

IMPACT OF DISTANCE LEARNING TECHNOLOGY ON ONLINE EDUCATION PERFORMANCE

*Hevron Alshurideh*³, *Muhammad Turki Alshurideh*¹, *Barween Al Kurdi*², *Shireen Hikmat Alkurdi*⁴

¹ *Department of Foreign Languages, Faculty of English Language and Literature, The University of Jordan, Amman 11942, Jordan. Hevronalshurideh@gmail.com*

² *Department of Marketing, School of Business, The University of Jordan, Amman 11942, Jordan, Orcid [0000-0002-7336-381X], m.alshurideh@ju.edu.jo*

³ *Department of Marketing, Faculty of Economics and Administrative Sciences, The Hashemite University, P.O. Box 330127, Zarqa 13133, Jordan. Orcid [0000-0002-0825-4617], barween@hu.edu.jo*

⁴ *Humanities Department, Faculty of Engineering Technology. Al-Balqa Applied University, shireenkurdi@bau.edu.jo*

ABSTRACT

Distance learning technologies have become mainstream due to the emergence of coronavirus (COVID-19) and its variants over the last few months. Both companies and institutions are now resorting to using technology for their operations, whether to train their workforce or educate their students. This research has devised full stack distance learning technology platform to enable a factious educational institutions or corporation to enable its usage and effectively demonstrate how technology could be utilized to fully transform learning online. As a result, the functioning of how a university or learning institution could take their learning online away from their physical medium, thereby insulting themselves from the risk of suffering contagion due to the coronavirus while continuing their operations and business as usual.

Keywords: *Distance Learning Technology, Online Education Performance.*

1. INTRODUCTION

Throughout the years, businesses and commerce have adapted and adjusted to the changing circumstances [1], [2]. In 2020, when the coronavirus pandemic affected the world, the concept of ‘social distancing’ became mainstream [3]–[5]. Reasonably, activities that involved human interaction were now restricted, and as a result, many companies suffered significantly [6]. Many small and medium-sized businesses (SMBs) suffered failures and had to shut down operations and exit the market due to their inability to operate via social-distancing friendly models [7], [8].

Restaurants and hotels too were affected, as were schools and colleges that did not have the infrastructure to continue their operations via online or digital modes [9], [10]. The advent of the pandemic signalled the lack of preparedness among businesses and commercial entities, many of which were not prepared to face a pandemic or situational disaster such as COVID-19 [11]–[13]. As a result, it was that their owners suffered losses since their fixed costs continued while their sales dropped almost fully due to the lack of customers in their premises [14]. Schools and offices were forced to let their students and employees stay in at their residences, which disrupted the former’s learning and the latter’s livelihoods [15]–[17].

As such, the ‘work-from-home’ or ‘WFH’ model became relevant and prominent in 2020 as many businesses eventually found that they could continue their employees’ working through online collaboration technologies [18], [19]. Several firms worldwide invested in upgrading their infrastructure to ensure that they could continue to operate and remain in business [20]. This marks a critical step, because it wasn’t certain about how long the pandemic would last or may continue to affect the world [21].

In 2021, the situation still largely remains the same; although global institutions such as the World Health Organization (WHO) have been active in guiding nations towards getting their populations vaccinated, new variants of the virus such as the ‘Alpha’ variant, the ‘Delta’ variant, and now, the ‘Omicron’ variant continue to ravage the masses [22]–[24].

While the pandemic has caused damage worth trillions to the global economy [25], [26], it is an ongoing problem that calls for intervention at both the governmental as well as the individual levels [27], [28]. In schools and universities, distance learning technologies are becoming more relevant and necessary than ever before, as students’ future continues to be at stake due to the

virus's contagion [29]–[32]. While it is not completely possible to eliminate the impacts of coronavirus for students, distance learning technologies could reduce it and improve the manageability [33].

Therefore, this research encapsulates the strategies to be implemented by educational institutions revolving around the business management of implementing an idea that may boost the ability of the firm (whether educational institution or commercial entity) to better handle itself and its operations amidst situations produced as a result of the coronavirus (COVID-19). Hence, this research elaborates on the idea of various distance learning technologies on the basis of prior literature.

2. LITERATURE REVIEW

Distance learning technologies may become well-known now due to the compulsion of various institutions and firms to rely on them, but they have been present in the global marketplace since years ago [34], [35]. Research by [36] suggests that distance learning technologies have not been utilized much for a significant part of their overall existence in the corporate and academic contexts until late 1960s; however, following then, distance learning technologies gradually began to be adopted by institutions [36], [37].

2.1. History of Distance Learning Technologies

Prior to the advent of distance learning technologies, the concept of 'distance education' was relevant. As per [38]–[40] the earliest instances of distance education can be traced back to 1800 when the University of Chicago initiated their first major correspondence program in the US wherein the instructor and students were located at different locations [41], [42]. The incidence or occurrence of distance learning took place because of the efforts of various parties to make education accessible to the non-elite sections of the society [43]. Prior to 1800, education was primarily considered a privilege and was expensive and hence couldn't be afforded by the non-nobility in society [44]–[46].

Initially, correspondence courses and distance learning programs were not openly accepted because the nobility considered it an insult to them [47], [48]. Research by [49] suggests that distance learning remained without technology for a significant period and correspondence was limited to books and personal visits by students at their respective educational institutions [50]–[52].

Following the events of World War, I (1914-1918), the increase in the usage of radios enabled a relatively new mode of communication that was later picked up in correspondence study [53]–[55]. The earliest instances of usage of technology in distance learning (thereby creating the distance learning technologies that are primarily used today) could be traced back to the Open University in Britain in 1970 and the innovative applications of media by Charles WEDEMEYER in 1986 at the University of Wisconsin [56], [57]. Following those events, educational institutions gradually picked up on distancing learning technologies [58], [59].

2.2. Key Elements of Distance Learning

Research by [60] explains that there are six dimensions of distance learning including:

- Distance between the instructor and student (as being separated geographically)
- Presence or influence of an educational institution (to oversee the transaction between the instructor and student)
- Application of media to connect student and teacher (this was limited in the pre-2000 era)
- Two-way transaction of communication (receiving and sending information between the individuals)
- Individually receiving education as opposed to being grouped (in the early days, distance education wasn't as developed to handle large numbers of students at once)
- Educators in industrialized capacity (rather than individuals, those educators were affiliated with some institution and hence used the resources of the latter to impart education to the students)

In the modern distance learning, many of those continue to hold true except point five [61], [62], because distance learning now enables entire courses to be delivered to students over digital means [63].

2.3. Modern Trends in Distance Learning Technologies

In the current era, distance learning technologies have become the commonplace for both educational institutions as well as for-profit firms considering to upgrade their workforces' knowledge [64], [65]. The rise of coronavirus (COVID-19) and its subsequent transition into a full-scale pandemic may have accelerated the shift towards digital-based modes of learning, but it

hasn't been, by far, the only factor to have caused the same [66]–[68]. Some major factors to be considered with regards to trends in modern distance learning technologies include the following:

- Several universities and educational institutions now have distance learning programs for their students, and this enables both parties to gain. Students have a relatively low-cost way of acquiring further education that may enable them to find better jobs and/or progress in their career, while educational institutions can earn more from their workforce and operations without having to invest in capital expenditure such as renting or leasing more physical space to house a larger student body [69], [70].
- Subjects that are fundamental such as Calculus I, English for Business, etc. aren't too specific and hence can be delivered over online modes. Due to the coronavirus pandemic, those courses are being delivered online, although the universities may have collected the full payment for them [71]–[73].
- Various reasons exist for why it is advisable for students to not step out of their homes during the coronavirus pandemic era. New variants continue to afflict masses, and vaccinations taken previously may not be as effective for or against new variants [74]. Hence, health-wise, it is considerably important that students continue their lessons and/or education through distance learning technologies to avoid coming into contact with any potentially infected individuals and hence minimizing their risk of contracting the virus themselves [75], [76].

2.4. Management Idea Influenced by COVID-19

For the purpose of this research, it is assumed that the report is a reference document delivered to the shareholders of an educational institution by the management or board of directors [77]–[79]. The chosen topic that the fictitious educational institution aims to adopt is distance learning technologies [80]; therefore, it consists of about five distance learning technologies that may be adopted by the management and the firm or institution [81], [82]. Following the explanation of those five distance learning technologies, a brief discussion is provided to help the readers understand how they may aid the resilience of the firm and their operations against the onslaught of COVID-19 pandemic in 2021 [83]–[85].

