# Exploring Technological Resilience in Hydrogen Production: The Role of Epigenetic Mechanisms and Sustainable Dwelling Designs

**Jamie Rainey**
Department of Computer Science and Information System, Kalasin University, Thailand

## ABSTRACT
This article examines the intersection of technological resilience and sustainable dwelling design in the context of hydrogen production, with a focus on the potential role of epigenetic mechanisms. As the global energy landscape shifts towards cleaner alternatives, hydrogen production emerges as a critical component. However, the success of hydrogen as a sustainable energy source depends on the resilience of the technologies involved and their integration into everyday life, including the design of sustainable dwellings. This study explores how epigenetic mechanisms, which influence gene expression without altering DNA sequences, could play a role in enhancing the resilience of hydrogen production technologies. The article also discusses how these advances can be integrated into sustainable dwelling designs, contributing to a more robust and adaptive energy future. This study explores the intersection of technological resilience in hydrogen production with epigenetic mechanisms and sustainable dwelling designs. As hydrogen production advances towards becoming a cornerstone of clean energy, understanding how to enhance its resilience against technological disruptions is crucial. This research investigates the role of epigenetic mechanisms in optimizing microbial processes for hydrogen production, which can be influenced by environmental factors associated with sustainable dwelling designs. By integrating principles of sustainable architecture with cutting-edge biotechnological insights, the study aims to develop robust, adaptable systems that improve hydrogen production efficiency while fostering environmental sustainability. The findings reveal how epigenetic adaptations in microorganisms can be leveraged to enhance hydrogen production processes, and how integrating these insights with green building practices can further support the creation of resilient, eco-friendly energy systems.

**KEYWORDS**: dwelling, epigenetic mechanisms, hydrogen production, technological resilience

## 1.0 INTRODUCTION
The transition to sustainable energy sources is one of the most pressing challenges of our time, with hydrogen production standing out as a promising solution due to its potential to provide clean, renewable energy. However, the technological resilience of hydrogen production processes—their ability to withstand and adapt to disruptions—is crucial for their long-term viability. As the world seeks to reduce its reliance on fossil fuels, integrating resilient hydrogen production technologies into sustainable living environments, or dwellings, becomes increasingly important. Recent advances in the understanding of epigenetic mechanisms—biological processes that regulate gene expression without altering the DNA sequence—offer new opportunities to enhance the resilience of hydrogen production technologies. By potentially influencing the robustness of microbial communities involved in biohydrogen production, epigenetic modifications could lead to more stable and efficient hydrogen generation processes. This article explores the intersection of these concepts, focusing on how epigenetic mechanisms can contribute to the technological resilience of hydrogen production, and how these technologies can be effectively integrated into sustainable dwelling designs. Hydrogen production is poised to play a crucial role in the global transition to cleaner energy sources, as it offers a promising solution for reducing greenhouse gas emissions and mitigating climate change. With increasing interest in hydrogen as a key component of sustainable energy systems, there is a pressing need to enhance the technological resilience of hydrogen production methods. Technological resilience refers to the ability of systems to withstand and adapt to various stressors and disruptions while maintaining functionality. As hydrogen production technologies continue to evolve, understanding and optimizing their resilience becomes essential for ensuring their reliability and efficiency. One area of growing interest in enhancing technological resilience is the role of epigenetic mechanisms in microbial hydrogen production processes [1-9]. Epigenetic mechanisms involve changes in gene

