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Integrating Financial Techniques for Sustainable Futures: A Digital Transformation Perspective

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Abstract: This study aims to explore the critical role of digital transformation in fostering sustainable futures within business and educational contexts. It emphasizes the integration of advanced digital technologies to enhance operational efficiency, optimize resource allocation, and promote a culture of continuous innovation. The study used a questionnaire to collect data from 228 Jordanians, using the Structural Equation Model – Partial Least Squares (SEM-PLS) to evaluate the research model and test hypotheses. The outcomes of the Smart PLS path analysis revealed that organizational support and infrastructure are identified as key moderating factors that influence the success of digital transformation initiatives. Leadership commitment, employee training, and technological resources are crucial for fostering an environment conducive to digital innovation. A robust digital infrastructure ensures seamless technology integration into workflows, maximizing its impact on sustainability. Furthermore, the study underscores the importance of a supportive regulatory environment to facilitate digital transformation. Digital transformation offers significant potential for driving sustainable futures in business and education. By embracing technological innovation and ensuring robust organizational support and infrastructure, organizations can navigate the complexities of the modern landscape and contribute to a more sustainable world. The findings provide valuable insights for practitioners, policymakers, and researchers, highlighting the multifaceted benefits of digital transformation and the critical factors influencing its success.

Keywords: digital transformation, financial literacy, technological innovation in financial techniques, sustainable futures in business and education

1. Introduction

Today, it does not come as a surprise that within such an environment, in which business and education incorporate into itself, the thought of sustaining such a future for most institutions becomes a core objective. Technology changing rapidly has made the digitalization of economic techniques an important part in moving toward this goal. However, this has upended conventional financial systems, allowing entities to achieve their overarching goals more effectively and swiftly [1]. As organizations and academia win these battles, the ability to fit in the new tool set in the context of innovative financial technologies becomes important for organizational survival and growth [2]. When transformative technologies redefine the financial activities of organizations, it comes with a lot of advantages, for instance, better productivity and better Al Zaytoonah [3]. As such, it requires basic knowledge of finance and a conducive environment in an organization for adequate implementation. Leadership, infrastructure, and resources are essential for establishing an environment that fosters digital transformation [4]. These steps would allow companies to enhance their financial activities and increase their effectiveness in the long run through these steps.

The synthesis of financial literacy, the positivity toward technology and organizational resources, and the commitment to digital transformational initiatives constitute the foundation of sustainable futures [5]. Geometry, in conjunction with people's organizations, which represent a supportive culture, is essential for addressing contemporary financial questions. As it has been stated, the modern world requires businesses and educational structures to take sustainable actions to address certain issues of the 21st century [6]. In the business context, sustainability means the capacity to generate profits in the decision-making operational period while maintaining the level of social performance [7]. In addition, companies' managers understand that being sustainable is no longer a matter of morality but an advantage in competition. Efficiency and resource allocation can be improved through the use of sophisticated finance methods for varying study purposes [8]. Accomplished universities are critical in producing future executives who will spearhead the cause of sustainability.

Embedding sustainability into educational programs enables young people to acquire skills to address world issues [9]. Over the past few years, a great deal of changes has taken place in the field of financial processes due to the emergence of new technologies [10]. For instance, analytic processes with data help to understand the relationship between resources and the purpose of their utilization, while blockchain performs the function of a transparency instrument [11–14]. However, the aspect of how the acceptance of these

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techniques occurs is not in simplistically technological terms only; there is a growing comprehension of the necessity of other factors that include financial literacy and internal backing [15]. The possibility of employing digital tools is primarily dependent on the financial literacy of individuals, though their use is usually accompanied by the necessity of organizational support.

Despite the recognized benefits of digital transformation, there remains a significant gap in understanding how these advancements can be fully utilized to achieve sustainable outcomes. Existing literature often examines digital technologies in isolation, neglecting their synergistic effects with financial literacy and organizational support. This study aims to investigate the interplay between these elements to provide a comprehensive strategy that fosters sustainability in diverse contexts. Furthermore, while organizational support is acknowledged as vital for successful digital initiatives, its moderating role in the relationship between advanced financial techniques and sustainability outcomes has not been adequately explored. Understanding how organizational environments can enhance or hinder these innovations remains under-researched.

Another significant gap lies in context-specific implications; much-existing research focuses on developed economies with limited attention to emerging markets. This oversight results in a lack of tailored strategies that address specific needs within these regions. This research aims to bridge these gaps by examining how digital transformation, financial literacy, and innovative financial techniques can be integrated to promote sustainable futures in business and education. It will also explore the critical role of organizational support in this process. By providing valuable insights into these interconnected factors, this study seeks to inform policy and practice while contributing to future research on financial sustainability.

2. Literature Review

The resource-based view (RBV) of a firm is fundamentally helpful in explaining the extent to which resources such as technological infrastructure and financial literacy can foster competitiveness within the organization [16]. In support of RBV, it has been found that organizations that effectively harness their unique resources are more likely to attain sustained performance [17]. In terms of this study, the focus is on digital transformation as a valuable resource that can optimize financial activities, promote creativity, and enhance effective decisions [18].

Moreover, the technology acceptance model (TAM) also provides an understanding regarding the work of new technologies in organizations [19]. The framework of TAM suggests two core factors that determine technology acceptance: perceived usefulness and perceived ease of use. This model is useful in demonstrating the ways in which the use of digital finance can be incorporated within organizational settings and educational systems such as universities and colleges, improving their operational efficiency and strategic performance. Therefore, incorporation of new financial technologies is a function of how these technologies are appreciated by users of the organization [20].

Organizational support theory is concerned with the relevance of a supportive environment for new initiative implementation [21]. According to this theory, when employees get support from the organization in terms of resources, training, or even leadership, it motivates them to engage with new technologies and apply them successfully [22].

