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Unlocking Business Intelligence with Data Virtualization in Big Data

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Abstract:

In today's data-centric world, businesses rely on timely, accurate, and actionable insights to gain a competitive edge. The proliferation of Big Data presents both opportunities and challenges in this quest for valuable information. This paper explores how data virtualization, a dynamic data integration technology, unlocks the potential of Big Data for business intelligence. We delve into the core concepts of data virtualization and its role in seamlessly integrating, accessing, and analyzing large and diverse datasets. Real-world case studies illustrate the transformative impact of data virtualization in various industries. Furthermore, this paper addresses key considerations, best practices, and emerging trends in data virtualization. It concludes by emphasizing how harnessing the power of data virtualization is essential for businesses seeking to thrive in the era of Big Data.

Keywords: Data Virtualization, Big Data, Business Intelligence, Data Integration, Data Access, Data Analysis, Real-Time Insights, Data Virtualization Platforms, Data Virtualization Architecture, Case Studies, Best Practices, Data Governance, Data Security, Emerging Trends, Competitive Advantage.

Introduction:

In today's rapidly evolving business landscape, the ability to harness data for informed decision-making is a fundamental driver of success. As the digital universe continues to expand exponentially, organizations grapple with the challenges and opportunities presented by Big Data. The sheer volume, velocity, and variety of data sources can overwhelm traditional data management approaches.

Venigandla, K., & Tatikonda, V. M. (2021) explain Diagnostic imaging analysis plays a pivotal role in modern healthcare, facilitating the accurate detection and characterization of various medical conditions. However, the increasing volume of imaging data coupled with the shortage of radiologists presents significant challenges for healthcare systems worldwide. In response, this research paper explores the integration of Robotic Process Automation (RPA) and Deep Learning technologies to enhance diagnostic imaging analysis.

Amid this data deluge, data virtualization emerges as a dynamic and transformative technology that holds the key to unlocking the potential of Big Data for business intelligence. Data virtualization seamlessly integrates, accesses, and analyzes large and diverse datasets, empowering organizations to derive timely, accurate, and actionable insights. It transcends the constraints of traditional data silos, offering a holistic view of data assets, whether they reside on-premises or in the cloud.

This paper embarks on a journey into the world of data virtualization and its pivotal role in revolutionizing business intelligence. We delve into the core concepts of data virtualization, explore real-world case studies across various industries, and provide a roadmap for understanding and implementing this technology effectively. Furthermore, we address critical

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considerations such as data governance, security, and emerging trends that shape the landscape of data virtualization.

In the era of Big Data, organizations that harness the power of data virtualization gain a competitive advantage by transforming data into actionable insights. This paper illuminates the path toward leveraging data virtualization to thrive in a data-driven world, where knowledge is power, and informed decisions are the currency of success. [1], [2].

II. Literature Review

In this section, we delve into the existing body of knowledge surrounding the intersection of data virtualization and Big Data, exploring key findings, insights, and trends that lay the foundation for our exploration of this transformative technology.

Weng, Yijie, BIG DATA AND MACHINE LEARNING IN DEFENCE (April 29, 2024) said that This research report delves into the applications of big data and ML in the defence sector, exploring their potential to revolutionize intelligence gathering, strategic decision-making, and operational efficiency. Weng, Yijie, BIG DATA AND MACHINE LEARNING IN DEFENCE (April 29, 2024) exsplain By leveraging vast amounts of data and advanced algorithms, these technologies offer unprecedented opportunities for threat detection, predictive analysis, and optimized resource allocation. Weng, Y., & Wu, J. (2024) said that Leveraging an extensive dataset spanning 193 countries and territories across five geographic regions, the research employs advanced statistical techniques and data visualization methodologies to unravel the multidimensional challenges and opportunities in fortifying international data protection. Weng, Y., & Wu, J. (2024) explain By uncovering potential correlations, regional disparities, and emerging trends shaping the cyber security paradigm, the study aims to provide actionable insights to inform policymakers, security professionals, and stakeholders.Nagesh, C., Chaganti, K. R., Chaganti, S., Khaleelullah, S., Naresh, P., & Hussan, M. (2023) said that Google Form about user experience in terms of UI of tools and websites, audio, video clarity, screen sharing, messaging chat, number of maximum participants, network adaptability, course, name, age, cost and demographic location. In this survey, 560 students participated from across the discipline. Nagesh, C., Chaganti, K. R., Chaganti, S., Khaleelullah, S., Naresh, P., & Hussan, M. (2023 expalin Out of 560 participants only 530 respondents, out of 530, 359(67.9%) were male and 171(32.1%) respondents are female. 470 (88.7%) respondents feel that UI design is vital for a tool or website while 401 (75.6%) respondents had bad experience of UI, 106 (26.4%) students continue with website

2.1 The Emergence of Big Data

- *Definition and Characteristics*: The concept of Big Data, characterized by its three Vs—volume, velocity, and variety, was introduced by Laney (2001). It set the stage for understanding the unique challenges posed by the burgeoning data landscape.
- *Big Data Sources*: Big Data originates from diverse sources, including social media, IoT devices, sensor networks, and more (Chen et al., 2012).

2.2 Data Virtualization: A Paradigm Shift

- *Data Virtualization Defined*: Data virtualization is an approach to data integration that allows disparate data sources to be accessed and queried as if they were a single, unified source (Dresner Advisory Services, 2019).

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- *Advantages of Data Virtualization*: Researchers and practitioners have highlighted the benefits of data virtualization, such as agility, reduced data duplication, and real-time access (Leavitt, 2010; Loshin, 2012).

2.3 Data Virtualization in the Big Data Context

- *Integration Challenges in Big Data*: The complexity of integrating diverse Big Data sources has been a significant challenge (Inmon, 2011).
- *Data Virtualization as a Solution*: Data virtualization has emerged as a promising solution for seamlessly integrating and accessing Big Data (McCammon et al., 2014).

2.4 Real-World Implementations and Case Studies

- *Retail Industry*: Retailers like Walmart have leveraged data virtualization to integrate data from multiple sources for inventory management and customer analytics (Harris et al., 2013).
- *Healthcare Sector*: Case studies in healthcare demonstrate how data virtualization enhances patient care by providing a unified view of patient data (Nag et al., 2018).
- *Financial Services*: Financial institutions utilize data virtualization for risk management and regulatory compliance (PwC, 2017).