2.5. Proposed Model of Modern Learning

As far as education and learning are concerned, the author suggests that they can be classified into two main segments or aspects, including in-class learning, and out-of-class learning [86]. It may be argued that learning itself is a continuous process, and students continue to gain knowledge within the classroom [87], [88], but also outside it through various media or channels as well as environmental stimuli. The illustration below demonstrates how the same may be structured [89].

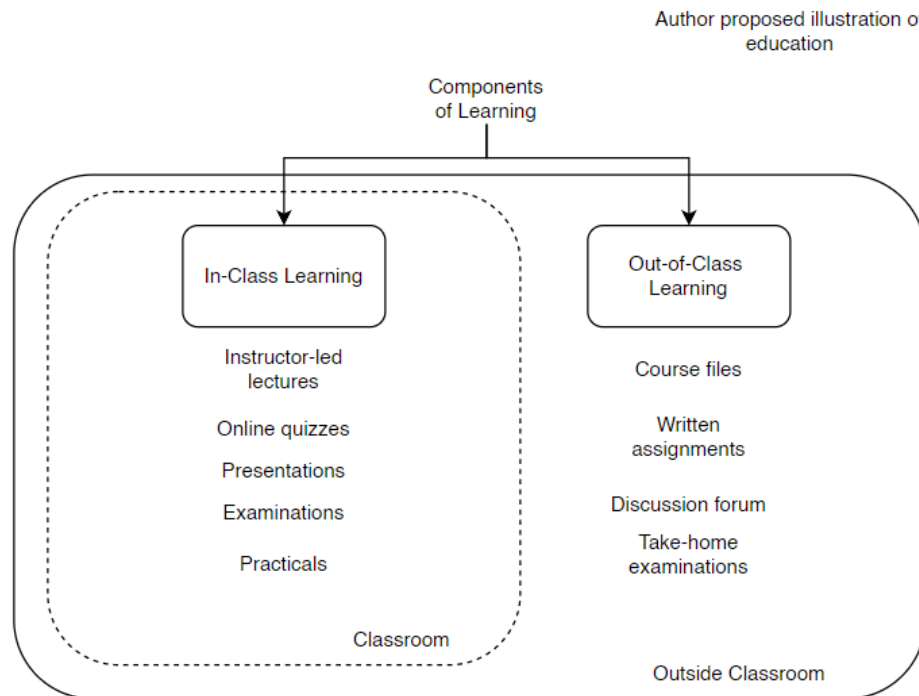


Figure 1: Modern Learning [90].

Hence, the author proposes that learning has to continue happening whether learners are in the classroom or not; with the advent of distance learning technologies, the primary objective of the institution is to ensure that they can find technological platforms responsible for ensuring that the in-class learning technologies are handled effectively [91], [92].

2.6. Proposed Distance Learning Technologies

In the model proposed above to illustrate the components of learning, the various parts shall be complimented by various platforms and distance learning technologies as the author suggests [93]–[95]. Hence, this subsection shall have parts that would necessarily include the potential products

that when combined together may form a distance learning stack responsible for fully digitalizing learning for the institution or firm [96].

2.6.1. Learning Management Systems (LMS)

The learning management system or LMS is the foundation or bedrock of the ‘universe’ of online learning [97]. It is impossible to determine or define a distance learning technology suite. For the firm chosen in this report, the LMS shall include two components, including the in-class component as well as the out-of-class component [98], [99]. However, more so than being a dedicated tool, it shall be more of a platform which may serve as the foundation for other integrations of various tools and technologies [100].

At the basic level, LMS includes the following features that may help support online education or distance learning [101]:

1. Unified platform that is accessible by students, instructors, and other authorized parties through the means of a login ID (usually their registered e-mail ID or username) and password [102].
2. Dashboard interface that presents all the necessary information related to the course on one screen, including due dates of assignments, courses enrolled for, instructors’ names and details, grades, lecture timings, course files, etc [103].
3. Integration with third-party collaboration and productivity tools to enable students to benefit from the same without having to exit the platform.
4. Discussion forum and e-mail inbox integrated into the portal to enable students, instructors, and other authorized parties to communicate with each other seamlessly.

Two of the proposed or valid learning management systems (LMS) are Blackboard (BB) and Moodle. Either LMS may be deployed by the firm to enable distance learning technologies to be used by our students [104], [105].

2.6.2. Collaboration Tools

Although the learning management system (LMS) would provide the foundation for the distance learning technology stack, the two components (in-class learning component and out-of-the-class learning component) need to be considered for replacement of their physical forms with online

replacements [106], [107]. The author suggests that collaboration tools may be used to handle the in-class learning component of the distance learning technology.

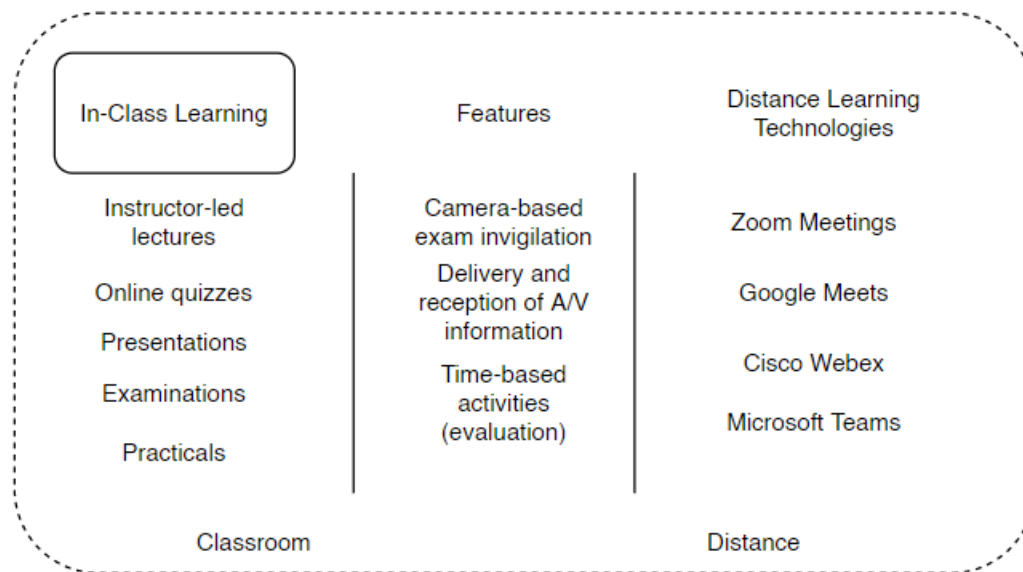


Figure 2: Collaboration tools [108].

Collaboration tools are technologies that enable students to communicate and work together in some form to achieve some meaningful benefit collectively [109]–[111]. Therefore, collaboration tools enable more than one student to work together and hence, because learning now happens to be collaborative, the usage of collaboration tools cannot be ignored or undermined [112], [113]. The features that the collaboration tools must have include the ability to invigilate students via camera (webcam), delivery and reception of audio-visual information [114], and time-based activities such as quizzes, exams, and tests that may be conducted by the instructor [115], [116]. Some of the features here are enabled through or via distance learning technologies such as Zoom Meeting, Google Meets, Cisco WEBEX, and Microsoft Teams such as the instructor-led lectures and classroom discussions [117]. However, as for the examinations, practical tests, and quizzes, they may be built into the portal (LMS) itself and hence function with the collaboration tools [118].

In short, the collaboration tools handle the in-classroom learning component. As for the out-of-class learning component, the same shall be explained and handled by the next set of tools, the productivity tools as shall be explained below [119], [120].

2.6.3. Productivity Tools

As for the second component of distance learning, the out-of-class learning component, the same would be taken care of by productivity tools [121]. As the name suggests, productivity tools are tools that are employed or utilized by individuals to produce results or outcomes [122]. In this context or that of distance learning technologies, productivity tools would include the likes of Google Suite, Microsoft Office 365, ZOHO Suite, etc [123].