According to [23], the concept of sustainable development underlines the necessity of integrating economic, social, and environmental considerations into organizational practices. Sustainable development theories advocate for a holistic approach to business and education, ensuring that current needs are met without compromising the ability of future generations to meet their own needs [24]. This theoretical perspective frames the study's focus on long-term sustainability, highlighting the interplay between technological innovation, financial literacy, and organizational support in achieving sustainable futures.

The relationship between organizational and infrastructural support and technological development is quite important if one wants to effectively conduct a digital transformation initiative and more so, in this advancing age, seek to deliver results that enhance utopian digital societies. While organizational support is instrumental in providing leadership, training, and resources, it is also responsible for assisting workforce abilities in the application of cutting-edge solutions. This support is central to achieving and maintaining the entrepreneurial standard that strives for progress. In contrast, sound infrastructure offers operating space for the application of technological instruments during normal workdays, and the performance of business activities records improvements. Take, for example, more sophisticated digital equipment and software such as artificial intelligence, blockchain, or data analytics. These tools enhance the quality of the process of decision-making and management of resources. Even so, these technologies will not work effectively in the absence of support from the company itself and the correct infrastructure. It is through leadership that these innovations and new management skills are not only implemented but also propagate the need of enhancing the organization's strategic framework with the emerging trends.

2.1. Digital transformation implementation and sustainable futures in business and education

The implementation of digital transformation is increasingly recognized as a key driver for sustainable futures in both business and education sectors [13]. Scholars have highlighted that digital transformation enables businesses to innovate and adapt to rapidly changing environments, fostering sustainability [24]. This shift is not merely technological but requires an integration of digital tools into the strategic fabric of organizations, leading to more sustainable practices in resource management and operational efficiency [25]. In the education sector, digital transformation has the potential to enhance accessibility, inclusion, and the quality of learning experiences, contributing to long-term sustainability goals [26]. For instance, digital learning platforms reduce reliance on physical resources, which aligns with environmental sustainability objectives [27]. Stakeholders, as the end-users of these socially driven platforms, are increasingly making more demands on the projects' delivery. Companies, incidentally, must embrace strategies that enhance their corporate sustainability or CSR, especially digital technologies that engage the public [28]. Rest in a similar manner, even educators and students anticipate educational institutions to use digital transformation in developing sustainable education models such as reduction of carbon emissions and environmentally friendly learning [29]. The following hypothesis is posited:

H1: Digital transformation implementation significantly impacts sustainable futures in business and education.

2.2. Financial literacy and sustainable futures in business and education

In both business and education, the importance attributed to financial literacy is critical for ensuring sustainable futures. Researchers have put into perspective the role of financial literacy

in promoting sustainable decision-making in these areas [30–31]. Those people, who are financially literate, tend to make decisions taking into account the strategic risk management, namely, the danger of economic wrong, and encourage positive spending behavior [32]. Financially literate individuals are more likely to make informed choices that align with long-term sustainability goals, reducing the risk of economic mismanagement and promoting sound financial practices. In business, financial literacy empowers managers to implement strategies that balance profitability with sustainability, thereby enhancing the organization's resilience against market fluctuations and fostering sustainable growth [33]. Its role in promoting sustainable futures is multifaceted, impacting both economic stability and educational outcomes. Financial literacy is fundamental for the economic sustainability of businesses. It enables business leaders and managers to make sound financial decisions, effectively manage resources, and plan for the long term. Education encompasses financial literacy in the same manner because such knowledge allows individuals to take responsibility for their financial activities, which in turn will influence future outcomes including that of society as well [34]. The following hypothesis is posited:

H2: Financial literacy significantly impacts sustainable futures in business and education.

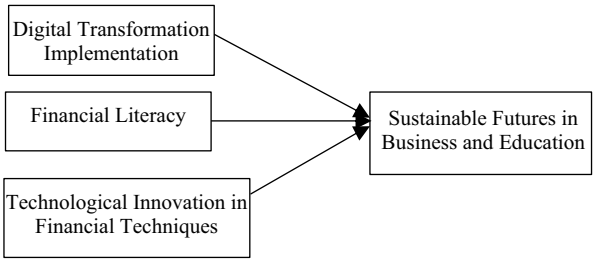
2.3. Technological innovation in financial techniques and sustainable futures in business and education

The role of financial technological innovation, advanced in such areas as blockchain, AI, and machine learning, is very important in increasing sustainability attributes through higher efficiency, transparency, and flexibility [35–37]. In the case of the business industry, technology advancement has changed the way in which financial activities are done, making it possible for different companies to be more efficient, economize resources employed, and make better quality decisions. For instance, using AI and machine learning algorithms, it is possible to scan large quantities of data and search for viable patterns that may assist in planning and forecasting to a greater extent [35, 38]. With these capabilities, businesses are able to help in optimizing the allocation of resources and managing risks, thus fostering economic sustainability in the long run. Furthermore, such means as the blockchain allow to increase both the safety and efficiency of financial operations, thus building trust and minimizing the risk of financial crime [39]. They equally add value to the operations of educational institutions in the administration of finances. The use of mobile money services can facilitate the administration of educational finances to ensure the best utilization of the available funds and resources [40–42]. Also, adding financial technologies to the course of study provides students with adequate knowledge that is needed in the current financial environment that they are going to face. Because of this, it contributes to the sustainability of education when re-education is performed since it is necessary in the age of the digital economy [43]. New technologies introduced into economic systems also drive socioeconomic progress by promoting sustainable development, efficient resource management, and green finance investments that improve people's lives [44–45]. Green instruments improve the funds and opportunities available for companies and organizations to pursue various forms of environmentally friendly activities, including green projects [13, 46, 47]. The following hypothesis is posited:

H3: Technological innovation in financial techniques significantly impacts sustainable futures in business and education.

Figure 1 shows the research model.

Figure 1
Research model



3. Research Methodology

3.1. Measurement and development of the instrument

The research constructs were assessed using items derived from relevant literature (see Table 1), encompassing digital transformation implementation, financial literacy, technological innovation in financial techniques, organizational support, and sustainable futures in business and education.