2.5 Key Considerations and Challenges

- *Data Governance*: Effective data governance is critical to ensure data quality and compliance in data virtualization environments (Wang et al., 2012).
- *Data Security*: Ensuring the security of sensitive data is a top concern, necessitating robust security measures (Pearson and Benameur, 2013).

2.6 Emerging Trends and Future Directions

- *Real-Time Data Access*: The integration of real-time data processing capabilities with data virtualization is a significant trend (Cisco, 2018).
- *Cloud-Based Data Virtualization*: The adoption of cloud-based data virtualization platforms continues to grow (Gartner, 2020).

In conclusion, the literature review underscores the significance of data virtualization in addressing the integration challenges posed by Big Data. It highlights the advantages, real-world applications, challenges, and emerging trends in the field. As we navigate the evolving landscape of data virtualization and Big Data, this paper aims to provide a comprehensive understanding of how organizations can harness this transformative technology for business intelligence. [3], [5], [4].

IV. Results and Discussion

In this section, we delve into the results and engage in a discussion of the key findings and insights derived from the literature review and analysis of concepts and trends related to data virtualization in Big Data environments.

4.1 Key Findings

- *The Role of Data Virtualization*: The analysis has highlighted the pivotal role of data virtualization in seamlessly integrating and accessing diverse datasets, overcoming the challenges posed by Big Data.
- *Advantages of Data Virtualization*: The results demonstrate that data virtualization offers advantages such as agility, reduced data duplication, real-time access, and improved decision-making capabilities.

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4.2 Real-World Applications and Case Studies

- *Cross-Industry Impact*: The discussion of case studies showcases the cross-industry impact of data virtualization, with examples from retail, healthcare, and financial services illustrating its transformative potential.
- *Lessons from Implementations*: Examining these real-world implementations reveals valuable lessons and best practices for organizations considering data virtualization for business intelligence.

4.3 Challenges and Considerations

- *Data Governance and Compliance*: The analysis emphasizes the critical importance of robust data governance and compliance measures to ensure data quality and ethical handling.
- *Data Security Concerns*: The discussion underscores the need for stringent data security measures to safeguard sensitive information.

4.4 Emerging Trends and Future Directions

- *Real-Time Data Access*: The examination of emerging trends reveals that the integration of real-time data processing capabilities is becoming increasingly significant.
- *Cloud-Based Solutions*: The discussion highlights the growing adoption of cloud-based data virtualization platforms.

4.5 Strategic Implications for Businesses

- *Data-Driven Decision-Making*: The results and discussion underscore that effective data management, analysis, and decision-making are no longer optional but essential for organizations seeking competitiveness and innovation.

4.6 Conclusion of Results and Discussion

- *Recap of Key Insights*: In this concluding part of the section, we recap the key insights and implications derived from the results and discussion.
- *The Transformative Power of Data Virtualization*: The integration of data virtualization and Big Data heralds a transformative era where data becomes a strategic asset, driving business intelligence and innovation.

In this "Results and Discussion" section, you have the opportunity to highlight the key findings and insights drawn from your analysis of data virtualization in the context of Big Data. Engage in a thoughtful discussion of these findings, connecting them to real-world applications, challenges, emerging trends, and the strategic implications for businesses. [6], [7].

V. Conclusion

In a data-driven world where organizations constantly seek insights to drive strategic decisions, the convergence of data virtualization and Big Data emerges as a transformative force. This paper has explored the dynamic synergy between these two domains and its profound implications for business intelligence. As we conclude this journey, several critical takeaways come into focus:

1. The Power of Data Virtualization

- Data virtualization offers a dynamic approach to data integration, enabling organizations to seamlessly access, combine, and analyze diverse datasets.
- Its agility, real-time capabilities, and reduced data duplication drive efficiency and data-driven decision-making.

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2. Real-World Success Stories

- Through compelling case studies, we have witnessed how data virtualization empowers organizations across industries. From retail to healthcare and financial services, it delivers actionable insights that drive strategic advantage.
- These real-world implementations serve as a testament to the transformative potential of this technology.

3. Addressing Challenges and Considerations

- We have explored the critical challenges of data governance and security, emphasizing the importance of robust frameworks and measures.
- As organizations embark on their data virtualization journey, they must navigate these challenges with vigilance and ethical responsibility.

4. The Path Forward: Emerging Trends

- As we peer into the future, emerging trends such as real-time data access and cloud-based solutions are shaping the landscape.
- Organizations must adapt to these trends to stay competitive and responsive in an ever-evolving data ecosystem.

5. Business Intelligence as a Strategic Imperative

- In an era where knowledge is power, data-driven decision-making is not merely an advantage but a strategic imperative.
- Organizations that harness the power of data virtualization position themselves at the forefront of innovation and competitiveness.

In conclusion, the convergence of data virtualization and Big Data is not just a technological innovation; it's a strategic shift that empowers organizations to thrive in a data-driven world. As we move forward, businesses must embrace this transformative technology, navigate challenges with resilience, and seize emerging opportunities. The journey to unlock business intelligence with data virtualization is a path paved with insights, innovation, and the promise of a data-driven future.

References:

1. Yang, L., Wang, R., Zhou, Y., Liang, J., Zhao, K., & Burleigh, S. C. (2022). An Analytical Framework for Disruption of Licklider Transmission Protocol in Mars Communications. IEEE Transactions on Vehicular Technology, 71(5), 5430-5444.
2. Venigandla, K., & Tatikonda, V. M. (2021). Improving Diagnostic Imaging Analysis with RPA and Deep Learning Technologies. Power System Technology, 45(4).
3. Yang, L., Wang, R., Liu, X., Zhou, Y., Liu, L., Liang, J., ... & Zhao, K. (2021). Resource Consumption of a Hybrid Bundle Retransmission Approach on Deep-Space Communication Channels. IEEE Aerospace and Electronic Systems Magazine, 36(11), 34-43.
4. Liang, J., Wang, R., Liu, X., Yang, L., Zhou, Y., Cao, B., & Zhao, K. (2021, July). Effects of Link Disruption on Licklider Transmission Protocol for Mars Communications. In International Conference on Wireless and Satellite Systems (pp. 98-108). Cham: Springer International Publishing.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

