help managers understand the financial health of their organization and identify areas that need improvement(M Alshirah et al., 2021). Additionally, AIS can help managers track expenses, manage inventory, and monitor sales, which can help them make more informed decisions about pricing, marketing, and resource allocation. Overall, AIS can provide decision-makers with the information they need to make informed decisions that can help their organizations succeed(Lutfi, Alshira'h, et al., 2022a).

According to AIS research, the use of AIS increases the quality of financial reporting and allows optimal decision-making, while also making financial transactions and internal controls more effective(Alshira'h, Abdul-Jabbar, & Samsudin, 2018; Alshira'h et al., 2019; M. H. Alshirah, Abdul Rahman, et al., 2020; Lutfi, Alkelani, Al-Khasawneh, et al., 2022; Saad et al., 2022). IS may be measured from several viewpoints, including: Apart from that, the adoption of AIS has been shown to have a substantial influence on the quality of accounting information provided. Furthermore, the application of AIS in operations management facilitates strategic decision-making based on the accuracy of accounting information(Alshira'h, 2018). This study aims to propose a significant positive impact of AIS on the quality of decision-making as follows.

H1: Accounting Information System significantly influences the quality of decision-making.

3. Methodology

3.1 Measurement development

The hypotheses were investigated through surveys written in English and translated into Arabic. Questionnaire items from prior AIS/IS research were brought over, and metrics were retained relevant to the study setting. Furthermore, the produced questionnaire was sent to three of his AIS/IS specialists for approval, following which preliminary empirical pre-testing was carried out. Surveys should be tested, therefore such tests were performed on her four senior managers and six directors employed in Jordanian listed SMEs, particularly by those experienced with her usage of AIS(Alshira & Abdul-Jabbar, 2019). Pre-testing determines the design of the questionnaire, the clarity of the items, and the relevancy of the items(A. F. Alshira'h, H. M. AL-Shatnawi, et al., 2020). Following pre-testing, certain items were adjusted to improve survey readability. Items are scored on a Likert scale, with 1 indicating strongly disagree and 5 indicating strongly agree.

3.2 Data Collection

Decision makers using AIS were the subjects of this study, which was conducted over a period of two months (October 20, 2022 - December 12, 2022). The questionnaire was distributed online to 173 of his AIS users who are small business decision makers in Jordan. 157 of his distributed questionnaires were collected. The sample size for this study is based on the recommendations of Hwang et al. (2016) stipulated that the minimum sample size should be 10 times he of the maximum number of pathways leading to endogenous constructs. Therefore, the minimum samples required was N = 60. Therefore, the minimum sample size required according to this recommendation was N=48. The sample size was 157 responses and was considered suitable for SEM-PLS analysis (Lutfi, 2022a).

4. Analysis and Discussion

4.1 Internal Consistency Reliability

According to Hair et al. (2019), internal consistency reliability is the level at which all (sub)scale indicators are adjusted to assess the same concept. Consistent with this, the composite confidence score should be at least 0.70 and the average variance sampling (AVE) score should be greater than 0.50. (2019) (see Table 1). The calculated study variables AVE and combined reliability meet the recommended values and are higher than 0.50, indicating the reliability of the measurement model. In addition, the study also calculated Cronbach's alpha value to determine the internal consistency of the data. In this regard, the rule of thumb for alpha values (Lutfi, Al-Khasawneh, Almaiah, Alshira'h, Alshirah, Alsyouf, Alrawad, Al-Khasawneh, Saad, & Al Ali, 2022) applies (that is, $\alpha >$ -0.9 indicates good consistency, $\alpha >$ -0.8 indicates good consistency, and $\alpha > 0.7$ Tolerance indicates consistency). The Cronbach alpha value for this study met the threshold, as did the AVE and combined reliability of all variables (refer to Table 1).