Table 1
Measures and item sources

Construct	Items	References
Digital Transformation Implementation	4	[48–49]
Financial Literacy	3	[50–52]
Organizational Support	3	[12–28]
Sustainable Futures in Business and Education	3	[53–54]

Table 2 comprises 18 items for relevance, clarity, consistency, and logical flow for the variables in this study.

3.2. Sampling and data collection

This research delves into the factors influencing Sustainable Futures in Business and Education in Jordan, a developing country. The key variables under investigation include digital transformation implementation, financial literacy, technological innovation in financial techniques, and organizational support. Employing a quantitative methodology, the study had a 17-item questionnaire. A total of 228 participants were selected through social media. We utilized the snowball sampling method to expand the participant pool. This substantial dataset formed a strong basis for the subsequent analysis. One commonly recommended guideline for this sampling method suggests that the sample size should be at least ten times the highest number of connections, whether internal or external, directed toward any latent variable within the model. Table 3 shows the respondent's profile.

Table 2
Construct and measures

Construct	Code	Items
Digital Transformation Implementation	DT1	How integrated are digital technologies in your organization's financial processes?
	DT2	Rate the level of automation in financial operations within your organization.
	DT3	How effective are digital platforms in enhancing financial long-term in your organization?
	DT4	To what extent does your organization prioritize cybersecurity measures in digital financial transactions?
Financial Literacy	FL1	How confident are you in managing personal or organizational finances?
	FL2	How often do you update your financial knowledge and skills?
	FL3	Rate your understanding of financial concepts such as budgeting, investments, and risk management.
Organizational Support	OS1	How supportive is your organization's leadership in implementing new financial technologies?
	OS2	Rate the adequacy of financial resources allocated to support technological innovations within your organization.
	OS3	How would you describe the organizational culture regarding innovation and change in financial practices?
Sustainable Futures in Business and Education	SF1	How important is environmental sustainability in your organization's decision-making business strategy?
	SF2	To what extent does your organization prioritize social responsibility initiatives?
	SF3	How well-prepared is your organization to adapt to economic uncertainties and market fluctuations?

**This table shows the questions about the study constructs.*

Table 3
Profile of respondents

	No	%
Background		
IT	43	19
Business	141	61
Others	44	20
Age		
18–25	72	32
26–33	69	30
33 and above	87	38
Gender		
Male	130	57
Female	98	43
Total	228	100

4. Findings and Analysis

4.1. Assessment of the measurement model

The average variance extracted (AVE) score indicates whether the latent variables are internally coherent, and Cronbach's alpha value score assesses whether the latent variables are externally robust. High AVE and Cronbach's alpha values indicate that the latent variables are internally coherent with good external robustness and are, therefore, suitable for exploring the research propositions. The AVE values reflect how much variance a latent variable can capture. If an AVE value is higher than 0.5, the external validity of the latent variable is robust. The Cronbach's alpha values reflect how internally consistent the latent variables are, and a Cronbach's alpha value over 0.7 indicates reliability. This means that the latent variables of the research questions in this study are internally consistent with external validity and, therefore, suitable for reliably examining the research propositions. Table 4 presents the validity and reliability estimates.

Discriminant validity, on the other hand, is determined by the extent to which a scale can distinguish between constructs or variables. Simply put, discriminant validity demonstrates whether we can reliably differentiate between two phenomena that are conceptually different by ensuring that measures used to assess different constructs do not share a high level of commonality (i.e., the measures are genuinely tapping into one or the other construct or phenomenon) but do differ by as large a degree as possible. Fornell and Larcker's criterion was used to evaluate discriminant validity. The results shown in Table 5 clearly demonstrate that the square root of the AVE for each construct exceeds the correlations with other constructs. This confirms that the discriminant validity aligns with Fornell and Larcker's criterion [17].

4.2. Testing hypotheses

This work utilizes the inner SEM-PLS model to examine the relationships between the latent variables (constructs). The structural model findings go into further detail about the linear regression results, including the original samples (beta values), *t*-statistics of path coefficients, and long-term [55]. As a result, all hypotheses are supported at the 0.05 level of significance. Table 6 summarizes the route significance results.

Figure 2 depicts the research model, which was evaluated and verified in SmartPLS 4.0. The SEM-PLS model displayed the item loadings, beta values, and R for all study constructs.

The coefficient of determination (R2) is evaluated to explore the prediction fraction of the endogenous construct from the

Table 4
Constructs' validity and reliability estimates

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average varianceextracted (AVE)
Digital Transformation Implementation	0.884	0.894	0.928	0.812
Financial Literacy	0.872	0.873	0.912	0.723
Sustainable Futures in Business and Education	0.857	0.866	0.903	0.7
Technological Innovation in Financial Techniques	0.868	0.871	0.91	0.716

Table 5
Discriminant validity

	1	2	3	4
Digital Transformation Implementation	0.901			
Financial Literacy	0.728	0.85		
Sustainable Futures in Business and Education	0.597	0.56	0.837	
Technological Innovation in Financial Techniques	0.656	0.595	0.53	0.846

Table 6
Results of the hypothesis and paths' significance

	Std. beta	T values (|O/STDEV|)	P values	Hypotheses results
Digital Transformation Implementation -> Sustainable Futures in Business and Education	0.068	4.532	0	Supported
Financial Literacy -> Sustainable Futures in Business and Education	0.059	3.693	0	Supported
Technological Innovation in Financial Techniques -> Sustainable Futures in Business and Education	0.063	3.14	0.002	Supported