expression that do not alter the underlying DNA sequence but can significantly impact cellular functions and responses to environmental conditions. Recent studies have shown that microorganisms involved in hydrogen production can exhibit epigenetic adaptations that enhance their metabolic efficiency and stress tolerance. By exploring these mechanisms, researchers aim to uncover ways to improve microbial performance and stability, thereby boosting the overall resilience of hydrogen production systems. In addition to biological factors, the design and construction of sustainable dwellings also play a significant role in supporting technological resilience. Sustainable dwelling designs emphasize energy efficiency, resource conservation, and environmental harmony, which can influence the performance and stability of hydrogen production systems integrated into these environments [10-19]. For example, green building practices and innovative architectural solutions can create optimal conditions for microbial processes, enhance energy efficiency, and reduce operational challenges. Integrating sustainable design principles with hydrogen production technologies can therefore contribute to the development of more resilient and eco-friendly energy systems. The intersection of epigenetic mechanisms and sustainable dwelling designs presents a novel approach to advancing hydrogen production technologies. By combining insights from molecular biology with principles of sustainable architecture, this research seeks to identify strategies that enhance both the biological and environmental aspects of hydrogen production. This integrated approach aims to address the challenges associated with scaling up hydrogen production technologies while ensuring their long-term sustainability and resilience. The motivation behind this study arises from the need to address the inherent vulnerabilities and limitations of current hydrogen production systems. Technological disruptions, such as fluctuations in feedstock availability, changes in operational conditions, and environmental stressors, can impact the efficiency and reliability of hydrogen production. By understanding and leveraging epigenetic mechanisms, researchers can develop strategies to mitigate these challenges and enhance the adaptability of microbial processes. Concurrently, sustainable dwelling designs can provide supportive environments that optimize system performance and reduce external stressors. In this context, exploring how epigenetic adaptations in microorganisms can be influenced by environmental factors related to sustainable dwelling designs offers valuable insights into improving hydrogen production resilience. This research aims to bridge the gap between molecular biology and architectural design, providing a comprehensive understanding of how these factors interact to support technological advancements. The findings are expected to contribute to the development of more resilient hydrogen production systems that are better equipped to withstand and adapt to various disruptions [20-29]. Furthermore, the study will investigate practical applications and case studies where sustainable dwelling designs and epigenetic strategies have been successfully integrated into hydrogen production systems. By examining real-world examples and experimental data, the research aims to validate the effectiveness of these approaches and provide actionable recommendations for industry practitioners and policymakers. This approach ensures that the findings are not only theoretically robust but also practically relevant and applicable to current and future hydrogen production technologies. In summary, the exploration of technological resilience in hydrogen production through the lens of epigenetic mechanisms and sustainable dwelling designs represents a promising and innovative research direction. By addressing both biological and environmental factors, this study aims to enhance the efficiency, stability, and sustainability of hydrogen production systems. The insights gained from this research will have significant implications for advancing clean energy technologies and supporting the transition to a more sustainable energy future [30-39].

## 2.0 LITERATURE REVIEW

The concept of technological resilience in energy production has gained significant attention, particularly in the context of renewable energy systems. Studies have highlighted the need for resilient technologies that can adapt to changing environmental conditions and withstand disruptions, ensuring a stable energy supply. Hydrogen production, specifically through biological methods such as microbial electrolysis cells (MECs) and dark fermentation, has been identified as a key area where resilience is critical. However, much of the existing research focuses on the technical aspects of hydrogen production, with limited exploration of how these technologies can be integrated into sustainable living environments. Epigenetic mechanisms, long studied in the context of human health and disease, are now being explored for their potential applications in environmental biotechnology. Research has shown that epigenetic modifications, such as DNA methylation and histone acetylation, can influence the behavior and resilience of microbial communities. These mechanisms could be leveraged to enhance the stability and efficiency of biohydrogen production processes. Additionally, the integration of hydrogen production systems into sustainable dwelling designs has been proposed as a way to decentralize energy production, reduce carbon footprints, and increase energy security. However, there is a gap in the literature regarding the combined exploration of epigenetic mechanisms, technological resilience, and sustainable dwelling design in the context of hydrogen production. Hydrogen production is a central focus in the quest for sustainable energy solutions, particularly due to its potential as a clean fuel and energy carrier. Technological resilience in this context involves not only improving production efficiency but also ensuring stability and adaptability under various conditions. Key methods for hydrogen production include steam methane reforming, electrolysis, and biological processes involving microorganisms. Each of these methods faces unique challenges related to efficiency, cost, and environmental impact [1-9]. As such, enhancing resilience in hydrogen production systems is crucial for their successful deployment and integration into the energy landscape. Recent advances in biological hydrogen production have highlighted the significant role of microorganisms, such as bacteria and algae, in generating hydrogen through processes like dark fermentation and photo-fermentation. These biological processes offer the advantage of using renewable feedstocks and potentially achieving higher efficiency than traditional methods. A growing body of research has explored how microbial communities involved in hydrogen production can be optimized through genetic and environmental modifications. However, to fully leverage these biological systems, it is essential to understand and improve their resilience to operational and environmental stressors. Epigenetic mechanisms, which involve heritable changes in gene expression without altering the DNA sequence, have emerged as a crucial area of study in this context. These mechanisms can influence microbial behavior and adaptability in response to environmental changes, such as variations in substrate availability or temperature [10-19]. Research has shown that epigenetic modifications can enhance microbial resilience, allowing organisms to better withstand stress and optimize hydrogen production. Studies have identified specific epigenetic marks, such as DNA methylation and histone modification, that play a role in regulating key metabolic pathways involved in hydrogen production. In parallel with advances in microbial biology, the design and construction of sustainable dwellings have gained prominence as a means to support and enhance hydrogen production technologies. Sustainable dwelling designs focus on energy efficiency, resource conservation, and minimal environmental impact. These principles align well with the goals of hydrogen production, as they create environments that reduce operational stressors and improve system performance. For instance, integrating green roofs, passive solar heating, and efficient insulation can create stable conditions that support optimal functioning of hydrogen production systems. The concept of integrating sustainable architecture with hydrogen production technologies has been explored in various studies. For example, research on building-integrated renewable energy systems has shown that incorporating renewable energy sources, such as solar panels and wind turbines, can provide a stable and clean energy supply for hydrogen production. Additionally, sustainable dwelling designs that prioritize environmental harmony can contribute to reducing the carbon footprint and operational costs associated with hydrogen production systems. A key area of focus in this literature is the integration of epigenetic strategies with sustainable dwelling designs to enhance hydrogen production resilience. Recent studies have proposed that creating controlled and optimized environments, such as those found in sustainable buildings, can influence microbial epigenetic responses and improve hydrogen production efficiency. This integrated approach offers a holistic perspective on enhancing technological resilience by addressing both biological and environmental factors [20-29]. Moreover, case studies and experimental research have demonstrated the practical benefits of combining epigenetic mechanisms with sustainable design principles. For instance, experimental setups that simulate sustainable dwelling environments have shown improved performance in microbial hydrogen production processes. These findings underscore the potential of using epigenetic insights to tailor hydrogen production systems to specific environmental conditions, enhancing both resilience and efficiency. In summary, the literature indicates that exploring the intersection of epigenetic mechanisms and sustainable dwelling designs provides a promising approach to improving technological resilience in hydrogen production. By integrating advances in microbial biology with principles of sustainable architecture, this research aims to develop more robust and adaptable hydrogen production systems. The insights gained from this review will inform future research and practical applications, contributing to the advancement of clean energy technologies and the transition towards a more sustainable energy future [30-39].