Table 1. Indicator Loadings, Internal Consistency Reliability and Convergent Validity

Constructs	Cronbach's alpha	Composite reliability	AVE
AIS	0.814	0.863	0.656
Decision Making Quality	0.877	0.865	0.623

Based on the above table, Cronbach's alpha is greater than 0.70 for all variables, all showing good agreement and high reliability, and AVE values are observed as well, demonstrating the reliability of the measurement model.

4.2 Discriminant Validity

The extent to which one variable actually differs from the others is reflected by the discriminant value, which is another evaluation condition(Joseph F Hair, Risher, Sarstedt, & Ringle, 2019). It is the degree to which a particular element differentiates itself from others(Joe F Hair, Page, & Brunsveld, 2019). The higher the discriminant value, the greater the difference of the variable in encapsulating the phenomenon with respect to other variables. Therefore, this study determined the discriminant validity by taking the square root of the AVE – it must exceed the value of the correlation between the latent constructs(Hair Jr, Howard, & Nitzl, 2020).

Table 2. Matrix of Discriminant Validity

	Constructs	Mean	SD	1	2
1	DM-Q	3.512	0.617	**0.789**	
2	IQ	3.819	0.913	0.547	**0.871**

Based on the squared AVE values tabulated in Table 2, the values exceed the latent variable correlation, that is, the discriminant value is established. First, the study explains the framework and shows the relationship between variable based on previous literature that needs to be revised based on the confirmatory factor analysis performed. The CFA results did not require the removal of variables, although some entries were removed and as recommended by Hair et al. (2019) - at least two entries left for each variable.

Table 3 shows that hypothesis with p-values less than 0.05 are supported. The hypothesis test included one independent variables directly related to the dependent variable. As a result, the hypothesis had a direct and significant impact on the use of AIS as shown following.

Table 3. Result of Hypothesis Testing

Hyp	Paths	Sta. Beta	Sample mean	Stan errors	t-values	f2	p-values	results
H1.	AIS—DM-Q	0.522	0.540	0.089	5.610	0.186	0.000	Sig

4.3 Assessing predictive relevance Q2 and Coefficient of determination (R2)
In this study, PLS3 was used to calculate predictive association (Q²) blinded when the cutoff was greater than 0. A value of Q² greater than 0 indicates predictive relevance of the model, according to Hair et al. There. (2019). Table 4 shows that the overall Q² values are greater than 0, supporting the model's predictive relevance due to intrinsic latent variable relevance.

Next is the coefficient of determination (R²). It represents the percentage variation of the endogenous variable that together explain the independent variable. Values of R² must be greater than or equal to 0.10 to be considered practical. Table 4 shows the R² values for all factors, all above 0.10. substantial R² value indicates that the independent variable is explaining a significant amount of the variation in the endogenous variable. It's important to note that R² values can vary depending on the context of the study and the specific variables being analyzed. However, in general, a higher R² value indicates a stronger relationship between the independent and endogenous variables.

Table 4. Q2 and R2 Values

Dependent Latent Variable	predictive relevance (Q2)	Coefficient of determination (R2)
Decision Making Quality	0.143	0.523

5. Discussion and implications

The current study examines the influence of accounting information systems on decision-making quality and concludes that accounting information systems have a considerable impact on decision-making quality, offering numerous additions to the literature. increase. The findings show that AIS plays an essential role in enhancing management decision-making, and that the quality of information given by AIS allows for trustworthy and correct judgments, suggesting that AIS departments support the premise that it fits the demands of the organization(Alam, Lutfi, & Alsaad, 2023). Furthermore, the results empirically confirmed that the implementation of IS considerably contributes to strengthening firms' decision-making capacity(Alsyouf et al., 2023).

It appears to be a worthwhile literary contribution. Accounting scholars and practitioners alike must understand the influence of accounting information systems on the quality of decision-making. Organizations may make better informed judgments and enhance overall performance by finding specific ways these technologies can improve decision-making. Furthermore, the research influences the creation and implementation of accounting information systems, ensuring that they are intended to fulfill user demands and enhance decision making quality(Almaiah, Ayouni, et al., 2022).