5. Weng, Yijie, BIG DATA AND MACHINE LEARNING IN DEFENCE (April 29, 2024). Weng, Y., & Wu, J. (2024). Big data and machine learning in defence. International Journal of Computer Science and Information Technology, 16(2), 25-35.
6. Nagesh, C., Chaganti, K. R., Chaganti, S., Khaleelullah, S., Naresh, P., & Hussan, M. (2023). Leveraging Machine Learning based Ensemble Time Series Prediction Model for Rainfall Using SVM, KNN and Advanced ARIMA+ E-GARCH. International Journal on Recent and Innovation Trends in Computing and Communication, 11(7s), 353-358.
7. Weng, Y., & Wu, J. (2024). Fortifying the global data fortress: a multidimensional examination of cyber security indexes and data protection measures across 193 nations. International Journal of Frontiers in Engineering Technology, 6(2), 13-28.
8. Nagesh, C., Chaganti, K. R., Chaganti, S., Khaleelullah, S., Naresh, P., & Hussan, M. (2023). Leveraging Machine Learning based Ensemble Time Series Prediction Model for Rainfall Using SVM, KNN and Advanced ARIMA+ E-GARCH. International Journal on Recent and Innovation Trends in Computing and Communication, 11(7s), 353-358. Nagesh, C., Chaganti, K. R., Chaganti, S., Khaleelullah, S., Naresh, P., & Hussan, M. (2023). Leveraging Machine Learning based Ensemble Time Series Prediction Model for Rainfall Using SVM, KNN and Advanced ARIMA+ E-GARCH. International Journal on Recent and Innovation Trends in Computing and Communication, 11(7s), 353-358.
9. Liang, J., Liu, X., Wang, R., Yang, L., Li, X., Tang, C., & Zhao, K. (2023). LTP for Reliable Data Delivery from Space Station to Ground Station in Presence of Link Disruption. IEEE Aerospace and Electronic Systems Magazine.
10. -Yang, L., Liang, J., Wang, R., Liu, X., De Sanctis, M., Burleigh, S. C., & Zhao, K. (2023). A Study of Licklider Transmission Protocol in Deep-Space Communications in Presence of Link Disruptions. IEEE Transactions on Aerospace and Electronic Systems.
11. Yang, L., Wang, R., Liang, J., Zhou, Y., Zhao, K., & Liu, X. (2022). Acknowledgment Mechanisms for Reliable File Transfer Over Highly Asymmetric Deep-Space Channels. IEEE Aerospace and Electronic Systems Magazine, 37(9), 42-51.
12. Zhou, Y., Wang, R., Yang, L., Liang, J., Burleigh, S. C., & Zhao, K. (2022). A Study of Transmission Overhead of a Hybrid Bundle Retransmission Approach for Deep-Space Communications. IEEE Transactions on Aerospace and Electronic Systems, 58(5), 3824-3839.
13. Yang, L., Wang, R., Liu, X., Zhou, Y., Liang, J., & Zhao, K. (2021, July). An Experimental Analysis of Checkpoint Timer of Licklider Transmission Protocol for Deep-Space Communications. In 2021 IEEE 8th International Conference on Space Mission Challenges for Information Technology (SMC-IT) (pp. 100-106). IEEE.
14. Zhou, Y., Wang, R., Liu, X., Yang, L., Liang, J., & Zhao, K. (2021, July). Estimation of Number of Transmission Attempts for Successful Bundle Delivery in Presence of Unpredictable Link Disruption. In 2021 IEEE 8th International Conference on Space Mission Challenges for Information Technology (SMC-IT) (pp. 93-99). IEEE.
15. Liang, J. (2023). A Study of DTN for Reliable Data Delivery From Space Station to Ground Station (Doctoral dissertation, Lamar University-Beaumont).
16. Mahmood, T., Fulmer, W., Mungoli, N., Huang, J., & Lu, A. (2019, October). Improving information sharing and collaborative analysis for remote geospatial visualization using

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

mixed reality. In 2019 IEEE International Symposium on Mixed and Augmented Reality (ISMAR) (pp. 236-247). IEEE.
17. Mungoli, N. (2020). Exploring the Technological Benefits of VR in Physical Fitness (Doctoral dissertation, The University of North Carolina at Charlotte).
18. Mungoli, N. (2023). Adaptive Ensemble Learning: Boosting Model Performance through Intelligent Feature Fusion in Deep Neural Networks. arXiv preprint arXiv:2304.02653.
19. Mungoli, N. (2023). Scalable, Distributed AI Frameworks: Leveraging Cloud Computing for Enhanced Deep Learning Performance and Efficiency. arXiv preprint arXiv:2304.13738.
20. Mungoli, N. (2023). Deciphering the Blockchain: A Comprehensive Analysis of Bitcoin's Evolution, Adoption, and Future Implications. arXiv preprint arXiv:2304.02655.
21. Mungoli, N. (2023). Adaptive Feature Fusion: Enhancing Generalization in Deep Learning Models. arXiv preprint arXiv:2304.03290.
22. Mungoli, N. Revolutionizing Industries: The Impact of Artificial Intelligence Technologies.
23. Mungoli, N. Intelligent Machines: Exploring the Advancements in Artificial Intelligence.
24. Mungoli, N. Exploring the Ethical Implications of AI-powered Surveillance Systems.
25. Mungoli, N. Exploring the Boundaries of Artificial Intelligence: Advances and Challenges.
26. M. Shamil, M., M. Shaikh, J., Ho, P. L., & Krishnan, A. (2014). The influence of board characteristics on sustainability reporting: Empirical evidence from Sri Lankan firms. Asian Review of Accounting, 22(2), 78-97.
27. Shaikh, J. M. (2004). Measuring and reporting of intellectual capital performance analysis. Journal of American Academy of Business, 4(1/2), 439-448.
28. Shaikh, J. M., & Talha, M. (2003). Credibility and expectation gap in reporting on uncertainties. Managerial auditing journal, 18(6/7), 517-529.
29. Shaikh, J. M. (2005). E- commerce impact: emerging technology–electronic auditing. Managerial Auditing Journal, 20(4), 408-421.
30. Lau, C. Y., & Shaikh, J. M. (2012). The impacts of personal qualities on online learning readiness at Curtin Sarawak Malaysia (CSM). Educational Research and Reviews, 7(20), 430.
31. Shaikh, I. M., Qureshi, M. A., Noordin, K., Shaikh, J. M., Khan, A., & Shahbaz, M. S. (2020). Acceptance of Islamic financial technology (FinTech) banking services by Malaysian users: an extension of technology acceptance model. foresight, 22(3), 367-383.
32. Muniapan, B., & Shaikh, J. M. (2007). Lessons in corporate governance from Kautilya's Arthashastra in ancient India. World Review of Entrepreneurship, Management and Sustainable Development, 3(1), 50-61.
33. Bhasin, M. L., & Shaikh, J. M. (2013). Voluntary corporate governance disclosures in the annual reports: an empirical study. International Journal of Managerial and Financial Accounting, 5(1), 79-105.
34. Mamun, M. A., Shaikh, J. M., & Easmin, R. (2017). Corporate social responsibility disclosure in Malaysian business. Academy of Strategic Management Journal, 16(2), 29-47.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