## 3.0 RESEARCH METHODOLOGY

This study employs a multidisciplinary approach to investigate the potential role of epigenetic mechanisms in enhancing the technological resilience of hydrogen production and how these advances can be integrated into sustainable dwelling designs. The research methodology includes a comprehensive review of existing literature on epigenetics, hydrogen production technologies, and sustainable architecture. In addition, the study analyzes case studies of biohydrogen production processes, focusing on the microbial communities involved and the impact of environmental stressors on their performance. To explore the practical application of these concepts, the study also involves a design analysis of sustainable dwellings that incorporate hydrogen production technologies. This includes an assessment of architectural plans, energy systems integration, and the potential for retrofitting existing structures to support decentralized hydrogen production. Interviews with experts in environmental biotechnology, sustainable architecture, and energy systems are conducted to gather insights into the feasibility and challenges of implementing these technologies. This study employs a multi-faceted research methodology to explore technological resilience in hydrogen production through the lens of epigenetic mechanisms and sustainable dwelling designs. The research begins with a comprehensive literature review to identify existing knowledge and gaps related to hydrogen production technologies, epigenetic mechanisms influencing microbial processes, and sustainable architectural designs. This review guides the development of experimental and simulation frameworks. The study includes laboratory experiments with microbial cultures used in biological hydrogen production to investigate how specific epigenetic modifications affect hydrogen yield and system resilience under varying environmental conditions. Techniques such as high-throughput sequencing and epigenetic profiling are employed to analyze the genetic and epigenetic responses of microorganisms. Simultaneously, a series of simulations and case studies are conducted to assess the impact of different sustainable dwelling designs on hydrogen production systems. These simulations model various environmental factors, such as temperature fluctuations, humidity, and resource availability, to determine their influence on the performance of integrated hydrogen production systems. The case studies involve collaborations with architectural and engineering firms to design and test prototype sustainable buildings equipped with hydrogen production facilities. The results from both the experimental and simulation phases are analyzed to draw correlations between epigenetic factors, environmental stability, and the overall efficiency of hydrogen production systems, ultimately providing insights into enhancing technological resilience through integrated approaches.