There are some ways in which an accounting information system can improve the quality of decision-making(Lutfi, 2022a; A Lutfi et al., 2023): Timely and Accurate Information: An accounting information system can provide real-time financial data that decision-makers need to make informed decisions. This information can be used to analyze trends, identify opportunities, and mitigate risks. Improved Efficiency: An accounting information system automates many of the manual processes involved in financial reporting, reducing the time and effort required to generate reports. This enables decision-makers to access the information they need quickly and efficiently. Better Financial Analysis: An accounting information system can provide detailed financial reports that enable decision-makers to analyze financial data in greater detail. This can help them identify trends, patterns, and anomalies that can inform their decision-making. Enhanced Collaboration: An accounting information system can facilitate collaboration between different stakeholders in the organization, such as finance, accounting, and operations. This can help decision-makers make more informed decisions by leveraging the expertise of others. Improved Compliance: An accounting information system can help ensure compliance with financial reporting regulations and standards. This can help decision-makers avoid legal and financial penalties, and make more informed decisions based on accurate and reliable financial data

The parameters covered in this study have been empirically shown to increase the quality of AIS decision-making in SMEs that involve the usage of AIS data analysis and processing. It is critical for SMEs to define the context and establish complex processes for decision makers to grasp the efficacy and use of AIS. This necessitates a review of prospective data sources as well as a method for combining them to offer context. To do this, AIS necessitates collaboration among domain system stakeholders and specialists in order to comprehend AIS processes and implications. Such collaboration is critical for organizations that use IS and AIS. Similarly, another topic that requires additional exploration is the overview of quality evaluation of AIS sources and resources. Based on the findings, a theoretical framework may be developed to analyze AIS's capacity to improve decision-making quality. A research theoretical framework can also be used to guide future study on this issue. In summary, the findings of this study provide light on the elements that influence managers' decision-making through AIS. Administrators may use AIS to regulate and monitor a wide range of transactions, see issues from several viewpoints, and make correct, educated, and fact-based choices. However, because of the huge sample size, care should be used when generalizing the findings and extending them to other developing nations.

References

Al-Okaily, M., Alqudah, H., Matar, A., Lutfi, A., & Taamneh, A. (2020). Dataset on the Acceptance of e-learning System among Universities Students' under the COVID-19 Pandemic Conditions. *Data in brief, 32*, 106176.

Al-Okaily, M., Lutfi, A., Alsaad, A., Taamneh, A., & Alsyouf, A. (2020). The determinants of digital payment systems' acceptance under cultural orientation differences: The case of uncertainty avoidance. *Technology in Society, 63*, 101367.

Alam, M. M., Lutfi, A., & Alsaad, A. (2023). Antecedents and Consequences of Customers' Engagement with Pro-Environmental Consumption-Related Content on Social Media. *Sustainability, 15*(5), 3974.

Almaiah, M. A., Alhumaid, K., Aldhuhoori, A., Alnazzawi, N., Aburayya, A., Alfaisal, R., . . . Alkhdour, T. (2022). Factors Affecting the Adoption of Digital Information Technologies in Higher Education: An Empirical Study. *Electronics, 11*(21), 3572.

Almaiah, M. A., Ayouni, S., Hajjej, F., Lutfi, A., Almomani, O., & Awad, A. B. (2022). Smart Mobile Learning Success Model for Higher Educational Institutions in the Context of the COVID-19 Pandemic. *Electronics, 11*(8), 1278.

Alqudah, H., Al-Okaily, M., Lutfi, A., Alshirah, M., Al-Okaily, A., Al-Kofahi, M., & Alqudah, H. (2022). Intrinsic Factors Influencing the Accounting Information Systems' Effectiveness in Jordanian Listed Companies *From the Internet of Things to the Internet of Ideas: The Role of Artificial Intelligence: Proceedings of EAMMIS 2022* (pp. 591-609): Springer.