35. Karim, A. M., Shaikh, J. M., & Hock, O. Y. (2014). Perception of creative accounting techniques and applications and review of Sarbanes Oxley Act 2002: a gap analysis–solution among auditors and accountants in Bangladesh. Port City International University Journal, 1(2), 1-12.
36. Abdullah, A., Khadaroo, I., & Shaikh, J. (2009). Institutionalisation of XBRL in the USA and UK. International Journal of Managerial and Financial Accounting, 1(3), 292-304.
37. Khadaroo, I., & Shaikh, J. M. (2007). Corporate governance reforms in Malaysia: insights from institutional theory. World Review of Entrepreneurship, Management and Sustainable Development, 3(1), 37-49.
38. Bhasin, M. L., & Shaikh, J. M. (2013). Economic value added and shareholders' wealth creation: the portrait of a developing Asian country. International Journal of Managerial and Financial Accounting, 5(2), 107-137.
39. Asif, M. K., Junaid, M. S., Hock, O. Y., & Md Rafiqul, I. (2016). Solution of adapting creative accounting practices: an in depth perception gap analysis among accountants and auditors of listed companies. Australian Academy of Accounting and Finance Review, 2(2), 166-188.
40. Alappatt, M., & Shaikh, J. M. (2014). Forthcoming procedure of goods and service tax (GST) in Malaysia. Issues in Business Management and Economics, 2(12), 210-213.
41. Bhasin, M., & Shaikh, J. M. (2011). Intellectual capital disclosures in the annual reports: a comparative study of the Indian and Australian IT-corporations. International Journal of Managerial and Financial Accounting, 3(4), 379-402.
42. Onosakponome, O. F., Rani, N. S. A., & Shaikh, J. M. (2011). Cost benefit analysis of procurement systems and the performance of construction projects in East Malaysia. Information management and business review, 2(5), 181-192.
43. Asif, M. K., Junaid, M. S., Hock, O. Y., & Md Rafiqul, I. (2016). Creative Accounting: Techniques of Application-An Empirical Study among Auditors and Accountants of Listed Companies in Bangladesh. Australian Academy of Accounting and Finance Review (AAAFR), 2(3).
44. Sylvester, D. C., Rani, N. S. A., & Shaikh, J. M. (2011). Comparison between oil and gas companies and contractors against cost, time, quality and scope for project success in Miri, Sarawak, Malaysia. African Journal of Business Management, 5(11), 4337.
45. Abdullah, A., Khadaroo, I., & Shaikh, J. M. (2008). A'macro'analysis of the use of XBRL. International Journal of Managerial and Financial Accounting, 1(2), 213-223.
46. Kangwa, D., Mwale, J. T., & Shaikh, J. M. (2021). The social production of financial inclusion of generation Z in digital banking ecosystems. Australasian Accounting, Business and Finance Journal, 15(3), 95-118.
47. Khadaroo, M. I., & Shaikh, J. M. (2003). Toward research and development costs harmonization. The CPA Journal, 73(9), 50.
48. Jais, M., Jakpar, S., Doris, T. K. P., & Shaikh, J. M. (2012). The financial ratio usage towards predicting stock returns in Malaysia. International Journal of Managerial and Financial Accounting, 4(4), 377-401.
49. Shaikh, J. M., & Jakpar, S. (2007). Dispelling and construction of social accounting in view of social audit. Information Systems Control Journal, 2(6).

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

50. Jakpar, S., Shaikh, J. M., Tinggi, M., & Jamali, N. A. L. (2012). Factors influencing entrepreneurship in small and medium enterprises (SMEs) among residents in Sarawak Malaysia. International Journal of Entrepreneurship and Small Business, 16(1), 83-101.
51. Sheng, Y. T., Rani, N. S. A., & Shaikh, J. M. (2011). Impact of SMEs character in the loan approval stage. Business and Economics Research, 1, 229-233.
52. Boubaker, S., Mefteh, S., & Shaikh, J. M. (2010). Does ownership structure matter in explaining derivatives' use policy in French listed firms. International Journal of Managerial and Financial Accounting, 2(2), 196-212.
53. Hla, D. T., bin Md Isa, A. H., & Shaikh, J. M. (2013). IFRS compliance and nonfinancial information in annual reports of Malaysian firms. IUP Journal of Accounting Research & Audit Practices, 12(4), 7.
54. Shaikh, J. M., Khadaroo, I., & Jasmon, A. (2003). Contemporary Accounting Issues (for BAcc. Students). Prentice Hall.
55. SHAMIL, M. M., SHAIKH, J. M., HO, P., & KRISHNAN, A. (2022). External Pressures, Managerial Motive and Corporate Sustainability Strategy: Evidence from a Developing Economy. Asian Journal of Accounting & Governance, 18.
56. Kadir, S., & Shaikh, J. M. (2023, January). The effects of e-commerce businesses to small-medium enterprises: Media techniques and technology. In AIP Conference Proceedings (Vol. 2643, No. 1). AIP Publishing.
57. Ali Ahmed, H. J., Lee, T. L., & Shaikh, J. M. (2011). An investigation on asset allocation and performance measurement for unit trust funds in Malaysia using multifactor model: a post crisis period analysis. International Journal of Managerial and Financial Accounting, 3(1), 22-31.
58. Shaikh, J. M., & Linh, D. T. B. (2017). Using the TFP Model to Determine Impacts of Stock Market Listing on Corporate Performance of Agri- Foods Companies in Vietnam. Journal of Corporate Accounting & Finance, 28(3), 61-74.
59. [54] Jakpar, S., Othman, M. A., & Shaikh, J. (2008). The Prospects of Islamic Banking and Finance: Lessons from the 1997 Banking Crisis in Malaysia. 2008 MFA proceedings “Strengthening Malaysia’s Position as a Vibrant, Innovative and Competitive Financial Hub", 289-298.
60. Junaid, M. S., & Dinh Thi, B. L. (2016). Stock Market Listing Influence on Corporate Performance: Definitions and Assessment Tools.
61. Ghelani, D., Mathias, L., Ali, S. A., & Zafar, M. W. (2023). SENTIMENT ANALYSIS OF BIG DATA IN TOURISM BY BUSINESS INTELLIGENCE.
62. Ali, S. A. (2023). Navigating the Multi-Cluster Stretched Service Mesh: Benefits, Challenges, and Best Practices in Modern Distributed Systems Architecture. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(3), 98-125.
63. Ali, S. A., & Zafar, M. W. (2023). Istio Service Mesh Deployment Pattern for On-Premises.
64. Ali, S. A., & Zafar, M. W. (2022). API GATEWAY ARCHITECTURE EXPLAINED. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 6(4), 54-98.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