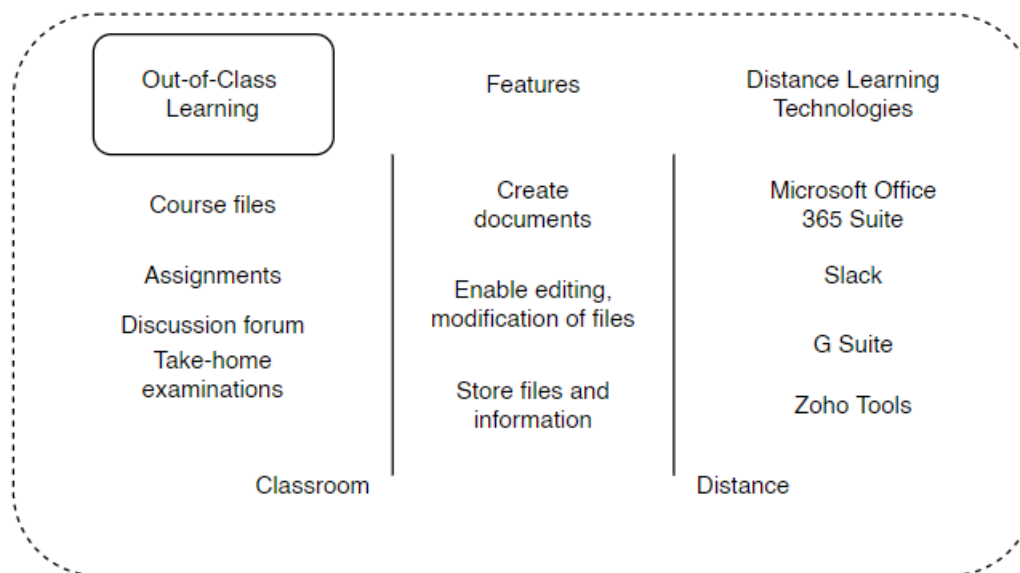


Figure 3: Productivity tools [124].

The diagram above demonstrates how the same may be incorporated into out-of-class learning endeavours [125], [126]. The main features necessary for out-of-class learning components are to create documents of various types, enable the editing and their modification by either the creator of the document or by other authorized parties, and to store information and/or files in secure space digitally [127].

As the figure 3 above illustrates, some of the distance learning technologies among productivity tools would include the likes of well-known productivity suites such as Microsoft Office 365 Suite and Google Suite [128], [129]. It must be noted that in this context, it is expected that they would have some of the abovementioned characteristics if not all [130], [131]. However, the main idea is that they should enable the gathering of knowledge even beyond the classroom, and then allow its documentation.

2.6.4. *Combined Model*

The final model here is a combination of both the productivity tools and collaboration tools which are both integrated into the foundation which is the learning management system (LMS) that the firm shall use [132], [133]. In the real world, both the productivity tools and collaboration tools would be likely used simultaneously by the students and professors as part of their distance learning technologies [134], [135]. In this sense, the collaboration tools would be interconnected with the productivity tools, so students can both use their own devices as well as that of the cloud-based platforms like Microsoft Office 365 Suite, G Suite, Slack, etc. Through a combination of both aspects, the distance learning technologies model can be completed [136], [137].

The process of the combined model is as such given below (in steps, though not exactly):

- The university deploys a full stack distance learning technology platform that is replete with a foundation (LMS or learning management system) along with a productivity suite of tools that supports out-of-the-classroom learning coupled with a collaboration suite that enables in-classroom learning [138].
- Students login to the portal and use the collaboration tools to effectively communicate with each other and collaborate to achieve the learning outcomes of their courses.
- Students use the productivity tools when outside their classroom to ensure that they continue to learn and grow.
- Cloud storage would be used for the students to store and retrieve the data as per their requirements.

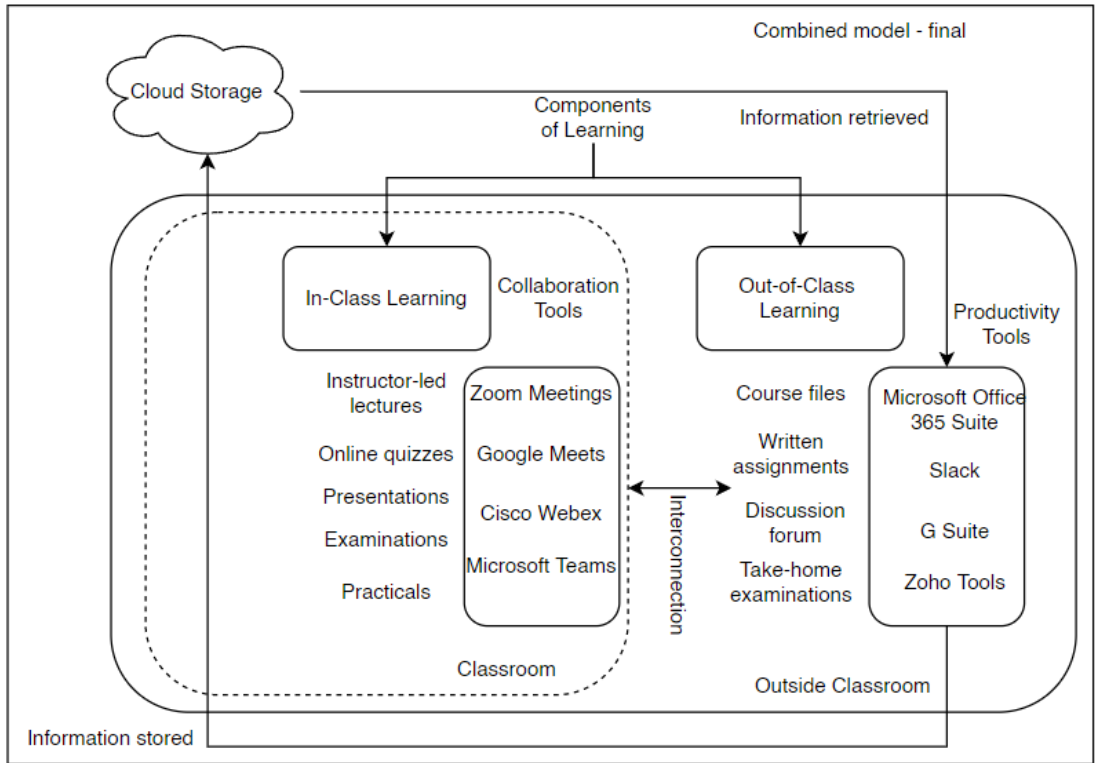


Figure 4: Combined model [139].

Thus, the overall distance learning technology stack would be ready and usable for our firm that we have considered for the purpose of this study.

2.7. General Research Model

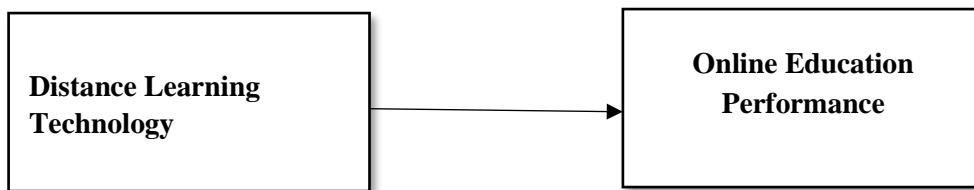


Figure 5: Conceptual Research Model

3. DISCUSSION

In addition to the system proposed in this research, the recommendations that may be applied in this situation for the firm would include the following.

- The incorporation of both productivity and collaboration tools would ensure that the in-class learning and out-of-class learning parts are handled properly. However, because technology may be difficult to master, adequate training must be provided to both students as well as instructors to ensure that they make the most of the system provided to them for distance learning. Research by [1] suggests that there may be challenges associated with the learning systems via technology, but they can be handled through proper training.
- Proactive approaches are essential for educational institution as well as other institutions considering to deploy systems for online learning. In this context, the method suggested for distance learning technologies must be frequently tested and updated, so that it continues to improve in both usability as well as features for the students and other associated stakeholders.
- Research and development (R&D) with regards to the distance learning technology system would have to be continuous, otherwise security issues like bugs could potentially hamper the functionality of the same and hence the same would be ill-advised.

4. CONCLUSION

To conclude, it can be seen that although distance learning technologies were optional for companies and institutions at some point in the past, they are a necessity now. It has become ever more important for companies and universities to deploy infrastructure and digital equipment to ensure that they are capable of delivering knowledge upgrades to their respective stakeholders, including students and employees. As this research report demonstrates theoretically, the concept of a distance learning technology suite must have components that involve both the in-classroom learning and out-of-classroom learning. The foundation for any distance learning technology stack would be a competent learning management system (LMS) such as Moodle or Blackboard, a portal that would be accessible through a login username or e-mail ID and a password.

On top of this foundation system, third-party applications from various developers such as Microsoft Office 365 Suite from Microsoft, Google Suite from Google, Microsoft Teams from

Microsoft (again), Zoom Meetings from Zoom, Cisco WEBEX from Cisco, etc. could be integrated. As a result, students would have the functionality of both collaboration tools and productivity tools at once on one platform. Thus, they would experience a seamless learning experience with regards to the same wherever they shall be physically. Some challenges to note in this case would be the lack of familiarity that many or most students would have in case they do not have a tech-savvy background, but at the same time, they too would likely ensure that they could pick up quickly if adequate training is provided to them by the university or educational institution. As a result, the overall system would function seamlessly and pandemics such as coronavirus or any other would have much lower or lesser impacts on the business.