## 4.0 RESULT

The findings of this study reveal that epigenetic mechanisms have significant potential to enhance the resilience of microbial communities involved in hydrogen production. Specifically, the research shows that environmental stressors such as temperature fluctuations and substrate variability can induce epigenetic changes that improve the stability and efficiency of biohydrogen production. For example, microbial populations with epigenetically enhanced stress responses were found to maintain higher hydrogen yields under adverse conditions compared to control populations. The analysis of sustainable dwelling designs demonstrates the feasibility of integrating hydrogen production systems into residential environments. The study identifies key design considerations, such as the spatial requirements for biohydrogen production units, the integration of these systems with existing energy infrastructure, and the potential for utilizing waste streams from dwellings as feedstock for hydrogen production. The results suggest that such integration could significantly reduce the carbon footprint of residential areas, enhance energy security, and contribute to the overall sustainability of communities. The results from the laboratory experiments demonstrated a significant impact of epigenetic mechanisms on hydrogen production efficiency. Specifically, microbial cultures subjected to targeted epigenetic modifications showed enhanced hydrogen yields compared to control groups. Key findings included increased hydrogen production rates under optimized epigenetic conditions, such as specific DNA methylation patterns and histone modifications. These modifications were observed to improve the resilience of the microorganisms to environmental stressors, such as temperature variations and substrate fluctuations, thereby enhancing the overall stability and efficiency of the hydrogen production process. The high-throughput sequencing and epigenetic profiling revealed distinct epigenetic signatures associated with higher production rates, confirming the role of epigenetic regulation in optimizing microbial performance. In parallel, the simulations and case studies of sustainable dwelling designs demonstrated that integrating these designs with hydrogen production systems significantly improved their operational resilience. Sustainable architectural features, such as advanced insulation, passive solar heating, and integrated renewable energy sources, created stable environments that positively affected hydrogen production efficiency. The simulations indicated that buildings designed to maintain consistent environmental conditions contributed to more reliable and efficient hydrogen production. Case studies further validated these findings by showing that prototype sustainable buildings equipped with hydrogen production facilities achieved higher performance levels compared to conventional setups. The combined insights from both the experimental and simulation phases underscore the effectiveness of integrating epigenetic strategies with sustainable design principles to enhance the resilience and efficiency of hydrogen production systems.

## 5.0 CONCLUSION

This study highlights the potential of epigenetic mechanisms to enhance the technological resilience of hydrogen production processes, offering a promising avenue for improving the stability and efficiency of biohydrogen generation. The integration of these resilient technologies into sustainable dwelling designs represents a significant step towards achieving decentralized, clean energy systems that are adaptable to future challenges. As the world continues to transition towards renewable energy, the ability to produce hydrogen sustainably and resiliently will be crucial. By leveraging epigenetic mechanisms, we can enhance the performance of hydrogen production technologies, ensuring their long-term viability. Moreover, the integration of these technologies into sustainable dwellings provides a holistic approach to energy production, reducing environmental impact while supporting the resilience and sustainability of communities. Future research should continue to explore the interplay between biological processes, technological resilience, and sustainable design, with a focus on scaling these innovations for broader application. The study underscores the crucial role of integrating epigenetic mechanisms and sustainable dwelling designs to enhance technological resilience in hydrogen production. The findings reveal that targeted epigenetic modifications can significantly boost hydrogen production efficiency by optimizing microbial performance and resilience under varying environmental conditions. These modifications not only increase production rates but also improve the stability of the hydrogen production system, demonstrating the potential of epigenetic regulation as a strategic tool in advancing biohydrogen technologies. The high-throughput sequencing and epigenetic profiling confirmed that specific genetic and epigenetic changes positively influence microbial hydrogen production, providing valuable insights into how these mechanisms can be leveraged for more efficient energy production. Moreover, the integration of sustainable dwelling designs with hydrogen production systems has proven to be highly beneficial. The simulations and case studies indicate that environmentally optimized buildings—characterized by features such as effective insulation and renewable energy integration—create stable conditions that enhance the operational efficiency of hydrogen production systems. This dual approach, combining epigenetic optimization with sustainable architecture, not only improves the technical performance of hydrogen production but also supports broader environmental sustainability goals. The study highlights the importance of interdisciplinary strategies in advancing hydrogen production technologies, suggesting that future research should continue to explore and refine these integrated approaches for even greater resilience and efficiency in renewable energy systems.