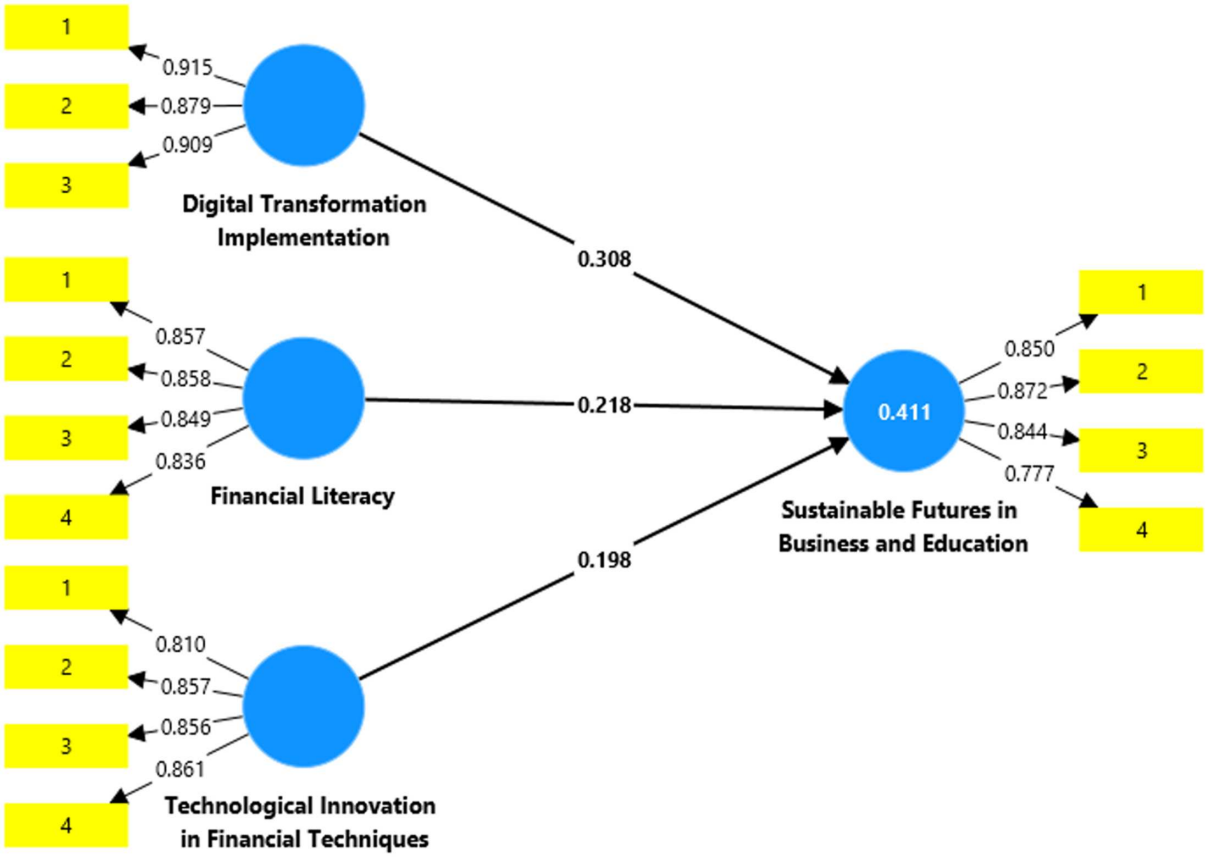
external constructions. Consequently, the R2 of Sustainable Futures in Business and Education was found to be 0.411, indicating that the Sustainable Futures in Business and Education could be explained by other exogenous constructions by 41.1 %, which is deemed modest and acceptable [56].

5. Discussion

The findings substantiate how sustainable futures in businesses and in education are enhanced through the implementation of digital transformation. Digital transformation introduces digital tools into the processes of an organization, which alters the way the processes are done and the value that is created and distributed [57]. This transformation is not merely about adopting new technologies but also about fostering a culture of continuous innovation and adaptation, which is crucial for achieving p-values sustainability. For instance, automation, enhanced data analytics, and long-term decision-making optimize resource utilization, reduce waste, and lower operational costs [58–60]. Digital transformation can significantly enhance operational efficiency, a key component of sustainability. Adoption of information and communication technologies by educational institutions, particularly for administrative activities, is a remedy that would optimize operation at such institutions saving staff and time, which can be directed as well into bettering educational outcomes [61–62]. In the field of business, the impact of digital transformation focuses on enhancing the management of the supply chain and the management of product life cycles, integrating environment conservation practices and even business models that create more economic and social value with less negative impact on the environment [63, 64]. Sustaining the factors or conditions on which such contributions depend seems to be further enhanced by legal suits or practices, making it clear that there is a need for supportive conditions [51, 65, 66].

The results indicate that financial literacy is very crucial for the sustainability of business and education. These findings correspond with the previous ones conducted that have affirmed the importance of financial literacy in making reasoned decisions and impact positively on economic security and educational performances of people [50, 67]. Embedded in the offered knowledge are the considerations about managing the time dimension of management through financial management competencies. Long-term growth results in understanding [38]. People with the education in question directly impact the outcomes of costs incurred by organizations [32]. Financial literacy contributes to sustainable development goals as it links the capital to environmentally and socially responsible practices [12]. Most importantly, financial literacy entails understanding and utilizing advanced technology in investment activities. [57]. Steadily and consistently, studies demonstrate that financial literacy is an important non-psychological variable influencing the financial behavior of individuals and is able to assist in the real-time sustainability of practical finance [18, 68].

Figure 2
Research model from SmartPLS



The results show that technological innovation in financial techniques has a substantial effect on achieving a sustainable future in both business and education. These outcomes are consistent with the previous research, which illustrates that industrial progress, blockchain in particular, improves efficiency, transparency, and flexibility [35, 69]. In terms of economic sustainability, the efficiency of decision-making in business with the help of AI and machine learning is attained through the processing of vast amounts of data, appropriate distribution of assets, and minimizing of hazards [31–36, 55, 70]. Blockchain technology provides more security and accountability in transactions, hence enhancing the confidence of clients in dealing with money [22, 62]. In terms of resources, electronic financial services support the efficient use of resources and the management of finances, while the use of such technologies as part of the curricula gets students ready for the digital economy [40, 55, 71]. Technological innovation does promote green finance and investments that are sustainable, enhancing the value of the environment [11, 72–73]. Furthermore, it helps to fight poverty by enhancing access to financial services for poor people, thus enabling economic development [11, 38]. It has been found that there is a positive relationship between advancements in technology in the financial sector and practically any social entity such as business and education [74, 75].