REFERENCES

- [1] M. A. Khan, "Challenges Facing the Application of IoT in Medicine and Healthcare," *Int. J. Comput. Inf. Manuf.*, vol. 1, no. 1, pp. 39–55, 2021, doi: 10.54489/ijcim.v1i1.32.
- [2] M. El Khatib, S. Hamidi, I. Al Ameer, H. Al Zaabi, and R. Al Marqab, "Digital Disruption and Big Data in Healthcare-Opportunities and Challenges," *Clin. Outcomes Res.*, vol. 14, pp. 563–574, 2022, doi: 10.2147/CEOR.S369553.
- [3] H. M. Alzoubi *et al.*, "Securing Smart Cities Using Blockchain Technology," in *2022 1st International Conference on AI in Cybersecurity (ICAIC)*, 2022, pp. 1–4. doi: 10.1109/icaic53980.2022.9896971.
- [4] E. P. Mondol, "The Impact of Block Chain and Smart Inventory System on Supply Chain Performance at Retail Industry," *Int. J. Comput. Inf. Manuf.*, vol. 1, no. 1, pp. 56–76, 2021, doi: 10.54489/ijcim.v1i1.30.
- [5] T. M. Ghazal *et al.*, "Modeling habit patterns using conditional reflexes in agency," *Intell. Autom. Soft Comput.*, vol. 30, no. 2, pp. 539–552, Aug. 2021, doi: 10.32604/iasc.2021.018888.
- [6] H. M. Alzoubi *et al.*, "Cyber Security Threats on Digital Banking," in *2022 1st International Conference on AI in Cybersecurity (ICAIC)*, 2022, pp. 1–4. doi: 10.1109/icaic53980.2022.9896966.
- [7] A. Alzoubi, "Renewable Green hydrogen energy impact on sustainability performance," *Int. J. Comput. Inf. Manuf.*, vol. 1, no. 1, pp. 94–105, 2021, doi: 10.54489/ijcim.v1i1.46.
- [8] M. El Khatib, H. M. Alzoubi, A. Al Mulla, and W. Al Ketbi, "The Role of Blockchain in E-Governance and Decision-Making in Project and Program Management," *Adv. Internet Things*, vol. 12, no. 03, pp. 88–109, 2022, doi: 10.4236/ait.2022.123006.
- [9] H. M. Alzoubi *et al.*, "Digital Transformation and SMART-The Analytics factor," in *2022 International Conference on Business Analytics for Technology and Security, ICBATS 2022*, 2022, pp. 1–11. doi: 10.1109/ICBATS54253.2022.9759084.
- [10] T. Ghazal, T. R. Soomro, and K. Shaalan, "Integration of Project Management Maturity (PMM) Based on Capability Maturity Model Integration (CMMI)," *Eur. J. Sci. Res.*, vol. 99, p. 418–428, 2013.
- [11] H. M. Alzoubi, A. Ali, A. W. Septyanto, I. Chaudhary, H. A. Hamadi, and Z. F. Khan, "Applied Artificial Intelligence as Event Horizon Of Cyber Security," in *2022 International Conference on Business Analytics*

- for Technology and Security (ICBATS, 2022, pp. 1–7. doi: 10.1109/ICBATS54253.2022.9759076.
- [12] M. Farouk, “The Universal Artificial Intelligence Efforts to Face Coronavirus COVID-19,” *Int. J. Comput. Inf. Manuf.*, vol. 1, no. 1, pp. 77–93, 2021, doi: 10.54489/ijcim.v1i1.47.
- [13] T. M. Ghazal, M. A. M. Afifi, D. Kalra, and B. Mago, “Information Technology Ethics and Professional Responsibilities,” *Int. J. Adv. Sci. Technol.*, vol. 29, no. 4, pp. 11336–11343, 2020, [Online]. Available: <https://www.researchgate.net/publication/352159596>
- [14] M. El Khatib, M. Hammerschmidt, and M. Al Junaibi, “Leveraging innovation input on enhancing smart service quality. Cases from Abu Dhabi Emirate,” *Int. J. Manag. Cases*, vol. 23, no. 2, pp. 46–62, 2021, [Online]. Available: <http://www.redi-bw.de/db/ebSCO.php/search.ebSCOhost.com/login.aspx%3Fdirect%3Dtrue%26db%3Dbuh%26AN%3D151548527%26site%3Dhost-live>
- [15] H. M. Alzoubi, A. U. Rehman, R. M. Saleem, Z. Shafi, M. Imran, and M. Pradhan, “Analysis of Income on the Basis of Occupation using Data Mining,” in *2022 International Conference on Business Analytics for Technology and Security, ICBATS 2022*, 2022, pp. 1–4. doi: 10.1109/ICBATS54253.2022.9759040.
- [16] N. Guergov, S., & Radwan, “Blockchain Convergence: Analysis of Issues Affecting IoT, AI and Blockchain,” *Inf. Manuf.*, vol. 1, no. 1, pp. 1–17, 2021.
- [17] T. M. Ghazal *et al.*, “Hep-pred: Hepatitis C staging prediction using fine gaussian SVM,” *Comput. Mater. Contin.*, vol. 69, no. 1, pp. 191–203, 2021, doi: 10.32604/cmc.2021.015436.
- [18] H. M. Alzoubi and R. Yanamandra, “Investigating the mediating role of information sharing strategy on agile supply chain,” *Uncertain Supply Chain Manag.*, vol. 8, no. 2, pp. 273–284, 2020, doi: 10.5267/j.uscm.2019.12.004.
- [19] M. M. El Khatib and G. Ahmed, “Robotic pharmacies potential and limitations of artificial intelligence: A case study,” *Int. J. Bus. Innov. Res.*, vol. 23, no. 3, pp. 298–312, 2020, doi: 10.1504/IJBIR.2020.110972.
- [20] A. J. Obaid, “Assessment of Smart Home Assistants as an IoT,” *Int. J. Comput. Inf. Manuf.*, vol. 1, no. 1, pp. 18–38, 2021, doi: 10.54489/ijcim.v1i1.34.
- [21] T. M. Ghazal, H. M. Alzoubi, R. M. Al Batayneh, N. Taleb, R. A. Said, and M. T. Alshurideh, “IT Governance Framework and Smart Services Integration for Future Development of Dubai Infrastructure Utilizing AI and Big Data, Its Reflection on the Citizens Standard of Living,” 2021, pp. 235–247. doi: 10.1007/978-3-030-76346-6_22.
- [22] H. M. Alzoubi, T. Mehmood, M. Alshurideh, A. Al-Gasaymeh, and G. Ahmed, “Schumpeterian entrepreneurship theory: Evolution and relevance,” *Acad. Entrep. J.*, vol. 25, no. 4, pp. 1–10, 2019.
- [23] A. A. Kashif, B. Bakhtawar, A. Akhtar, S. Akhtar, N. Aziz, and M. S. Javeid, “Treatment Response Prediction in Hepatitis C Patients using Machine Learning Techniques,” *Int. J. Technol. Innov. Manag.*, vol. 1, no. 2, pp. 79–89, 2021, doi: 10.54489/ijtim.v1i2.24.
- [24] T. M. Ghazal *et al.*, “Performances of k-means clustering algorithm with different distance metrics,” *Intell. Autom. Soft Comput.*, vol. 30, no. 2, pp. 735–742, Aug. 2021, doi: 10.32604/iasc.2021.019067.
- [25] M. M. El El Khatib and M. J. C. Opulencia, “The Effects of Cloud Computing (IaaS) on E- Libraries in United Arab Emirates,” *Procedia Econ. Financ.*, vol. 23, pp. 1354–1357, 2015, doi: 10.1016/s2212-5671(15)00521-3.
- [26] O. Gulseven and G. Ahmed, “The State of Life on Land (SDG 15) in the United Arab Emirates,” *Int. J. Soc. Ecol. Sustain. Dev.*, vol. 13, no. 1, pp. 1–15, 2022, doi: 10.4018/ijssed.306264.
- [27] H. Alzoubi, M. Alshurideh, B. Al Kurdi, and M. Inairat, “Do perceived service value, quality, price fairness