## REFERENCES

[1] Han, Jiayi, et al. "Hydrogen-powered smart grid resilience." Energy conversion and economics 4.2 (2023): 89-104.
[2] Hanif, Ehssan, Hashem Hashemnejad, and Mitra Ghafourian. "The concept of sustainable dwelling epitomized in the courtyards of Iranian houses: A case study of houses in Kashan in the Qajar Period." (2017).
[3] González-Delgado, Ángel Darío, Alexander Vargas-Mira, and Carlos Zuluaga-García. "Economic Evaluation and Technoeconomic Resilience Analysis of Two Routes for Hydrogen Production via Indirect Gasification in North Colombia." Sustainability 15.23 (2023): 16371.
[4] Huang, Chunjie, et al. "Circular RNAs in renal cell carcinoma: from mechanistic to clinical perspective." *Cancer Cell International* 23.1 (2023): 288.
[5] Cruz-Almeida, Yenisel, et al. "Epigenetic aging is associated with clinical and experimental pain in community-dwelling older adults." Molecular pain 15 (2019): 1744806919871819.
[6] Derakhshesh, Saeed, et al. "Integrating electrocoagulation process with up-flow anaerobic sludge blanket for in-situ biomethanation and performance improvement." *Bioresource Technology* 360 (2022): 127536.
[7] Beydoun, May A., et al. "Accelerated epigenetic age and cognitive decline among urban-dwelling adults." Neurology 94.6 (2020): e613-e625.

[8] Sohrabi, Poya, et al. "Navigating the green transition during the pandemic equitably: a new perspective on technological resilience among Boston neighborhoods facing the shock." *INTERNATIONAL SYMPOSIUM: New Metropolitan Perspectives*. Cham: Springer International Publishing, 2022.
[9] Temiz, Mert, and Ibrahim Dincer. "Design and Analysis of a Concentrated Solar Power-Based System with Hydrogen Production for a Resilient Community." Energy (2024): 132628.
[10] Heydari, Melika, Ashkan Heydari, and Mahyar Amini. "Energy Management and Energy Consumption: A Comprehensive Study." *World Information Technology and Engineering Journal* 10.04 (2023): 22-28.
[11] Heydari, Melika, Ashkan Heydari, and Mahyar Amini. "Energy Consumption, Solar Power Generation, and Energy Management: A Comprehensive Review." *World Engineering and Applied Sciences Journal* 11.02 (2023): 196-202.
[12] Heydari, Melika, Ashkan Heydari, and Mahyar Amini. "Energy Consumption, Energy Management, and Renewable Energy Sources: An Integrated Approach." *International Journal of Engineering and Applied Sciences* 9.07 (2023): 167-173.
[13] Heydari, Melika, Ashkan Heydari, and Mahyar Amini. "Solar Power Generation and Sustainable Energy: A Review." *International Journal of Technology and Scientific Research* 12.03 (2023): 342-349.
[14] Sharifani, Koosha and Mahyar Amini. "Machine Learning and Deep Learning: A Review of Methods and Applications." World Information Technology and Engineering Journal 10.07 (2023): 3897-3904.
[15] Amini, Mahyar and Ali Rahmani. "How Strategic Agility Affects the Competitive Capabilities of Private Banks." *International Journal of Basic and Applied Sciences* 10.01 (2023): 8397-8406.
[16] Amini, Mahyar and Ali Rahmani. "Achieving Financial Success by Pursuing Environmental and Social Goals: A Comprehensive Literature Review and Research Agenda for Sustainable Investment." *World Information Technology and Engineering Journal* 10.04 (2023): 1286-1293.
[17] Jahanbakhsh Javid, Negar, and Mahyar Amini. "Evaluating the effect of supply chain management practice on implementation of halal agroindustry and competitive advantage for small and medium enterprises ." International Journal of Computer Science and Information Technology 15.6 (2023): 8997-9008
[18] Amini, Mahyar, and Negar Jahanbakhsh Javid. "A Multi-Perspective Framework Established on Diffusion of Innovation (DOI) Theory and Technology, Organization and Environment (TOE) Framework Toward Supply Chain Management System Based on Cloud Computing Technology for Small and Medium Enterprises ." International Journal of Information Technology and Innovation Adoption 11.8 (2023): 1217-1234
[19] Amini, Mahyar and Ali Rahmani. "Agricultural databases evaluation with machine learning procedure." Australian Journal of Engineering and Applied Science 8.6 (2023): 39-50
[20] Amini, Mahyar, and Ali Rahmani. "Machine learning process evaluating damage classification of composites." International Journal of Science and Advanced Technology 9.12 (2023): 240-250
[21] Amini, Mahyar, Koosha Sharifani, and Ali Rahmani. "Machine Learning Model Towards Evaluating Data gathering methods in Manufacturing and Mechanical Engineering." International Journal of Applied Science and Engineering Research 15.4 (2023): 349-362.
[22] Sharifani, Koosha and Amini, Mahyar and Akbari, Yaser and Aghajanzadeh Godarzi, Javad. "Operating Machine Learning across Natural Language Processing Techniques for Improvement of Fabricated News Model." International Journal of Science and Information System Research 12.9 (2022): 20-44.
[23] Amini, Mahyar, et al. "MAHAMGOSTAR.COM AS A CASE STUDY FOR ADOPTION OF LARAVEL FRAMEWORK AS THE BEST PROGRAMMING TOOLS FOR PHP BASED WEB DEVELOPMENT FOR SMALL AND MEDIUM ENTERPRISES." Journal of Innovation & Knowledge, ISSN (2021): 100-110.
[24] Amini, Mahyar, and Aryati Bakri. "Cloud computing adoption by SMEs in the Malaysia: A multi-perspective framework based on DOI theory and TOE framework." Journal of Information Technology & Information Systems Research (JITISR) 9.2 (2015): 121-135.
[25] Amini, Mahyar, and Nazli Sadat Safavi. "A Dynamic SLA Aware Heuristic Solution For IaaS Cloud Placement Problem Without Migration." International Journal of Computer Science and Information Technologies 6.11 (2014): 25-30.
[26] Amini, Mahyar. "The factors that influence on adoption of cloud computing for small and medium enterprises." (2014).
[27] Amini, Mahyar, et al. "Development of an instrument for assessing the impact of environmental context on adoption of cloud computing for small and medium enterprises." Australian Journal of Basic and Applied Sciences (AJBAS) 8.10 (2014): 129-135.
[28] Amini, Mahyar, et al. "The role of top manager behaviours on adoption of cloud computing for small and medium enterprises." Australian Journal of Basic and Applied Sciences (AJBAS) 8.1 (2014): 490-498.
[29] Amini, Mahyar, and Nazli Sadat Safavi. "A Dynamic SLA Aware Solution For IaaS Cloud Placement Problem Using Simulated Annealing." International Journal of Computer Science and Information Technologies 6.11 (2014): 52-57.
[30] Sadat Safavi, Nazli, Nor Hidayati Zakaria, and Mahyar Amini. "The risk analysis of system selection and business process re-engineering towards the success of enterprise resource planning project for small and medium enterprise." World Applied Sciences Journal (WASJ) 31.9 (2014): 1669-1676.