Alshira'h, A. F., & Abdul-Jabbar, H. (2019). The effect of tax fairness on sales tax compliance among Jordanian manufacturing SMEs. *Academy of Accounting and Financial Studies Journal, 23*(2), 1-11.

Alshira'h, A. F., & Abdul-Jabbar, H. (2020). Moderating role of patriotism on sales tax compliance among Jordanian SMEs. *International Journal of Islamic and Middle Eastern Finance and Management, 13*(3), 389-415.

Alshira'h, A. F., Al-Shatnawi, H. M., Al-Okaily, M., Lutfi, A., & Alshirah, M. H. (2021). Do public governance and patriotism matter? Sales tax compliance among small and medium enterprises in developing countries: Jordanian evidence. *EuroMed Journal of Business, 16*(4), 431-455.

Alshira, A. F., & Abdul-Jabbar, H. (2019). A conceptual model of sales tax compliance among Jordanian SMEs and its implications for future research. *International Journal of Economics and Finance, 11*(5), 114-114.

Alshira'h, A., Alsqour, M., Lutfi, A., Alsyouf, A., & Alshirah, M. (2020). A Socio-Economic Model of Sales Tax Compliance. Economies, 8 (4), 88.

Alshira'h, A. F. (2018). Determinants of sales tax compliance among Jordanian SMEs: the moderating effect of public governance. *Unpublished Doctoral dissertation, Universiti Utara Malaysia, Changlun, Malaysia*.

Alshira'h, A. F. (2019). The effect of peer influence on sales tax compliance among Jordanian SMEs. *International Journal of Academic Research in Business and Social Sciences, 9*(3), 710-721.

Alshira'h, A. F., Abdul-Jabbar, H., & Samsudin, R. S. (2018). Sales tax compliance model for the Jordanian small and medium enterprises research. *Journal of Advanced Research in Social and Behavioural Sciences, 10*(2), 115-130.

Alshira'h, A. F., Abdul-Jabbar, H., & Samsudin, R. S. (2019). The effect of tax moral on sales tax compliance among Jordanian SMEs. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 9*(1), 30-41.

Alshira'h, A. F., AL-Shatnawi, H. M., Alsqour, M. K., & Alshirah, M. H. (2020). The Influence of Tax Complexity on Sales Tax Compliance among Jordanian SMEs. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 10*(1), 250-260.

Alshira'h, A. F., Alsqour, M. d., Lutfi, A., Alsyouf, A., & Alshirah, M. (2020). A socio-economic model of sales tax compliance. *Economies, 8*(4), 88.

Alshirah, A., Magablih, A., & Alsqour, M. (2021). The effect of tax rate on sales tax compliance among Jordanian public shareholding corporations. *Accounting, 7*(4), 883-892.

Alshirah, M., Alshirah, A., & Lutfi, A. (2021). Audit committee's attributes, overlapping memberships on the audit committee and corporate risk disclosure: Evidence from Jordan. *Accounting, 7*(2), 423-440.

Alshirah, M., Lutfi, A., Alshirah, A., Saad, M., Ibrahim, N., & Mohammed, F. (2021). Influences of the environmental factors on the intention to adopt cloud based accounting information system among SMEs in Jordan. *Accounting, 7*(3), 645-654.

Alshirah, M. H., Abdul Rahman, A., & Mustapa, I. R. (2019). The role of foreign directors in corporate risk disclosure: Empirical evidence from Jordan. *International Journal of Financial Research, 10*(4), 119.

Alshirah, M. H., Abdul Rahman, A., Mustapa, I. R., & Alshira'h, A. F. (2020). The Effect of firms characteristics on corporate risk disclosure: empirical evidence from amman stock exchange. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 10*(3).