- and service recovery shape customer satisfaction and delight? A practical study in the service telecommunication context,” *Uncertain Supply Chain Manag.*, vol. 8, no. 3, pp. 579–588, 2020, doi: 10.5267/j.uscm.2020.2.005.
- [28] D. M. M. El Khatib, “Integrating Project Risk Management and Value Engineering in Tendering Processes,” *Int. J. Eng. Res.*, vol. 4, no. 8, pp. 442–445, 2015, doi: 10.17950/ijer/v4s8/808.
- [29] A. Akhtar, S. Akhtar, B. Bakhtawar, A. A. Kashif, N. Aziz, and M. S. Javeid, “COVID-19 Detection from CBC using Machine Learning Techniques,” *Int. J. Technol. Innov. Manag.*, vol. 1, no. 2, pp. 65–78, 2021, doi: 10.54489/ijtim.v1i2.22.
- [30] M. M. El Khatib, A. Al-Nakeeb, and G. Ahmed, “Integration of Cloud Computing with Artificial Intelligence and Its Impact on Telecom Sector—A Case Study,” *iBusiness*, vol. 11, no. 01, pp. 1–10, 2019, doi: 10.4236/ib.2019.111001.
- [31] T. Ghazal, M. Afifi, and D. Kaira, “Integration of collaboration systems in hospitality management as a comprehensive solution,” *Int. J. Adv. Sci. Technol.*, vol. 29, no. 8s, pp. 3155–3173, 2020, [Online]. Available: <http://sersec.org/journals/index.php/IJAST/article/view/16386>
- [32] T. M. Ghazal, R. A. Said, and N. Taleb, *Internet of vehicles and autonomous systems with AI for Medical Things*. Soft Computing, 2021.
- [33] H. M. Alzoubi *et al.*, “IoT for Smart Cities: Machine Learning Approaches in Smart Healthcare-A Review,” *Futur. Internet*, vol. 13, no. 8, p. 218, 2021, doi: 10.3390/fi13080218.
- [34] H. Alzoubi, M. Alshurideh, A. Gasaymeh, G. Ahmed, and B. Al Kurd, “Loyalty program effectiveness: Theoretical reviews and practical proofs,” *Uncertain Supply Chain Manag.*, vol. 8, no. 3, pp. 599–612, 2020, doi: 10.5267/j.uscm.2020.2.003.
- [35] T. Eli and Lalla Aisha Sidi Hamou, “Investigating the Factors That Influence Students’ Choice of English Studies As a Major: the Case of University of Nouakchott Al Aasriya, Mauritania,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijtim.v2i1.62.
- [36] T. Mehmood, “Does Information Technology Competencies and Fleet Management Practices lead to Effective Service Delivery? Empirical Evidence from E- Commerce Industry,” *Int. J. Technol. Innov. Manag.*, vol. 1, no. 2, pp. 14–41, 2021, doi: 10.54489/ijtim.v1i2.26.
- [37] M. El Khatib, S. Al Blooshi, and A. Al-habeeb, “The Challenge and Potential Solutions of Reading Voluminous Electronic Medical Records (EMR): A Case Study from UAE,” *IOSR J. Bus. Manag. (IOSR-JBM)*, vol. 18, no. 12, pp. 38–46, 2016.
- [38] H. M. Alzoubi, N. N. Alnazer, and M. A. Alnuaimi, “Analysing the appropriate cognitive styles and its effect on strategic innovation in Jordanian universities,” *Int. J. Bus. Excell.*, vol. 13, no. 1, pp. 127–140, 2017, doi: 10.1504/IJBEX.2017.085799.
- [39] N. Alsharari, “Integrating Blockchain Technology with Internet of things to Efficiency,” *Int. J. Technol. Innov. Manag.*, vol. 1, no. 2, pp. 01–13, 2021, doi: 10.54489/ijtim.v1i2.25.
- [40] T. M. Ghazal, H. M. Alzoubi, and M. Alshurideh, “Integrating BLE Beacon Technology with Intelligent Information Systems IIS for Operations’ Performance: A Managerial Perspective,” 2021, pp. 527–538. doi: 10.1007/978-3-030-76346-6_48.
- [41] H. Alzoubi and G. Ahmed, “Do TQM practices improve organisational success? A case study of electronics industry in the UAE,” *Int. J. Econ. Bus. Res.*, vol. 17, no. 4, pp. 459–472, 2019, doi: 10.1504/IJEER.2019.099975.
- [42] M. M. El Khatib and G. Ahmed, “Management of artificial intelligence enabled smart wearable devices for early diagnosis and continuous monitoring of CVDS,” *Int. J. Innov. Technol. Explor. Eng.*, vol. 9, no. 1, pp.

- 1211–1215, 2019, doi: 10.35940/ijitee.L3108.119119.
- [43] A. Abudaqa, R. A. Alzahmi, H. Almujaani, and G. Ahmed, “Does innovation moderate the relationship between digital facilitators, digital transformation strategies and overall performance of SMEs of UAE?,” *Int. J. Entrep. Ventur.*, vol. 14, no. 3, pp. 330–350, 2022, doi: 10.1504/ijev.2022.124964.
- [44] H. M. Alzoubi, G. Ahmed, A. Al-Gasaymeh, and B. Al Kurdi, “Empirical study on sustainable supply chain strategies and its impact on competitive priorities: The mediating role of supply chain collaboration,” *Manag. Sci. Lett.*, vol. 10, no. 3, pp. 703–708, 2020, doi: 10.5267/j.msl.2019.9.008.
- [45] D. Miller, “The Best Practice of Teach Computer Science Students to Use Paper Prototyping. International Journal of Technology,” *Innov. Manag. (IJTIM)*, vol. 1, no. 2, pp. 42–63, 2021.
- [46] M. El Khatib, L. Nakand, S. Almarzooqi, and A. Almarzooqi, “E-Governance in Project Management: Impact and Risks of Implementation,” *Am. J. Ind. Bus. Manag.*, vol. 10, no. 12, pp. 1785–1811, 2020, doi: 10.4236/ajibm.2020.1012111.
- [47] M. El Khatib, F. Beshwari, M. Beshwari, and A. Beshwari, “The impact of blockchain on project management,” *ICIC Express Lett.*, vol. 15, no. 5, pp. 467–474, 2021, doi: 10.24507/icicel.15.05.467.
- [48] T. M. Ghazal *et al.*, “Software defect prediction using ensemble learning: A systematic literature review,” *IEEE Access*, vol. 9, no. 1109, pp. 98754–98771, 2021, doi: 10.1109/ACCESS.2021.3095559.
- [49] H. Alzoubi and A. Joghee, S., & Dubey, “Decisions Effectiveness of FDI Investment Biases at Real Estate Industry: Empirical Evidence from Dubai Smart City Projects,” *Int. J. Sci. Technol. Res.*, vol. 9, no. 3, pp. 1245–1258, 2020.
- [50] H. M. Alzoubi, M. Alnuaimi, D. Ajelat, and A. A. Alzoubi, “Towards intelligent organisations: An empirical investigation of learning orientation’s role in technical innovation,” *Int. J. Innov. Learn.*, vol. 29, no. 2, pp. 207–221, 2021.
- [51] Vorobeva Victoria, “Impact of Process Visibility and Work Stress To Improve Service Quality: Empirical Evidence From Dubai Retail Industry,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijtim.v2i1.59.
- [52] A. M. Sakkthivel, G. Ahmed, C. T. Amponsah, and G. N. Muuka, “The influence of price and brand on the purchasing intentions of Arab women: an empirical study,” *Int. J. Bus. Innov. Res.*, vol. 28, no. 2, pp. 141–161, 2022, doi: 10.1504/IJBIR.2022.123260.
- [53] H. M. Alzoubi, M. Vij, A. Vij, and J. R. Hanaysha, “What leads guests to satisfaction and loyalty in UAE five-star hotels? AHP analysis to service quality dimensions,” *Enlightening Tour.*, vol. 11, no. 1, pp. 102–135, 2021.
- [54] T. Eli, “Students` Perspectives on the Use of Innovative and Interactive Teaching Methods at the University of Nouakchott Al Aasriya, Mauritania: English Department as a Case Study,” *Int. J. Technol. Innov. Manag.*, vol. 1, no. 2, pp. 90–104, 2021, doi: 10.54489/ijtim.v1i2.21.
- [55] T. M. Ghazal, H. M. Alzoubi, R. Naqvi, T. R. Soomro, and M. T. Alshurideh, “The Nexus Between Big Data and Decision-Making: A Study of Big Data Techniques and Technologies,” in *The International Conference on Artificial Intelligence and Computer Vision*, 2021, pp. 838–853.
- [56] John Kasem and Anwar Al-Gasaymeh, “a Cointegration Analysis for the Validity of Purchasing Power Parity: Evidence From Middle East Countries,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijtim.v2i1.60.
- [57] T. M. Ghazal, E. Rehman, M. A. Khan, T. R. Soomro, N. Taleb, and M. A. Afifi, “Using blockchain to ensure trust between donor agencies and ngos in under-developed countries,” *Computers*, vol. 10, p. 8, Aug. 2021.