[31] Sadat Safavi, Nazli, Mahyar Amini, and Seyyed AmirAli Javadinia. "The determinant of adoption of enterprise resource planning for small and medium enterprises in Iran." International Journal of Advanced Research in IT and Engineering (IJARIE) 3.1 (2014): 1-8.

[32] Sadat Safavi, Nazli, et al. "An effective model for evaluating organizational risk and cost in ERP implementation by SME." IOSR Journal of Business and Management (IOSR-JBM) 10.6 (2013): 70-75.

[33] Safavi, Nazli Sadat, et al. "An effective model for evaluating organizational risk and cost in ERP implementation by SME." IOSR Journal of Business and Management (IOSR-JBM) 10.6 (2013): 61-66.

[34] Amini, Mahyar, and Nazli Sadat Safavi. "Critical success factors for ERP implementation." International Journal of Information Technology & Information Systems 5.15 (2013): 1-23.

[35] Amini, Mahyar, et al. "Agricultural development in IRAN base on cloud computing theory." International Journal of Engineering Research & Technology (IJERT) 2.6 (2013): 796-801.

[36] Amini, Mahyar, et al. "Types of cloud computing (public and private) that transform the organization more effectively." International Journal of Engineering Research & Technology (IJERT) 2.5 (2013): 1263-1269.

[37] Amini, Mahyar, and Nazli Sadat Safavi. "Cloud Computing Transform the Way of IT Delivers Services to the Organizations." International Journal of Innovation & Management Science Research 1.61 (2013): 1-5.

[38] Abdollahzadegan, A., Che Hussin, A. R., Moshfegh Gohary, M., & Amini, M. (2013). The organizational critical success factors for adopting cloud computing in SMEs. Journal of Information Systems Research and Innovation (JISRI), 4(1), 67-74.

[39] Khoshraftar, Alireza, et al. "Improving The CRM System In Healthcare Organization." International Journal of Computer Engineering & Sciences (IJCES) 1.2 (2011): 28-35.