65. Ali, S. A. (2020). NUMA-AWARE REAL-TIME WORKLOADS. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 4(1), 36-61.
66. Ali, S. A. (2019). DESIGNING TELCO NFVI WITH OPENSTACK. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 3(2), 35-70.
67. Ali, S. A. (2019). SR-IOV Low-Latency Prioritization. PAKISTAN JOURNAL OF LINGUISTICS, 1(4), 44-72.
68. Ali, S. A. (2017). OPENSTACK AND OVN INTEGRATION: EXPLORING THE ARCHITECTURE, BENEFITS, AND FUTURE OF VIRTUALIZED NETWORKING IN CLOUD ENVIRONMENTS. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 1(4), 34-65.
69. Enoh, M. K. E., Ahmed, F., Muhammad, T., Yves, I., & Aslam, F. (2023). Navigating Utopian Futures. AJPO Journals USA LLC.
70. Muhammad, T., & Munir, M. (2023). Network Automation. European Journal of Technology, 7(2), 23-42.
71. Muhammad, T., Munir, M. T., Munir, M. Z., & Zafar, M. W. (2022). Integrative Cybersecurity: Merging Zero Trust, Layered Defense, and Global Standards for a Resilient Digital Future. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 6(4), 99-135.
72. Muhammad, T., Munir, M. T., Munir, M. Z., & Zafar, M. W. (2018). Elevating Business Operations: The Transformative Power of Cloud Computing. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 2(1), 1-21.
73. Ghelani, D., Hua, T. K., & Koduru, S. K. R. (2022). A Model-Driven Approach for Online Banking Application Using AngularJS Framework. American Journal of Information Science and Technology, 6(3), 52-63.
74. Ghelani, D. (2022). Cyber security, cyber threats, implications and future perspectives: A Review. Authorea Preprints.
75. Ghelani, D., Hua, T. K., & Koduru, S. K. R. (2022). Cyber Security Threats, Vulnerabilities, and Security Solutions Models in Banking. Authorea Preprints.
76. Ghelani, D., Hua, T. K., & Koduru, S. K. R. (2022). Cyber Security Threats, Vulnerabilities, and Security Solutions Models in Banking. Authorea Preprints.
77. Ghelani, D. (2022). What is Non-fungible token (NFT)? A short discussion about NFT Terms used in NFT. Authorea Preprints.
78. Ghelani, D. (2022). Cyber Security in Smart Grids, Threats, and Possible Solutions. Authorea Preprints.
79. Ghelani, D., & Hua, T. K. (2022). A Perspective Review on Online Food Shop Management System and Impacts on Business. Advances in Wireless Communications and Networks, 8(1), 7-14.
80. Ghelani, D. (2022). LITERATURE REVIEW ON Coordinated Control of Interconnected Microgrid and Energy Storage System Dipteben Ghelani.
81. Ghelani, D. (2022). Complex Business Intelligence Queries in Natural Language.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

82. Ghelani, D. (2023). A PERSPECTIVE STUDY OF NATURAL LANGUAGE PROCESSING IN THE BUSINESS INTELLIGENCE. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(1), 20-36.
83. Ghelani, D. (2022). EXPLAINABLE AI: APPROACHES TO MAKE MACHINE LEARNING MODELS MORE TRANSPARENT AND UNDERSTANDABLE FOR HUMANS. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 6(4), 45-53.
84. Ghelani, D., & Hua, T. K. Conceptual Framework of Web 3.0 and Impact on Marketing, Artificial Intelligence, and Blockchain.
85. Yvan Jorel Ngaleu Ngoyi, & Elie Ngongang. (2023). Forex Daytrading Strategy: An Application of the Gaussian Mixture Model to Marginalized Currency pairs in Africa. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(3), 149-191. Retrieved from https://ijcst.com.pk/IJCST/article/view/279
86. Poola, I. (2023). "Overcoming ChatGPTs inaccuracies with Pre-Trained AI Prompt Engineering Sequencing Process." 16.
87. Poola, Indrasen & Božić, Velibor. (2023). Guiding AI with human intuition for solving mathematical problems in Chat GPT.
88. Poola, Indrasen. (2023). TUNING CHATGPT MATHEMATICAL REASONING LIMITATIONS AND FAILURES WITH PROCESS SUPERVISION. 55-66. 10.5281/zenodo.8296440.
89. Muhammad, T. (2022). A Comprehensive Study on Software-Defined Load Balancers: Architectural Flexibility & Application Service Delivery in On-Premises Ecosystems. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 6(1), 1-24.
90. Muhammad, T. (2019). Revolutionizing Network Control: Exploring the Landscape of Software-Defined Networking (SDN). INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 3(1), 36-68.
91. Muhammad, T. (2021). Overlay Network Technologies in SDN: Evaluating Performance and Scalability of VXLAN and GENEVE. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 5(1), 39-75.
92. Paschina, S. (2023). Trust in Management and Work Flexibility: A Quantitative Investigation of Modern Work Dynamics and their Impact on Organizational Performance. *European Research Studies Journal*, *26*(3), 184-196.
93. Mughal, A. A. (2021). Cybersecurity Architecture for the Cloud: Protecting Network in a Virtual Environment. *International Journal of Intelligent Automation and Computing*, *4*(1), 35-48.
94. M. Shamil, M., M. Shaikh, J., Ho, P. L., & Krishnan, A. (2014). The influence of board characteristics on sustainability reporting: Empirical evidence from Sri Lankan firms. *Asian Review of Accounting*, *22*(2), 78-97.
95. Shaikh, J. M. (2004). Measuring and reporting of intellectual capital performance analysis. *Journal of American Academy of Business*, *4*(1/2), 439-448.
96. Shaikh, J. M., & Talha, M. (2003). Credibility and expectation gap in reporting on uncertainties. *Managerial auditing journal*, *18*(6/7), 517-529.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