- [58] H. M. Alzoubi *et al.*, “Modelling supply chain information collaboration empowered with machine learning technique,” *Intell. Autom. Soft Comput.*, vol. 30, no. 1, pp. 243–257, 2021, doi: 10.32604/iasc.2021.018983.
- [59] M. El Khatib, K. Alabdooli, A. AlKaabi, and S. Al Harmoodi, “Sustainable Project Management: Trends and Alignment,” *Theor. Econ. Lett.*, vol. 10, no. 06, pp. 1276–1291, 2020, doi: 10.4236/tel.2020.106078.
- [60] G. M. Qasaimeh and H. E. Jaradeh, “The Impact of Artificial Intelligence on the effective applying of Cyber Governance in Jordanian Banks,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, 2022.
- [61] G. Ahmed and Nabeel Al Amiri, “the Transformational Leadership of the Founding Leaders of the United Arab Emirates: Sheikh Zayed Bin Sultan Al Nahyan and Sheikh Rashid Bin Saeed Al Maktoum,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijtim.v2i1.58.
- [62] T. M. Ghazal, M. Suleman, T. R. Soomro, and M. Alshurideh, “Combating Against Potentially Harmful Mobile Apps,” in *The International Conference on Artificial Intelligence and Computer Vision*, 2021, pp. 154–173. doi: 10.1007/978-3-030-76346-6_15.
- [63] H. M. Alzoubi, S. Hamadneh, O. Pedersen, M. Alshurideh, and B. A. Kurdi, “An Investigation Of The Role Of Supply Chain Visibility Into The Scottish Blood Supply Chain,” *J. Leg. Ethical Regul. Issues*, vol. 24, pp. 1–12, 2021.
- [64] H. M. Alzoubi and R. Aziz, “Does emotional intelligence contribute to quality of strategic decisions? The mediating role of open innovation,” *J. Open Innov. Technol. Mark. Complex.*, vol. 7, no. 2, p. 130, 2021, doi: 10.3390/joitmc7020130.
- [65] Asem Alzoubi, “Machine Learning for Intelligent Energy Consumption in Smart Homes,” *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.75.
- [66] H. Alzoubi *et al.*, “Predicting the intention to use google glass: A comparative approach using machine learning models and PLS-SEM,” *Int. J. Data Netw. Sci.*, vol. 5, no. 3, pp. 311–320, 2021, doi: 10.5267/j.ijdns.2021.6.002.
- [67] E. Khatib, Z. M., R. A., and A. Al-Nakeeb, “The effect of AI on project and risk management in health care industry projects in the United Arab Emirates (UAE),” *Int. J. Appl. Eng. Res.*, vol. 6, p. 1, 2021.
- [68] T. M. Ghazal, *Positioning of UAV base stations using 5G and beyond networks for IOMT applications*. Arabian Journal for Science and Engineering, 2021.
- [69] H. M. Alzoubi *et al.*, “Fuzzy assisted human resource management for supply chain management issues,” *Ann. Oper. Res.*, vol. 2, no. 308, pp. 617–629, 2022, doi: 10.1007/s10479-021-04472-8.
- [70] N. Alsharari, “the Implementation of Enterprise Resource Planning (Erp) in the United Arab Emirates: a Case of Musanada Corporation,” *Int. J. Technol. Innov. Manag.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijtim.v2i1.57.
- [71] H. M. Alzoubi, K. L. Lee, P. N. Romzi, J. R. Hanaysha, and M. Alshurideh, “Investigating the impact of benefits and challenges of IOT adoption on supply chain performance and organizational performance: An empirical study in Malaysia,” *Uncertain Supply Chain Manag.*, vol. 10, no. 2, pp. 537–550, 2022, doi: 10.5267/j.uscm.2021.11.009.
- [72] M. M. El Khatib and G. Ahmed, “Improving Efficiency in IBM Asset Management Software System ‘Maximo’: A Case Study of Dubai Airports and Abu Dhabi National Energy Company,” *Theor. Econ. Lett.*, vol. 08, no. 10, pp. 1816–1829, 2018, doi: 10.4236/tel.2018.810119.
- [73] T. M. Ghazal, M. K. Hasan, S. N. H. Abdullah, K. A. Abubakkar, and M. A. M. Afifi, “IoMT-enabled fusion-based model to predict posture for smart healthcare systems,” *Comput. Mater. Contin.*, vol. 71, no. 2, pp. 2579–2597, 2022, doi: 10.32604/cmc.2022.019706.

- [74] H. M. Alzoubi *et al.*, “Fusion-based supply chain collaboration using machine learning techniques,” *Intell. Autom. Soft Comput.*, vol. 31, no. 3, pp. 1671–1687, 2022, doi: 10.32604/IASC.2022.019892.
- [75] Maged Farouk, “Studying Human Robot Interaction and Its Characteristics,” *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.73.
- [76] T. M. Ghazal *et al.*, “Multi-Dimensional Trust Quantification by Artificial Agents through Evidential Fuzzy Multi-Criteria Decision Making,” *IEEE Access*, vol. 9, pp. 159399–159412, 2021, doi: 10.1109/ACCESS.2021.3131521.
- [77] H. M. Alzoubi, J. Hanaysha, and M. Al-Shaikh, “Importance of Marketing Mix Elements in Determining Consumer Purchase Decision in the Retail Market,” *Int. J. Serv. Sci. Manag. Eng. Technol.*, vol. 12, pp. 56–72, 2021, doi: 10.4018/IJSSMET.2021110104.
- [78] Nada Ratkovic, “Improving Home Security Using Blockchain,” *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.72.
- [79] M. Alshurideh, S. A. Salloum, B. Al Kurdi, and M. Al-Emran, “Factors affecting the Social Networks Acceptance: An Empirical Study using PLS-SEM Approach,” in *8th International Conference on Software and Computer Applications*, 2019, pp. 1–5.
- [80] T. M. Ghazal *et al.*, “IoMT Cloud-Based Intelligent Prediction of Breast Cancer Stages Empowered with Deep Learning,” *IEEE Access*, vol. 9, pp. 146478–146491, Oct. 2021, doi: 10.1109/ACCESS.2021.3123472.
- [81] M. Alshurideh, “Pharmaceutical Promotion Tools Effect on Physician’s Adoption of Medicine Prescribing: Evidence from Jordan,” *Mod. Appl. Sci.*, vol. 12, no. 11, 2018.
- [82] M. El Khatib and A. Al Falasi, “Effects of Artificial Intelligence on Decision Making in Project Management,” *Am. J. Ind. Bus. Manag.*, vol. 11, no. 03, pp. 251–260, 2021, doi: 10.4236/ajibm.2021.113016.
- [83] H. M. Alzoubi, K. L. Lee, N. A. N. Azmi, J. R. Hanaysha, and M. T. Alshurideh, “The effect of digital supply chain on organizational performance: An empirical study in Malaysia manufacturing industry,” *Uncertain Supply Chain Manag.*, vol. 10, no. 2, pp. 495–510, 2022, doi: 10.5267/j.uscm.2021.12.002.
- [84] M. El Khatib, M. Almtairi, and S. A. Al Qasemi, “The Correlation between Emotional Intelligence and Project Management Success,” *iBusiness*, vol. 13, no. 01, pp. 18–29, 2021, doi: 10.4236/ib.2021.131002.
- [85] M. El Khatib, A. Al Jaber, and A. Al Mahri, “Benchmarking Projects’ ‘Lessons Learned’ through Knowledge Management Systems: Case of an Oil Company,” *iBusiness*, vol. 13, no. 01, pp. 1–17, 2021, doi: 10.4236/ib.2021.131001.
- [86] H. Alzoubi, M. Shamout, R. Ben-Abdallah, M. Alshurideh, B. Al Kurdi, and S. Hamadneh, “A conceptual model for the adoption of autonomous robots in supply chain and logistics industry,” *Uncertain Supply Chain Manag.*, vol. 10, no. 2, pp. 577–592, 2022, doi: 10.5267/j.uscm.2021.11.006.
- [87] M. M. ElKhatib, “Knowledge Management System: Critical Success Factors and Weight Scoring Model of the Technical Dimensions,” *Int. J. Appl. Inf. Syst.*, vol. 7, no. 9, pp. 6–12, 2014, doi: 10.5120/ijais14-451213.
- [88] T. M. Ghazal *et al.*, “Edge AI-Based Automated Detection and Classification of Road Anomalies in VANET Using Deep Learning,” *Comput. Intell. Neurosci.*, vol. 2021, pp. 1–19, Sep. 2021, doi: 10.1155/2021/6262194.
- [89] Neyara Radwan, “the Internet’S Role in Undermining the Credibility of the Healthcare Industry,” *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.74.