6. Theoretical, Practical, and Regulatory Implications

The research on the implementation of digital transformation and its impact on the sustainable future in the business and education sectors presents a number of theoretical contributions. It adds to the existing knowledge in the literature by explaining the importance of technological change in the process of achieving sustainability. Multiplying the concepts of sustainability, digital transformation, and organizational support, the research brings forth a unique framework that depicts the link between these areas. This inquiry further adds to the theoretical perspective in the sense that it delves into why and how digital transformation can indeed drive sustainable practices and not just operational efficiency but the economics, society, and environment as well. It is also noted that the context of the organization and the organizational support and infrastructure as moderating variables are important to the study, suggesting the circumstances under which digital transformation can be optimal to promote sustainability.

The implications for regulation outlined in the study above appear to be crucial. Therefore, it can be argued that policymakers need to focus more on developing frameworks that promote the rapid shift toward digitalization in a way that does not harm ethical standards. Rules should have a positive impact on creativity and development rather than punishment and define the conditions for the application and development of technological innovations in entrepreneurship and education. This includes but is not limited to the setting up of data protection rules and policies, stimulating investments aimed at technologies, as well as nurturing initiatives such as PPPs for technology improvement. Moreover, such regulations have to provide equal opportunities to use the means of transformation within the digital environment so that all business entities, irrespective of their size or the industry they operate in, would reap the benefits of transforming into their digital self. The differing views

of digital transformation are the positives and the negatives; however, reasonable policies will always manage to retain the benefits and cut down on the disadvantages of digital transformation to the environment.

7. Conclusion

The study underscores the pivotal role of digital transformation in achieving sustainable futures within business and educational contexts. Through the integration of advanced digital technologies, organizations can enhance operational efficiency, optimize resource allocation, and foster a culture of continuous innovation. These abilities are essential to the problems of today and to the strategy for tomorrow. It is a well-known fact that it is not sufficient to simply introduce new IT technologies to an organization. The business change processes of such type can speed up the making of business-related decisions in real time, lower the cost of the activities, and boost the clearness, which all lead to the contents of the activities becoming more sustainable as well. In the educational sector, digital transformation promotes accessibility and efficiency, improving educational outcomes and preparing students for the demands of the digital economy.

The availability of organizational support and infrastructure becomes one of the essential factors in determining the level of success in the execution of transformational changes. This includes making available resources such as leadership commitment, employee training, and the installation of supporting technology. In an organization, strong digital infrastructure helps in embedding technological systems into the process within the organization, and the outcome helps to enhance sustainability. The study also highlights the importance of a supportive regulatory environment in facilitating digital transformation. However, the successful implementation of digital transformation requires a supportive regulatory environment that can facilitate and guide this transition. Policymakers play a crucial role in creating frameworks that encourage innovation while ensuring ethical and responsible use of technology. Regulations that promote data privacy, security, and equitable access to digital tools are fundamental to maximizing the benefits of digital transformation for sustainable development.

Despite its contributions, the study has several limitations, including its context-specific focus, reliance on cross-sectional data, and potential biases associated with self-reported measures. Future research should address these limitations by adopting longitudinal designs, expanding the scope to diverse industries and regions, and exploring additional moderating factors such as organizational culture and external economic conditions. In conclusion, digital transformation holds immense potential for driving sustainable futures in business and education. By embracing technological innovation and ensuring robust organizational support and infrastructure, organizations can navigate the complexities of the modern landscape and contribute to a more sustainable world. The findings of this study provide valuable insights for practitioners, policymakers, and researchers, highlighting the multifaceted benefits of digital transformation and the critical factors that influence its success. As the digital revolution continues to unfold, it is imperative that organizations and regulators work collaboratively to harness its potential for sustainable development.

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Ethical Statement

This study does not contain any studies with human or animal subjects performed by any of the authors.

Conflicts of Interest

The authors declare that they have no conflicts of interest to this work.

Data Availability Statement

The data that support this work are available upon reasonable request to the corresponding author.

Author Contribution Statement

Raed Alqirem: Conceptualization, Methodology, Investigation, Formal analysis, Investigation, Resources, Data curation, Writing – Original draft, Writing – review and editing, Visualization, Project administration. **Ayman Abdalmajeed Alsmadi:** Conceptualization, Methodology, Software, Validation, Investigation, Writing – Original draft, Writing – review and editing, Visualization, Supervision, Project administration.

References

[1] ElMassah, S., & Mohieldin, M. (2020). Digital transformation and localizing the sustainable development goals (SDGs). *Ecological Economics, 169,* 106490. https://doi.org/10.1016/j.ecolecon.2019.106490

[2] Mohamed Hashim, M. A., Tlemsani, I., & Duncan Matthews, R. (2022). A sustainable university: Digital transformation and beyond. *Education and Information Technologies, 27*(7), 8961–8996. https://doi.org/10.1007/s10639-022-10968-y

[3] Allioui, H., & Mourdi, Y. (2023). Exploring the full potentials of IoT for better financial growth and stability: A comprehensive survey. *Sensors, 23*(19), 8015. https://doi.org/10.3390/s23198015

[4] Guinan, P. J., Parise, S., & Langowitz, N. (2019). Creating an innovative digital project team: Levers to enable digital transformation. *Business Horizons, 62*(6), 717–727. https://doi.org/10.1016/j.bushor.2019.07.005

[5] Kozlovtseva, V., Demianchuk, M., Koval, V., Hordopolov, V., & Atstaja, D. (2021). Ensuring sustainable development of enterprises in the conditions of digital transformations. In *E3S Web of Conferences, 280*(5), 02002. https://doi.org/10.1051/e3sconf/202128002002