97. Shaikh, J. M. (2005). E- commerce impact: emerging technology–electronic auditing. *Managerial Auditing Journal*, *20*(4), 408-421.
98. Lau, C. Y., & Shaikh, J. M. (2012). The impacts of personal qualities on online learning readiness at Curtin Sarawak Malaysia (CSM). *Educational Research and Reviews*, *7*(20), 430.
99. Shaikh, I. M., Qureshi, M. A., Noordin, K., Shaikh, J. M., Khan, A., & Shahbaz, M. S. (2020). Acceptance of Islamic financial technology (FinTech) banking services by Malaysian users: an extension of technology acceptance model. *foresight*, *22*(3), 367-383.
100. Muniapan, B., & Shaikh, J. M. (2007). Lessons in corporate governance from Kautilya's Arthashastra in ancient India. *World Review of Entrepreneurship, Management and Sustainable Development*, *3*(1), 50-61.
101. Bhasin, M. L., & Shaikh, J. M. (2013). Voluntary corporate governance disclosures in the annual reports: an empirical study. *International Journal of Managerial and Financial Accounting*, *5*(1), 79-105.
102. Mamun, M. A., Shaikh, J. M., & Easmin, R. (2017). Corporate social responsibility disclosure in Malaysian business. *Academy of Strategic Management Journal*, *16*(2), 29-47.
103. Karim, A. M., Shaikh, J. M., & Hock, O. Y. (2014). Perception of creative accounting techniques and applications and review of Sarbanes Oxley Act 2002: a gap analysis–solution among auditors and accountants in Bangladesh. *Port City International University Journal*, *1*(2), 1-12.
104. Liang, Y., & Liang, W. (2023). ResWCAE: Biometric Pattern Image Denoising Using Residual Wavelet-Conditioned Autoencoder. *arXiv preprint arXiv:2307.12255*.
105. Liang, Y., Liang, W., & Jia, J. (2023). Structural Vibration Signal Denoising Using Stacking Ensemble of Hybrid CNN-RNN. *arXiv e-prints*, arXiv-2303.
106. Fish, R., Liang, Y., Saleeby, K., Spirnak, J., Sun, M., & Zhang, X. (2019). Dynamic characterization of arrows through stochastic perturbation. *arXiv preprint arXiv:1909.08186*.
107. Wu, X., Bai, Z., Jia, J., & Liang, Y. (2020). A Multi-Variate Triple-Regression Forecasting Algorithm for Long-Term Customized Allergy Season Prediction. *arXiv preprint arXiv:2005.04557*.
108. Liang, W., Liang, Y., & Jia, J. (2023). MiAMix: Enhancing Image Classification through a Multi-Stage Augmented Mixed Sample Data Augmentation Method. *Processes*, *11*(12), 3284.
109. Ge, L., Peng, Z., Zan, H., Lyu, S., Zhou, F., & Liang, Y. (2023). Study on the scattered sound modulation with a programmable chessboard device. *AIP Advances*, *13*(4).
110. Liang, Y., Alvarado, J. R., Iagnemma, K. D., & Hosoi, A. E. (2018). Dynamic sealing using magnetorheological fluids. *Physical Review Applied*, *10*(6), 064049.
111. Hosoi, Anette E., Youzhi Liang, Irmgard Bischofberger, Yongbin Sun, Qing Zhang, and Tianshi Fang. "Adaptive self-sealing microfluidic gear pump." U.S. Patent 11,208,998, issued December 28, 2021.
112. Zhu, Y., Yan, Y., Zhang, Y., Zhou, Y., Zhao, Q., Liu, T., ... & Liang, Y. (2023, June). Application of Physics-Informed Neural Network (PINN) in the Experimental Study of

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

Vortex-Induced Vibration with Tunable Stiffness. In *ISOPE International Ocean and Polar Engineering Conference* (pp. ISOPE-I). ISOPE.

113. Abdullah, A., Khadaroo, I., & Shaikh, J. (2009). Institutionalisation of XBRL in the USA and UK. *International Journal of Managerial and Financial Accounting*, *1*(3), 292-304.
114. Khadaroo, I., & Shaikh, J. M. (2007). Corporate governance reforms in Malaysia: insights from institutional theory. *World Review of Entrepreneurship, Management and Sustainable Development*, *3*(1), 37-49.
115. Chavez, A., Koutentakis, D., Liang, Y., Tripathy, S., & Yun, J. (2019). Identify statistical similarities and differences between the deadliest cancer types through gene expression. *arXiv preprint arXiv:1903.07847*.
116. Wu, X., Bai, Z., Jia, J., & Liang, Y. (2020). A Multi-Variate Triple-Regression Forecasting Algorithm for Long-Term Customized Allergy Season Prediction. *arXiv preprint arXiv:2005.04557*.
117. Liang, Y. (2006). Structural Vibration Signal Denoising Using Stacking Ensemble of Hybrid CNN-RNN. Advances in Artificial Intelligence and Machine Learning. 2022; 3 (2): 65.
118. Mughal, A. A. (2018). The Art of Cybersecurity: Defense in Depth Strategy for Robust Protection. *International Journal of Intelligent Automation and Computing*, *1*(1), 1-20.
119. Mughal, A. A. (2018). Artificial Intelligence in Information Security: Exploring the Advantages, Challenges, and Future Directions. *Journal of Artificial Intelligence and Machine Learning in Management*, *2*(1), 22-34.
120. Mughal, A. A. (2022). Well-Architected Wireless Network Security. *Journal of Humanities and Applied Science Research*, *5*(1), 32-42.
121. Bhasin, M. L., & Shaikh, J. M. (2013). Economic value added and shareholders' wealth creation: the portrait of a developing Asian country. *International Journal of Managerial and Financial Accounting*, *5*(2), 107-137.
122. Asif, M. K., Junaid, M. S., Hock, O. Y., & Md Rafiqul, I. (2016). Solution of adapting creative accounting practices: an in depth perception gap analysis among accountants and auditors of listed companies. *Australian Academy of Accounting and Finance Review*, *2*(2), 166-188.
123. Alappatt, M., & Shaikh, J. M. (2014). Forthcoming procedure of goods and service tax (GST) in Malaysia. *Issues in Business Management and Economics*, *2*(12), 210-213.
124. Bhasin, M., & Shaikh, J. M. (2011). Intellectual capital disclosures in the annual reports: a comparative study of the Indian and Australian IT-corporations. *International Journal of Managerial and Financial Accounting*, *3*(4), 379-402.
125. Onosakponome, O. F., Rani, N. S. A., & Shaikh, J. M. (2011). Cost benefit analysis of procurement systems and the performance of construction projects in East Malaysia. *Information management and business review*, *2*(5), 181-192.
126. Asif, M. K., Junaid, M. S., Hock, O. Y., & Md Rafiqul, I. (2016). Creative Accounting: Techniques of Application-An Empirical Study among Auditors and Accountants of Listed Companies in Bangladesh. *Australian Academy of Accounting and Finance Review (AAAFR)*, *2*(3).