- [90] Edward Probir Mondol, "the Role of Vr Games To Minimize the Obesity of Video Gamers," *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.70.
- [91] H. M. Alzoubi, H. Elrehail, J. R. Hanaysha, A. Al-Gasaymeh, and R. Al-Adaileh, "The Role of Supply Chain Integration and Agile Practices in Improving Lead Time During the COVID-19 Crisis," *Int. J. Serv. Sci. Manag. Eng. Technol.*, vol. 13, no. 1, pp. 1–11, 2022, doi: 10.4018/IJSSMET.290348.
- [92] M. El Khatib, A. AlMaeni, and W. Alkamali, "The Relation between Effective Digital Program Governance and Program Success," *Am. J. Ind. Bus. Manag.*, vol. 12, no. 09, pp. 1402–1418, 2022, doi: 10.4236/ajibm.2022.129078.
- [93] H. M. Alzoubi, M. In'airat, and G. Ahmed, "Investigating the impact of total quality management practices and Six Sigma processes to enhance the quality and reduce the cost of quality: the case of Dubai," *Int. J. Bus. Excell.*, vol. 27, no. 1, pp. 94–109, 2022, doi: 10.1504/IJBEX.2022.123036.
- [94] M. Alshurideh, R. Masa'deh, and B. Alkurdi, "The effect of customer satisfaction upon customer retention in the Jordanian mobile market: An empirical investigation," *Eur. J. Econ. Financ. Adm. Sci.*, vol. 47, no. 12, pp. 69–78, 2012.
- [95] K. Elkhatib, M., Al Hosani, A., Al Hosani, I., & Albuflasa, "Agile Project Management and Project Risks Improvements: Pros and Cons.," *Mod. Econ.*, vol. 13, no. 9, pp. 1157–1176, 2022.
- [96] H. M. Alzoubi and Y. Ramakrishna, "Empirical Investigation of Mediating Role of Six Sigma Approach in Rationalizing the COQ in Service Organizations," *Oper. Supply Chain Manag.*, vol. 15, no. 1, pp. 122–135, 2022, doi: 10.31387/oscm0480335.
- [97] Saad Masood Butt, "Management and Treatment of Type 2 Diabetes," *Int. J. Comput. Inf. Manuf.*, vol. 2, no. 1, p. 1, 2022, doi: 10.54489/ijcim.v2i1.71.
- [98] H. M. Alzoubi *et al.*, "AI-Based Prediction of Capital Structure: Performance Comparison of ANN SVM and LR Models," *Comput. Intell. Neurosci.*, vol. 2022, pp. 1–13, 2022, doi: 10.1155/2022/8334927.
- [99] T. M. Ghazal *et al.*, "Energy-efficiency model for residential buildings using supervised machine learning algorithm," *Intell. Autom. Soft Comput.*, vol. 30, no. 3, pp. 881–888, 2021, doi: 10.32604/iasc.2021.017920.
- [100] C. T. Amponsah, G. Ahmed, M. Kumar, and S. Adams, "The business effects of mega-sporting events on host cities: An empirical view," *Probl. Perspect. Manag.*, vol. 16, no. 3, pp. 324–336, 2018, doi: 10.21511/ppm.16(3).2018.26.
- [101] H. M. Alzoubi *et al.*, "Empirical linkages between ICT, tourism, and trade towards sustainable environment: evidence from BRICS countries," *Econ. Res. Istraz.*, vol. 37, no. 1, pp. 850–862, 2022, doi: 10.1080/1331677X.2022.2127417.
- [102] M. El Khatib, A. Al Hammadi, A. Al Hamar, K. Oraby, and M. Abdulaziz, "How Global Supply Chain Management Is Disrupting Local Supply Chain Management Case of Oil and Gas Industry in UAE," *Am. J. Ind. Bus. Manag.*, vol. 12, no. 05, pp. 1067–1078, 2022, doi: 10.4236/ajibm.2022.125056.
- [103] M. El El Khatib, A. Alhosani, I. Alhosani, O. Al Matrooshi, and M. Salami, "Simulation in Project and Program Management: Utilization, Challenges and Opportunities," *Am. J. Ind. Bus. Manag.*, vol. 12, no. 04, pp. 731–749, 2022, doi: 10.4236/ajibm.2022.124037.
- [104] S. Federico Del Giorgio, "IMPACTS OF CYBER SECURITY AND SUPPLY CHAIN RISK ON DIGITAL OPERATIONS: EVIDENCE FROM THE UAE PHARMACEUTICAL INDUSTRY Federico Del Giorgio Solfa," *Int. J. Technol. Innov. Manag. (IJTIM)*, 2(2), vol. 2, no. 2, pp. 18–32, 2022.
- [105] M. M. El Khatib, G. Ahmed, and A. Al-Nakeeb, "Enterprise Cloud Computing Project for Connecting Higher Education Institutions: A Case Study of the UAE," *Mod. Econ.*, vol. 10, no. 01, pp. 137–155, 2019, doi: 10.4236/me.2019.101010.

- [106] H. M. Alzoubi, J. R. Hanaysha, M. E. Al-Shaikh, and S. Joghee, "Impact of Innovation Capabilities on Business Sustainability in Small and Medium Enterprises," *FIIB Bus. Rev.*, vol. 11, no. 1, pp. 67–78, 2022, doi: 10.1177/23197145211042232.
- [107] M. T. Alshurideh and B. H. Al Kurdi, "Facebook Advertising as a Marketing Tool," *Int. J. Online Mark.*, vol. 11, no. 2, pp. 52–74, 2021, doi: 10.4018/ijom.2021040104.
- [108] Nasim, S. F., M. R. Ali, and U. Kulsoom, "Artificial Intelligence Incidents & Ethics A Narrative Review. International Journal of Technology, Innovation and Management," *Int. J. Technol. Innov. Manag.*, vol. 2, no. 2, pp. 52–64, 2022.
- [109] H. Alzoubi *et al.*, "The effect of electronic human resources management on organizational health of telecommunications companies in Jordan," *Int. J. Data Netw. Sci.*, vol. 6, no. 2, pp. 429–438, 2022, doi: 10.5267/j.ijdns.2021.12.011.
- [110] M. Alshurideh, B. Kurdi, and A. Alnaser, "The impact of employee satisfaction on customer satisfaction: Theoretical and empirical underpinning," *Manag. Sci. Lett.*, vol. 10, no. 15, pp. 3561–3570, 2020.
- [111] G. Ahmed and A. Rafiuddin, "Cultural Dimensions of Economic Development: A Case of UAE," *Theor. Econ. Lett.*, vol. 08, no. 11, pp. 2479–2496, 2018, doi: 10.4236/tel.2018.811160.
- [112] M. El Khatib, A. Kherbash, A. Al Qassimi, and K. Al Mheiri, "How Can Collaborative Work and Collaborative Systems Drive Operational Excellence in Project Management?," *J. Serv. Sci. Manag.*, vol. 15, no. 03, pp. 297–307, 2022, doi: 10.4236/jssm.2022.153017.
- [113] S. Rana, S. Verma, M. M. Haque, and G. Ahmed, "Conceptualizing international positioning strategies for Indian higher education institutions," *Rev. Int. Bus. Strateg.*, vol. 32, no. 4, pp. 503–519, 2022, doi: 10.1108/RIBS-07-2021-0105.
- [114] A. Abudaqa, M. F. Hilmi, H. Almujaani, R. A. Alzahmi, and G. Ahmed, "Students' perception of e-Learning during the Covid Pandemic: a fresh evidence from United Arab Emirates (UAE)," *J. E-Learning Knowl. Soc.*, vol. 17, no. 3, pp. 110–118, 2021, doi: 10.20368/1971-8829/1135556.
- [115] H. Alzoubi, M. Alshurideh, B. Kurdi, I. Akour, and R. Aziz, "Does BLE technology contribute towards improving marketing strategies, customers' satisfaction and loyalty? The role of open innovation," *Int. J. Data Netw. Sci.*, vol. 6, no. 2, pp. 449–460, 2022.
- [116] S. Gorla, "A DECK OF CARDS TO HELP TRACK DESIGN TRENDS TO ASSIST THE," *Int. J. Technol. Innov. Manag. (IJTIM)*, 2(2), vol. 2, no. 2, pp. 1–17, 2022.
- [117] Khatib, H. Alzoubi, and M. El, "BIM as a tool to optimize and manage project risk management," *Int. J. Mech. Eng.*, vol. 7, no. 1, pp. 6307–6323, 2022.
- [118] H. M. Alzoubi, B. Al Kurdi, I. Akour, and M. T. Alshurideh, "The effect of blockchain and smart inventory system on supply chain performance: Empirical evidence from retail industry," *Uncertain Supply Chain Manag.*, vol. 10, no. 4, pp. 1111–1116, 2022, doi: 10.5267/j.uscm.2022.9.001.
- [119] H. M. Alzoubi, G. Ahmed, and M. Alshurideh, "An empirical investigation into the impact of product quality dimensions on improving the order-winners and customer satisfaction," *Int. J. Product. Qual. Manag.*, vol. 36, no. 2, pp. 169–186, 2022, doi: 10.1504/IJPQM.2021.10037887.
- [120] N. Al Amiri, R. E. A. Rahim, and G. Ahmed, "Leadership styles and organizational knowledge management activities: A systematic review," *Gadjah Mada Int. J. Bus.*, vol. 22, no. 3, pp. 250–275, 2020, doi: 10.22146/gamaijb.49903.
- [121] M. Alshurideh, B. Al Kurdi, and T. Al afaishata, "Employee retention and organizational performance: Evidence from banking industry," *Manag. Sci. Lett.*, vol. 10, no. 16, pp. 3981–3990, 2020.