[6] Iriani, N., Agustianti, A., Sucianti, R., Rahman, A., & Putera, W. (2024). Understanding risk and uncertainty management: A qualitative inquiry into developing business strategies amidst global economic shifts, government policies, and market volatility. *Golden Ratio of Finance Management, 4*(2), 62–77. https://doi.org/10.52970/grfm.v4i2.444

[7] Kim, S., Lee, G., & Kang, H. G. (2020). Risk management and corporate social responsibility. *Strategic Management Journal, 42*(1), 202–230. https://doi.org/10.1002/smj.3224

[8] Mohammed, A. B., Maqableh, M., Qasim, D., & AlJawazneh, F. (2024). Exploring the factors influencing academic learning performance using online learning systems. *Heliyon, 10*(11). https://doi.org/10.1016/j.heliyon.2024.e32584

[9] Ruiz-Mallén, I., & Heras, M. (2020). What sustainability? Higher education institutions' pathways to reach the agenda

2030 goals. *Sustainability, 12*(4), 1290. https://doi.org/10.3390/su12041290

[10] Feroz, A. K., Zo, H., & Chiravuri, A. (2021). Digital transformation and environmental sustainability: A review and research agenda. *Sustainability, 13*(3), 1530. https://doi.org/10.3390/su13031530

[11] Parmentola, A., Petrillo, A., Tutore, I., & De Felice, F. (2022). Is blockchain able to enhance environmental sustainability? A systematic review and research agenda from the perspective of sustainable development goals (SDGs). *Business Strategy and the Environment, 31*(1), 194–217. https://doi.org/10.1002/bse.2882

[12] Al-Gasaymeh, A., Alsmadi, A. A., Alrawashdeh, N., Alzoubi, H. M., & Alshurideh, M. (2023). Dynamic model in estimating the impact of competition on banking efficiency: Evidence form MENA countries. *Calitatea, 24*(193), 385–394. https://doi.org/10.47750/QAS/24.193.44

[13] Alhawamdeh, L. N., Alsaaideh, M., Al-Gasawneh, J. A., Alsmadi, A. A., & Alqirem, R. M. (2023). Do E-service quality and digital content moderate the relationship between website design and the intention to visit the museum? *Quality-Access to Success, 24*(194), 143. https://doi.org/10.47750/QAS/24.194.17

[14] Liu, R., Gailhofer, P., Gensch, C. O., Köhler, A., Wolff, F., Monteforte, M., ..., & Williams, R. (2019). *Impacts of the digital transformation on the environment and sustainability,* 20–31.

[15] Putra, I., Wiagustini, N. L. P., Ramantha, I. W., & Sedana, I. B. P. (2021). Financial sustainability based on resource based view theory and knowledge based view theory. *Academy of Accounting and Financial Studies Journal, 25*(2S), 1–15.

[16] Assensoh-Kodua, A. (2019). The resource-based view: A tool of key competency for competitive advantage. *Problems and Perspectives in Management, 17*(3), 143. https://doi.org/10.21511/ppm.17(3).2019.12

[17] Lubis, N. W. (2022). Resource based view (RBV) in improving company strategic capacity. *Research Horizon, 2*(6), 587–596. https://doi.org/10.54518/rh.2.6.2022.587-596

[18] Makmor, N., Aziz Abd, N., & Alam Shah, S. (2019). Social commerce an extended technology acceptance model: The mediating effect of perceived ease of use and perceived usefulness. *Malaysian Journal of Consumer and Family Economics, 22,*119–136.

[19] Ibrahim, A., & Shiring, E. (2022). The relationship between educators' attitudes, perceived usefulness, and perceived ease of use of instructional and web-based technologies: Implications from technology acceptance model (TAM). *International Journal of Technology in Education, 5*(4), 535–551. https://doi.org/10.46328/ijte.285

[20] Astuty, I., & Udin, U. D. I. N. (2020). The effect of perceived organizational support and transformational leadership on affective commitment and employee performance. *The Journal of Asian Finance, Economics and Business, 7*(10), 401–411. https://doi.org/10.13106/jafeb.2020.vol7.no10.401

[21] Qasim, D., Shuhaiber, A., & Rawshdeh, Z. (2025). Driving innovation performance: Exploring the mediating role of knowledge sharing in telecommunication companies. *Journal of International Entrepreneurship,* 1–27. https://doi.org/10.1007/s10843-025-00383-y

[22] Tangwaragorn, P., Chareonruk, N., Viriyasitavat, W., Tangmanee, C., Kanawattanachai, P., Hoonsopon, D., ..., & Rhuwadhana, P. (2024). Analyzing key drivers of digital transformation: A review and framework. *Journal of Industrial Information Integration, 42,* 100680. https://doi.org/10.1016/j.jii.2024.100680

[23] Aljawazneh, F., & Qasim, D. (2024). A proposed model of gender differences in metaverse usage intentions in education: An innovation resistance theory perspective. In A. Hamdan (Ed.), Achieving Sustainable Business Through AI, Technology Education and Computer Science: Volume 2: Teaching Technology and Business Sustainability (pp. 87–96). Springer Nature. https://doi.org/10.1007/978-3-031-71213-5_8

[24] Vial, G. (2021). Understanding digital transformation: A review and a research agenda. In A. Hinterhuber., T. Vescovi., & F. Checchinato. (Eds.), *Managing digital transformation,* (pp. 13-66). Routledge.

[25] Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122,* 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

[26] Kumar, H. (2024). Enablers for digital transformation of services to harness new business opportunities. *IEEE Transactions on Engineering Management, 71,* 14282–14292. https://doi.org/10.1109/TEM.2024.3437733.

[27] Schneider, S., & Kokshagina, O. (2020). Digital technologies in the workplace: A Ne (s) t of paradoxes. *ICIS 2020 Proceedings,*1–17.

[28] Bataineh, A. Q., Qasim, D., & Alhur, M. (2024). The impact of digital banking channels and organizational culture on operational excellence in Jordanian banking. *Banks and Bank Systems, 19*(4), 163–176. https://doi.org/10.21511/bbs.19(4).2024.13.