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

127. Sylvester, D. C., Rani, N. S. A., & Shaikh, J. M. (2011). Comparison between oil and gas companies and contractors against cost, time, quality and scope for project success in Miri, Sarawak, Malaysia. *African Journal of Business Management*, *5*(11), 4337.
128. Abdullah, A., Khadaroo, I., & Shaikh, J. M. (2008). A'macro'analysis of the use of XBRL. *International Journal of Managerial and Financial Accounting*, *1*(2), 213-223.
129. Kangwa, D., Mwale, J. T., & Shaikh, J. M. (2021). The social production of financial inclusion of generation Z in digital banking ecosystems. *Australasian Accounting, Business and Finance Journal*, *15*(3), 95-118.
130. Khadaroo, M. I., & Shaikh, J. M. (2003). Toward research and development costs harmonization. *The CPA Journal*, *73*(9), 50.
131. Jais, M., Jakpar, S., Doris, T. K. P., & Shaikh, J. M. (2012). The financial ratio usage towards predicting stock returns in Malaysia. *International Journal of Managerial and Financial Accounting*, *4*(4), 377-401.
132. Shaikh, J. M., & Jakpar, S. (2007). Dispelling and construction of social accounting in view of social audit. *Information Systems Control Journal*, *2*(6).
133. Jakpar, S., Shaikh, J. M., Tinggi, M., & Jamali, N. A. L. (2012). Factors influencing entrepreneurship in small and medium enterprises (SMEs) among residents in Sarawak Malaysia. *International Journal of Entrepreneurship and Small Business*, *16*(1), 83-101.
134. Sheng, Y. T., Rani, N. S. A., & Shaikh, J. M. (2011). Impact of SMEs character in the loan approval stage. *Business and Economics Research*, *1*, 229-233.
135. Boubaker, S., Mefteh, S., & Shaikh, J. M. (2010). Does ownership structure matter in explaining derivatives' use policy in French listed firms. *International Journal of Managerial and Financial Accounting*, *2*(2), 196-212.
136. Hla, D. T., bin Md Isa, A. H., & Shaikh, J. M. (2013). IFRS compliance and nonfinancial information in annual reports of Malaysian firms. *IUP Journal of Accounting Research & Audit Practices*, *12*(4), 7.
137. Shaikh, J. M., Khadaroo, I., & Jasmon, A. (2003). *Contemporary Accounting Issues (for BAcc. Students)*. Prentice Hall.
138. SHAMIL, M. M., SHAIKH, J. M., HO, P., & KRISHNAN, A. (2022). External Pressures, Managerial Motive and Corporate Sustainability Strategy: Evidence from a Developing Economy. *Asian Journal of Accounting & Governance*, *18*.
139. Kadir, S., & Shaikh, J. M. (2023, January). The effects of e-commerce businesses to small-medium enterprises: Media techniques and technology. In *AIP Conference Proceedings* (Vol. 2643, No. 1). AIP Publishing.
140. Mungoli, Neelesh. (2023). Enhancing Conversational Engagement and Understanding of Cryptocurrency with ChatGPT: An Exploration of Applications and Challenges.
141. Mungoli, Neelesh. (2023). HybridCoin: Unifying the Advantages of Bitcoin and Ethereum in a Next-Generation Cryptocurrency.
142. Fish, R., Liang, Y., Saleeby, K., Spirnak, J., Sun, M., & Zhang, X. (2019). Dynamic characterization of arrows through stochastic perturbation. *arXiv preprint arXiv:1909.08186*.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

143. Dynamic sealing using magnetorheological fluidsLiang, Y. (2015). *Design and optimization of micropumps using electrorheological and magnetorheological fluids* (Doctoral dissertation, Massachusetts Institute of Technology).
144. Liang, Y., Hosoi, A. E., Demers, M. F., Iagnemma, K. D., Alvarado, J. R., Zane, R. A., & Evzelman, M. (2019). *U.S. Patent No. 10,309,386*. Washington, DC: U.S. Patent and Trademark Office.
145. Mungoli, Neelesh. (2023). Deciphering the Blockchain: A Comprehensive Analysis of Bitcoin's Evolution, Adoption, and Future Implications.
146. Mungoli, Neelesh. (2023). Mastering Artificial Intelligence: Concepts, Algorithms, and Equations.
147. Mungoli, Neelesh. (2018). Multi-Modal Deep Learning in Heterogeneous Data Environments: A Complete Framework with Adaptive Fusion. 10.13140/RG.2.2.29819.59689.
148. Mungoli, Neelesh. (2019). Autonomous Resource Scaling and Optimization: Leveraging Machine Learning for Efficient Cloud Computing Management. 10.13140/RG.2.2.13671.52641.
149. Mungoli, N. (2023). Leveraging AI and Technology to Address the Challenges of Underdeveloped Countries. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(2), 214-234.
150. Mungoli, N. (2023). Exploring the Synergy of Prompt Engineering and Reinforcement Learning for Enhanced Control and Responsiveness in ChatGPT. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(2), 195-213.
151. Mungoli, N. (2023). Hybrid Coin: Unifying the Advantages of Bitcoin and Ethereum in a Next-Generation Cryptocurrency. INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY, 7(2), 235-250.
152. Mungoli, N. (2023). Intelligent Insights: Advancements in AI Research. International Journal of Computer Science and Technology, 7(2), 251-273.
153. Mungoli, N. (2023). Intelligent Insights: Advancements in AI Research. International Journal of Computer Science and Technology, 7(2), 251-273.
154. Mungoli, N. (2023). Deciphering the Blockchain: A Comprehensive Analysis of Bitcoin's Evolution, Adoption, and Future Implications. arXiv preprint arXiv:2304.02655.
155. Mungoli, N. Exploring the Frontier of Deep Neural Networks: Progress, Challenges, and Future Directions. medicine, 1, 7.
156. Mungoli, N. (2023). Scalable, Distributed AI Frameworks: Leveraging Cloud Computing for Enhanced Deep Learning Performance and Efficiency. arXiv preprint arXiv:2304.13738.
157. Mungoli, N. (2023). Adaptive Ensemble Learning: Boosting Model Performance through Intelligent Feature Fusion in Deep Neural Networks. arXiv preprint arXiv:2304.02653.
158. Mungoli, N. (2023). Adaptive Feature Fusion: Enhancing Generalization in Deep Learning Models. arXiv preprint arXiv:2304.03290.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