- [122] H. M. Alzoubi, B. Al Kurdi, M. Alshurideh, I. Akour, B. Obeidat, and A. Alhamad, "The role of digital marketing channels on consumer buying decisions through eWOM in the Jordanian markets," *Int. J. Data Netw. Sci.*, vol. 6, no. 4, pp. 1175–1185, 2022, doi: 10.5267/j.ijdns.2022.7.002.
- [123] M. Alshurideh, B. A. Kurdi, S. A. Salloum, Z. M. Obeidat, and R. M. Al-dweeri, "An empirical investigation into examination of factors influencing university students' behavior towards elearning acceptance using SEM approach," *Int. J. Interact. Mob. Technol.*, vol. 14, no. 2, 2020, doi: 10.3991/ijim.v14i02.11115.
- [124] P. S. Ghosh, S., & Aithal, "BEHAVIOUR OF INVESTMENT RETURNS IN THE DISINVESTMENT," *Int. J. Technol. Innov. Manag. (IJTIM)*, 2(2)., vol. 2, no. 2, pp. 65–79, 2022.
- [125] H. M. Alzoubi, B. Al Kurdi, M. Alshurideh, I. Akour, E. Tariq, and A. Alhamad, "The effect of social media influencers' characteristics on consumer intention and attitude toward Keto products purchase intention," *Int. J. Data Netw. Sci.*, vol. 6, no. 4, pp. 1135–1146, 2022, doi: 10.5267/j.ijdns.2022.7.006.
- [126] M. Alshurideh, B. Al Kurdi, A. Abu Hussien, and H. Alshaar, "Determining the main factors affecting consumers' acceptance of ethical advertising: A review of the Jordanian market," *J. Mark. Commun.*, vol. 23, no. 5, pp. 513–532, 2017, doi: 10.1080/13527266.2017.1322126.
- [127] J. C. T. Gaytan, A. M. Sakthivel, S. S. Desai, and G. Ahmed, "Impact of Internal and External Promotional Variables on Consumer Buying Behavior in Emerging Economy – An Empirical Study," *Skyline Bus. J.*, vol. 16, no. 1, pp. 45–54, 2020, doi: 10.37383/sbj160104.
- [128] M. Alshurideh, B. Al Kurdi, and S. Salloum, "Investigating a theoretical framework for e-learning technology acceptance," *Int. J. Electr. Comput. Eng.*, vol. 10, no. 6, pp. 6484–6496, 2020.
- [129] G. Ahmed and C. T. Amponsah, "Gender Differences in Entrepreneurial Attitude and Intentions: A Case of Dubai," *Proc. Ed.*, vol. 11, no. 4, pp. 315–334, 2018, [Online]. Available: https://www.researchgate.net/profile/Rudresh-Pandey-2/publication/349368995_Consumers'_purchase_decision_towards_Private_Label_Brands_An_Empirical_Investigation_for_Select_Indian_Retailers/links/602d103f299bf1cc26cfa009/Consumers-purchase-decision-towards
- [130] H. M. Alzoubi, M. T. Alshurideh, B. Al Kurdi, B. Obeidat, S. Hamadneh, and A. Ahmad, "The influence of supply chain partners' integrations on organizational performance: The moderating role of trust," *Uncertain Supply Chain Manag.*, vol. 10, no. 4, pp. 1191–1202, 2022, doi: 10.5267/j.uscm.2022.8.009.
- [131] B. Amrani, A. Z., Urquia, I., & Vallespir, "INDUSTRY 4.0 TECHNOLOGIES AND LEAN PRODUCTION COMBINATION: A STRATEGIC METHODOLOGY BASED ON LINKS QUANTIFICATION Anne Zouggar Amrani, Ilse Urquia Ortega, and Bruno Vallespir," *Int. J. Technol. Innov. Manag. (IJTIM)*, 2(2)., vol. 2, no. 2, pp. 33–51, 2022.
- [132] S. Akhtar, A., Bakhtawar, B., & Akhtar, "EXTREME PROGRAMMING VS SCRUM: A COMPARISON OF AGILE MODELS Asma Akhtar, Birra Bakhtawar, Samia Akhtar," *Int. J. Technol. Innov. Manag. (IJTIM)*, 2(2)., vol. 2, no. 2, pp. 80–96, 2022.
- [133] M. Alshurideh, S. A. Salloum, B. Al Kurdi, A. A. Monem, and K. Shaalan, "Understanding the quality determinants that influence the intention to use the mobile learning platforms: A practical study," *Int. J. Interact. Mob. Technol.*, vol. 13, no. 11, pp. 157–183, 2019, doi: 10.3991/ijim.v13i11.10300.
- [134] M. Alshurideh, B. Al Kurdi, S. A. Salloum, I. Arpacı, and M. Al-Emran, "Predicting the actual use of m-learning systems: a comparative approach using PLS-SEM and machine learning algorithms," *Interact. Learn. Environ.*, pp. 1–15, 2020.
- [135] N. Al Amiri, R. A. Rahim, and ..., "The organizational resources and knowledge management capability: A systematic review," *Bus. Econ. ...*, vol. 15, no. 5, pp. 636–647, 2019, [Online]. Available: <https://www.researchgate.net/profile/Nabeel-Al->

Amiri/publication/341824121_The_Organizational_Resources_and_Knowledge_Management_Capability_A_Systematic_Review/links/60840ac9907dcf667bbeae96/The-Organizational-Resources-and-Knowledge-Management-Capability

- [136] H. M. Alzoubi, T. M. Ghazal, M. T. Alshurideh, B. Al Kurdi, and K. M. K. Alhyasat, “The effect of e-payment and online shopping on sales growth: Evidence from banking industry,” *Int. J. Data Netw. Sci.*, vol. 6, no. 4, pp. 1369–1380, 2022, doi: 10.5267/j.ijdns.2022.5.014.
- [137] G. Ahmed and N. Al Amiri, “An Analysis of Strategic Leadership Effectiveness of Prophet Muhammad (PBUH) Based on Dave Ulrich Leadership Code,” *J. Islam. Stud. Cult.*, vol. 7, no. 1, pp. 11–27, 2019, doi: 10.15640/jisc.v7n1a2.
- [138] G. Ahmed, C. T. Amponsah, and S. S. Deasi, “Exploring the Dynamics of Women Entrepreneurship : A Case Study of UAE,” *Int. J. Bus. Appl. Sci.*, vol. 7, no. 3, pp. 13–24, 2018.
- [139] M. T. Alshurideh, B. Al Kurdi, and S. A. Salloum, “The moderation effect of gender on accepting electronic payment technology: a study on United Arab Emirates consumers,” *Rev. Int. Bus. Strateg.*, 2021.