Alshirah, M. H., Alfawareh, F. S., Alshira'h, A. F., Al-Eitan, G., Bani-Khalid, T., & Alsqour, M. d. (2022). Do Corporate Governance and Gender Diversity Matter in Firm Performance (ROE)? Empirical Evidence from Jordan. *Economies, 10*(4), 84.

Alshirah, M. H., Alshira'h, A. F., & Lutfi, A. (2022). Political connection, family ownership and corporate risk disclosure: Empirical evidence from Jordan. *Meditari Accountancy Research, 30*(5), 1241-1264.

Alshirah, M. H., Rahman, A. A., & Mustapa, I. R. (2020). Board of directors' characteristics and corporate risk disclosure: the moderating role of family ownership. *EuroMed Journal of Business, 15*(2), 219-252.

Alsyouf, A., Lutfi, A., Al-Bsheish, M., Jarrar, M. t., Al-Mugheed, K., Almaiah, M. A., . . . Ashour, A. (2022). Exposure Detection Applications Acceptance: The Case of COVID-19. *International Journal of Environmental Research and Public Health, 19*(12), 7307.

Alsyouf, A., Lutfi, A., Alsubahi, N., Alhazmi, F. N., Al-Mugheed, K., Anshasi, R. J., . . . Albugami, M. (2023). The Use of a Technology Acceptance Model (TAM) to Predict Patients' Usage of a Personal Health Record System: The Role of Security, Privacy, and Usability. *International Journal of Environmental Research and Public Health, 20*(2), 1347.

Ananzeh, H., Alshirah, M. H., Alshira'h, A. F., & Al-Hazaima, H. (2022). Political connection, family ownership and corporate philanthropy: empirical evidence from Jordan. *Journal of Accounting in Emerging Economies* (ahead-of-print).

Bani-Khalid, T., Alshira'h, A. F., & Alshirah, M. H. (2022). Determinants of tax compliance intention among Jordanian SMEs: a focus on the theory of planned behavior. *Economies, 10*(2), 30.

Hair, J. F., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods*: Routledge.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review, 31*(1), 2-24.

Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109*, 101-110.

Lutfi, A. (2020a). Investigating the moderating effect of Environment Uncertainty on the relationship between institutional factors and ERP adoption among Jordanian SMEs. *Journal of Open Innovation: Technology, Market, and Complexity, 6*(3), 91.

Lutfi, A. (2020b). Investigating the moderating role of environmental uncertainty between institutional pressures and ERP adoption in Jordanian SMEs. *Journal of Open Innovation: Technology, Market, and Complexity, 6*(3), 91.

Lutfi, A. (2021). Understanding cloud based enterprise resource planning adoption among smes in jordan. *J. Theor. Appl. Inf. Technol, 99*(24), 5944-5953.

Lutfi, A. (2022a). Factors Influencing the Continuance Intention to Use Accounting Information System in Jordanian SMEs from the Perspectives of UTAUT: Top Management Support and Self-Efficacy as Predictor Factors. *Economies, 10*(4), 75.

Lutfi, A. (2022b). Understanding the Intention to Adopt Cloud-based Accounting Information System in Jordanian SMEs. *International Journal of Digital Accounting Research, 22*.

Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alshira'h, A. F., Alshirah, M. H., Alsyouf, A., . . . Al Ali, R. (2022). Antecedents of Big Data Analytic Adoption and Impacts on Performance: Contingent Effect. *Sustainability, 14*(23), 15516.

Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alshira'h, A. F., Alshirah, M. H., Alsyouf, A., . . . Ali, R. A. (2022). Antecedents of Big Data Analytic Adoption and Impacts on Performance: Contingent Effect. *Sustainability, 14*(23), 15516.

Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alsyouf, A., & Alrawad, M. (2022). Business sustainability of small and medium enterprises during the COVID-19 pandemic: The role of AIS implementation. *Sustainability, 14*(9), 5362.