[29] Kumar, V., & Kumar, U. (2017). Introduction: Technology, innovation and sustainable development. *Transnational Corporations Review, 9*(4), 243–247. https://doi.org/10.1080/19186444.2017.1408553

[30] Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

[31] Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2018). How well do women do when it comes to financial literacy? Proposition of an indicator and analysis of gender differences. *Journal of Behavioral and Experimental Finance, 17,* 28–41. https://doi.org/10.1016/j.jbef.2017.12.005

[32] Atkinson, A., & Messy, F. A. (2013). Promoting financial inclusion through financial education: OECD/INFE evidence, policies and practice. *OECD Working Papers on Finance, Insurance and Private Pensions No.34.* https://doi.org/10.1787/20797117

[33] Kim, M. (2024). Financial literacy, portfolio choice, and wealth inequality: A general equilibrium approach. *Wharton Pension Research Council Working Paper No. WP2024-4.* http://doi.org/10.2139/ssrn.4827784

[34] Bakar, M. R. A., Halim, L., & Arsad, N. M. (2023). Factor influencing students' scientific literacy: An exploratory factor analysis. *International Journal of Academic Research in Business and Social Sciences, 13*(12), 5844–5863. http://doi.org/10.6007/IJARBSS/v13-i12/20393

[35] Hira, T. K. (2016). Financial sustainability and personal finance education.In Xiao, J. (Ed.), Handbook of Consumer Finance Research (pp. 357-366). Springer, Cham. https://doi.org/10.1007/978-3-319-28887-1_29

[36] Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of*

Economics and Statistics, 155(1), 1–8. https://doi.org/10.1186/s41937-019-0027-5

[37] Beynaghi, A., Trencher, G., Moztarzadeh, F., Mozafari, M., Maknoon, R., & Leal Filho, W. (2016). Future sustainability scenarios for universities: Moving beyond the United Nations decade of education for sustainable development. *Journal of Cleaner Production, 112*(4), 3464–3478. https://doi.org/10.1016/j.jclepro.2015.10.117

[38] Oztel, H. (2020). Fourth generation university: Co-creating a sustainable future. In W. Leal Filho, A. M. Azul, L. Brandli, P. G. Özuyar, & T. Wall (Eds.), *Quality Education*, (pp. 316–328). Springer, Cham. https://doi.org/10.1007/978-3-319-95870-5_77

[39] Allam, Z., & Cheshmehzangi, A. (2024). Technological innovation and sustainable transitions. In *Sustainable futures and green new deals* (pp. 55–79). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-63642-4_3

[40] Csillag, S., Király, G., Rakovics, M., & Géring, Z. (2022). Agents for sustainable futures? The (unfulfilled) promise of sustainability at leading business schools. *Futures, 144,* 103044. https://doi.org/10.1016/j.futures.2022.103044

[41] Mora, H., Pujol-López, F. A., Mendoza-Tello, J. C., & Morales-Morales, M. R. (2020). An education-based approach for enabling the sustainable development gear. *Computers in Human Behavior, 107,* 105775. https://doi.org/10.1016/j.chb.2018.11.004

[42] Alsmadi, A. A., Al-Okaily, M., Alrawashdeh, N., Al-Gasaymeh, A., Moh'd Al-hazimeh, A., & Zakari, A. (2023). A bibliometric analysis of green bonds and sustainable green energy: Evidence from the last fifteen years (2007–2022). *Sustainability, 15*(7), 5778. https://doi.org/10.3390/su15075778

[43] Ahmad, T. (2020). Scenario based approach to re-imagining future of higher education which prepares students for the future of work. *Higher Education, Skills and Work-Based Learning, 10*(1), 217–238. https://doi.org/10.1108/HESWBL-12-2018-0136

[44] Kasasbeh, H., Alzoubi, M., Alsmadi, A. A., & Al-dweik, A. A. F. (2022). The impact of COVID-19 on Amman Stock Market (ASE) performance: An ARDL approach. In *Digital economy, business analytics, and big data analytics applications, 1010,* 437–455. https://doi.org/10.1007/978-3-031-05258-3_35

[45] Al-Omoush, K. S., Garrido, R., & Cañero, J. (2023). The impact of government use of social media and social media contradictions on trust in government and citizens' attitudes in times of crisis. *Journal of Business Research, 159,* 113748. https://doi.org/10.1016/j.jbusres.2023.113748

[46] Salamzadeh, A., Hadizadeh, M., Rastgoo, N., Rahman, M. M., & Radfard, S. (2022). Sustainability-oriented innovation foresight in international new technology based firms. *Sustainability, 14*(20), 13501. https://doi.org/10.3390/su142013501

[47] Boons, F., & Lüdeke-Freund, F. (2019). Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. *Journal of Cleaner Production, 45,* 9–19. https://doi.org/10.1016/j.jclepro.2012.07.007

[48] Ziadlou, D. (2021). Strategies during digital transformation to make progress in achievement of sustainable development by 2030. *Leadership in Health Services, 34*(4), 375–391. https://doi.org/10.1108/LHS-08-2020-0056

[49] Tsaples, G., Papathanasiou, J., & Manou, D. (2024). Synergies and challenges: Exploring organizational perspectives on digital transformation and sustainable development in the context of skills and education. *Buildings, 14*(2), 395. https://doi.org/10.3390/buildings14020395

[50] Trevisan, L. V., Eustachio, J. H. P. P., Dias, B. G., Filho, W. L., & Pedrozo, E. Á. (2024). Digital transformation towards sustainability in higher education: State-of-the-art and future research insights. *Environment, Development and Sustainability, 26*(2), 2789–2810. https://doi.org/10.1007/s10668-022-02874-7

[51] Strielkowski, W., Korneeva, E., & Gorina, L. (2022). Sustainable development and the digital transformation of educational systems. *Intelektinė Ekonomika, 16*(1), 134–150. https://doi.org/10.13165/IE-22-16-1-08