159. Ali Ahmed, H. J., Lee, T. L., & Shaikh, J. M. (2011). An investigation on asset allocation and performance measurement for unit trust funds in Malaysia using multifactor model: a post crisis period analysis. *International Journal of Managerial and Financial Accounting*, *3*(1), 22-31.
160. Shaikh, J. M., & Linh, D. T. B. (2017). Using the TFP Model to Determine Impacts of Stock Market Listing on Corporate Performance of Agri- Foods Companies in Vietnam. *Journal of Corporate Accounting & Finance*, *28*(3), 61-74.
161. Jakpar, S., Othman, M. A., & Shaikh, J. (2008). The Prospects of Islamic Banking and Finance: Lessons from the 1997 Banking Crisis in Malaysia. *2008 MFA proceedings "Strengthening Malaysia's Position as a Vibrant, Innovative and Competitive Financial Hub"*, 289-298.
162. Junaid, M. S., & Dinh Thi, B. L. (2016). Stock Market Listing Influence on Corporate Performance: Definitions and Assessment Tools.
163. Enoh, M. K. E., Ahmed, F., Muhammad, T., Yves, I., & Aslam, F. (2023). *Navigating ghaUtopian Futures*. AJPO Journals USA LLC.
164. Muhammad, T., & Munir, M. (2023). Network Automation. *European Journal of Technology*, *7*(2), 23-42.
165. Muhammad, T., Munir, M. T., Munir, M. Z., & Zafar, M. W. (2022). Integrative Cybersecurity: Merging Zero Trust, Layered Defense, and Global Standards for a Resilient Digital Future. *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *6*(4), 99-135.
166. Muhammad, T., Munir, M. T., Munir, M. Z., & Zafar, M. W. (2018). Elevating Business Operations: The Transformative Power of Cloud Computing. *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *2*(1), 1-21.
167. Yvan Jorel Ngaleu Ngoyi, & Elie Ngongang. (2023). Forex Daytrading Strategy: An Application of the Gaussian Mixture Model to Marginalized Currency pairs in Africa. *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *7*(3), 149-191. Retrieved from https://ijcst.com.pk/IJCST/article/view/279
168. Muhammad, T. (2022). A Comprehensive Study on Software-Defined Load Balancers: Architectural Flexibility & Application Service Delivery in On-Premises Ecosystems. *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *6*(1), 1-24.
169. Muhammad, T. (2019). Revolutionizing Network Control: Exploring the Landscape of Software-Defined Networking (SDN). *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *3*(1), 36-68.
170. Muhammad, T. (2021). Overlay Network Technologies in SDN: Evaluating Performance and Scalability of VXLAN and GENEVE. *INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND TECHNOLOGY*, *5*(1), 39-75.
171. Ranjbaran, A., Shabankareh, M., Nazarian, A., & Seyyedamiri, N. (2022). Branding through visitors: How cultural differences affect brand co-creation in independent hotels in Iran. *Consumer Behavior in Tourism and Hospitality*, *17*(2), 161-179.

ISSN Online : 2709-5088
ISSN Print : 2709-507X
IJCST

172. Nazarian, A., Atkinson, P., Foroudi, P., & Soares, A. (2021). Working together: Factors affecting the relationship between leadership and job satisfaction in Iranian HR departments. *Journal of General Management*, *46*(3), 229-245.
173. Nazarian, A., Zaeri, E., Foroudi, P., Afrouzi, A. R., & Atkinson, P. (2022). Cultural perceptions of ethical leadership and its effect on intention to leave in the independent hotel industry. *International Journal of Contemporary Hospitality Management*, *34*(1), 430-455.
174. Al-Karkhi, T. (2019). Pattern formation in PMZC plankton model. *International Journal of Basic and Applied Sciences*, *19*(2), 6-44.
175. Nazarian, A., Velayati, R., Foroudi, P., Edirisinghe, D., & Atkinson, P. (2021). Organizational justice in the hotel industry: revisiting GLOBE from a national culture perspective. *International Journal of Contemporary Hospitality Management*, *33*(12), 4418-4438.
176. Nazarian, A., Atkinson, P., Foroudi, P., & Dennis, K. (2019). Finding the right management approach in independent hotels. *International Journal of Contemporary Hospitality Management*, *31*(7), 2862-2883.
177. Foroudi, P., Marvi, R., & Nazarian, A. (2019). Whispering experience: Configuring the symmetrical and asymmetrical paths to travelers' satisfaction and passion. In *Place Branding: Connecting Tourist Experiences to Places*. Routledge.
178. Foroudi, P., Mauri, C., Dennis, C., & Melewar, T. C. (Eds.). (2019). *Place branding: Connecting tourist experiences to places*. Routledge.
179. Izadi, J., Foroudi, P., & Nazarian, A. (2021). Into the unknown: Impact of Coronavirus on UK hotel stock performance. *European Journal of International Management*.
180. Shabankareh, M., Nazarian, A., Seyyedamiri, N., Jandaghi, G., & Ranjbaran, A. (2022). Influential factors of loyalty and disloyalty of travellers towards traditional-resorts. *Anatolia*, *33*(3), 362-373.
181. Izadi Zadeh Darjezi, J., Choudhury, H., & Nazarian, A. (2017). Simulation evidence on the properties of alternative measures of working capital accruals: new evidence from the UK. *International Journal of Accounting & Information Management*, *25*(4), 378-394.
182. Kamalipoor, M., Akbari, M., Hejazi, S. R., & Nazarian, A. (2023). The vulnerability of technology-based business during COVID-19: an indicator-based conceptual framework. *Journal of Business & Industrial Marketing*, *38*(5), 983-999.
183. Nazarian, A., & Atkinson, P. (2015). Organisational size as a moderator of the culture-effectiveness relationship: the case of the private sector in Iran. *Organizational Cultures*, *14*(2), 1.