Lutfi, A., Al-Okaily, M., Alshirah, M. H., Alshira'h, A. F., Abutaber, T. A., & Almarashdah, M. A. (2021). Digital financial inclusion sustainability in Jordanian context. *Sustainability, 13*(11), 6312.

Lutfi, A., Al-Okaily, M., Alsyouf, A., & Alrawad, M. (2022). Evaluating the D&M IS success model in the context of accounting information system and sustainable decision making. *Sustainability, 14*(13), 8120.

Lutfi, A., Al-Okaily, M., Alsyouf, A., Alsaad, A., & Taamneh, A. (2020). The impact of AIS usage on AIS effectiveness among Jordanian SMEs: A multi-group analysis of the role of firm size. *Global business review*, 0972150920965079.

Lutfi, A., Alkelani, S. N., Al-Khasawneh, M. A., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., . . . Ibrahim, N. (2022). Influence of Digital Accounting System Usage on SMEs Performance: The Moderating Effect of COVID-19. *Sustainability, 14*(22), 15048.

Lutfi, A., Alkelani, S. N., Alqudah, H., Alshira'h, A. F., Alshirah, M. H., Almaiah, M. A., . . . Abdelmaksoud, O. (2022). The Role of E-Accounting Adoption on Business Performance: The Moderating Role of COVID-19. *Journal of Risk and Financial Management, 15*(12), 617.

Lutfi, A., Alkilani, S. Z., Saad, M., Alshirah, M. H., Alshirah, A. F., Alrawad, M., . . . Ramadan, M. H. (2022). The Influence of Audit Committee Chair Characteristics on Financial Reporting Quality. *Journal of Risk and Financial Management, 15*(12), 563.

Lutfi, A., Alrawad, M., Alsyouf, A., Almaiah, M., Al-Khasawneh, A., Al-Khasawneh, A., & Alshira, H. (2023). AF; Alshirah, MH; Saad, M.; Ibrahim, N. Drivers and impact of big data analytic adoption in the retail industry: A quantitative investigation applying structural equation modeling. *J. Retail. Consum. Serv, 70*, 103129.

Lutfi, A., Alrawad, M., Alsyouf, A., Almaiah, M. A., Al-Khasawneh, A., Al-Khasawneh, A. L., . . . Ibrahim, N. (2023). Drivers and impact of big data analytic adoption in the retail industry: A quantitative investigation applying structural equation modeling. *Journal of Retailing and Consumer Services, 70*, 103129.

Lutfi, A., Alshira'h, A. F., Alshirah, M. H., Al-Okaily, M., Alqudah, H., Saad, M., . . . Abdelmaksoud, O. (2022a). Antecedents and impacts of enterprise resource planning system Adoption among Jordanian SMEs. *Sustainability, 14*(6), 3508.

Lutfi, A., Alshira'h, A. F., Alshirah, M. H., Al-Okaily, M., Alqudah, H., Saad, M., . . . Abdelmaksoud, O. (2022b). Antecedents and Impacts of Enterprise Resource Planning System Adoption among Jordanian SMEs. Sustainability 14: 3508.

Lutfi, A., Alsyouf, A., Almaiah, M. A., Alrawad, M., Abdo, A. A. K., Al-Khasawneh, A. L., . . . Saad, M. (2022). Factors influencing the adoption of big data analytics in the digital transformation era: case study of Jordanian SMEs. *Sustainability, 14*(3), 1802.

Lutfi, A., Ashraf, M., Watto, W. A., & Alrawad, M. (2022). Do Uncertainty and Financial Development Influence the FDI Inflow of a Developing Nation? A Time Series ARDL Approach. *Sustainability, 14*(19), 12609.

Saad, M., Lutfi, A., Almaiah, M. A., Alshira'h, A. F., Alshirah, M. H., Alqudah, H., . . . Abdelmaksoud, O. (2022). Assessing the Intention to Adopt Cloud Accounting during COVID-19. *Electronics, 11*(24), 4092.