[52] Qassed, A. Q., Jawad, M. A., & Jaber, K. A.(2022). E-learning issues and solutions for students with disabilities during COVID-19 pandemic: Al-Zaytoonah University of Jordan case study. *International Journal of Evaluation and Research in Education, 11*(4), 2087–2094. https://doi.org/10.11591/ijere.v11i4.22842

[53] Jaber, K. M., Abduljawad, M., Ahmad, A., Abdallah, M., Salah, M., & Alhindawi, N. (2021). E-learning mobile application evaluation: Al-Zaytoonah University as a case study. *International Journal of Advances in Soft Computing and Its Applications, 13*(3), 88–99. https://doi.org/10.15849/IJASCA.211128.07

[54] Abdallah, M., Jaber, K. M., Salah, M., Jawad, M. A., AlQbailat, N., & Abdalla, A. (2021). An e-learning portal quality model: From Al-Zaytoonah University students' perspective. In *2021 International Conference on Information Technology,* 553–557. https://doi.org/10.1109/ICIT52682.2021.9491785

[55] Pappas, I. O., Mikalef, P., Giannakos, M. N., Krogstie, J., & Lekakos, G. (2018). Big data and business analytics ecosystems: Paving the way towards digital transformation and sustainable societies. *Information Systems and E-business Management, 16*(3), 479–491. https://doi.org/10.1007/s10257-018-0377-z

[56] Ufua, D. E., Emielu, E. T., Olujobi, O. J., Lakhani, F., Borishade, T. T., Ibidunni, A. S., & Osabuohien, E. S. (2021). Digital transformation: A conceptual framing for attaining sustainable development goals 4 and 9 in Nigeria. *Journal of Management & Organization, 27*(5), 836–849. https://doi.org/10.1017/jmo.2021.45

[57] Zhanbayev, R. A., Irfan, M., Shutaleva, A. V., Maksimov, D. G., Abdykadyrkyzy, R., & Filiz, Ş. (2023). Demoethical model of sustainable development of society: A roadmap towards digital transformation. *Sustainability, 15*(16), 12478. https://doi.org/10.3390/su151612478

[58] Abduljawad, M., & Ahmad, A. (2023). An analysis of mobile learning (M-Learning) in education. *Multicultural Education, 9*(2), 2023. 10.5281/zenodo.7665894

[59] Jaber, T. (2020). A surge toward a sustainable future: Organizational change and transformational vision by an oil and gas company. *Revista de Administração Contemporânea, 25*(3), e200031. https://doi.org/10.1590/1982-7849rac2021200031.en

[60] Rodríguez-Abitia, G., & Bribiesca-Correa, G. (2021). Assessing digital transformation in universities. *Future Internet, 13*(2), 52. https://doi.org/10.3390/fi13020052

[61] Kontić, L., & Vidicki, Đ. (2018). Strategy for digital organization: Testing a measurement tool for digital transformation. *Strategic Management, 23*(1), 29–35.

[62] Tangi, L., Janssen, M., Benedetti, M., & Noci, G. (2020). Barriers and drivers of digital transformation in public organizations: Results from a survey in the Netherlands. In *Electronic*

Government: 19th IFIP WG 8.5 International Conference, EGOV 2020, Proceedings 19, 12219, 42–56. https://doi.org/10.1007/978-3-030-57599-1_4

[63] Stella, G. P., Filotto, U., & Cervellati, E. M. (2020). A proposal for a new financial literacy questionnaire. *International Journal of Business and Management, 15*(2), 34–48. https://doi.org/10.5539/ijbm.v15n2p34

[64] Fauziah, P., & Sari, R. C. (2019). The development of a financial literacy questionnaire for early childhood. In*ternational Journal of Innovation, Creativity and Change, 7*(7), 305–315.

[65] Tomášková, H., Mohelská, H., & Němcová, Z. (2011). Issues of financial literacy education. *Procedia-Social and Behavioral Sciences, 28,* 365–369. https://doi.org/10.1016/j.sbspro.2011.11.069

[66] Wachira, E. W. (2013). *The effect of technological innovation on the financial performance of commercial banks in Kenya.* Doctoral Dissertation, University of Nairobi.

[67] Kimingi, C. N. (2010). *The effects of technological innovations on the financial performance of the commercial banks in Kenya.* Doctoral Dissertation, University of Nairobi.

[68] Vieira-dos Santos, J., & Gonçalves, G. (2018). Organizational culture, internal marketing and perceived organizational support in Portuguese higher education institutions. *Journal of Work and Organizational Psychology, 34,* 38–45. https://doi.org/10.5093/jwop2018a5

[69] Chen, T., Hao, S., Ding, K., Feng, X., Li, G., & Liang, X. (2020). The impact of organizational support on employee performance. *Employee Relations, 42*(1), 166–179. https://doi.org/10.1108/ER-01-2019-0079

[70] Gatti, L., Ulrich, M., & Seele, P. (2019). Education for sustainable development through business simulation games: An exploratory study of sustainability gamification and its effects on students' learning outcomes. *Journal of Cleaner Production, 207,* 667–678. https://doi.org/10.1016/j.jclepro.2018.09.130

[71] Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *The Journal of Environmental Education, 51*(4), 280–291. https://doi.org/10.1080/00958964.2019.1710444

[72] Veckalne, R., & Tambovceva, T. (2022). The role of digital transformation in education in promoting sustainable development. *Virtual Economics, 5*(4), 65–86. https://doi.org/10.34021/ve.2022.05.04(4)

[73] Gigauri, I., Vasilev, V., & Mushkudiani, Z. (2022). In pursuit of sustainability: Towards sustainable future through education. *International Journal of Innovative Technologies in Economy,* (37). https://doi.org/10.31435/rsglobal_ijite/30032022/7798

[74] McAllum, M. (2020). Futures thinking on sustainable development. *Quality Education,* 351–364. https://doi.org/10.1007/978-3-319-95870-5_110

[75] Zulfikri, B., & Faqihah, H. (2024). Financial literacy for sustainable futures: Climate change perspective. http://doi.org/10.2139/ssrn.4844623

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