

# The Moderate Role of the Perceived Orientation of Information Technology in the Relationship between Human Capital and Organizational Innovation Mediating Orientations to Learning: Literature Review

**Mustafa Khudhair Hussein**

IMAM A'ADHUM UNIVERSITY COLLEGE, IRAQ

E-mail: [mustafakhudair87@gmail.com](mailto:mustafakhudair87@gmail.com)

**Ruaa Basil Noori Al-tekreeti**

Ph.D. Candidate, Management Dept., Faculty of Economics and Management of Sfax (FSEGS), University of Sfax, TUNISIA.

**Mohammed Faez Hasan**

Associated Prof. of Finance, Financial and Banking Sciences Dept., University of Kerbala, Iraq.

E-mail: [mohammed.faz@uokerbala.edu.iq](mailto:mohammed.faz@uokerbala.edu.iq)

Orcid: <https://orcid.org/0000-0002-4579-3214>

**Hakeem Hammood Flayyih**

Institut Supérieur de Gestion, University of Tunis, TUNISIA.

E-mail: [hakeemhammood@gmail.com](mailto:hakeemhammood@gmail.com)

Orcid: <https://orcid.org/0000-0003-0615-0854>

Hussein, M. K., Ruaa Basil Noori Al-tekreeti, Hasan, M. F., & Flayyih, H. H. (2023). The Moderate Role of the Perceived Orientation of Information Technology in the Relationship between Human Capital and Organizational Innovation Mediating Orientations to Learning: Literature Review. *Ishtar Journal of Economics and Business Studies*, 4(1). <https://doi.org/10.55270/ijebs.v4i1.14>

## ABSTRACT

The study focuses on investigating the moderate role of the Perceived Orientation of Information Technology (POIT) in the association of organizational innovation and human capital through the dimensions of direction to learning as an intermediary in the public Company of Electrical and Electronic Industries in Baghdad. A survey form was administrated to (262) workers in the company from all organizational levels. The most noticeable results were a positive association between Human Capital (HC) and organizational innovation (OI) through the dimensions of direction to learning through (shared vision - the commitment to learning - openness). However, it was unsuccessful in harmonizing HC and information technology (IT) to bring about OI, despite a positive role for IT in achieving organizational innovation. The study recommended developing a mechanism and programs to invest HC, technology, and learning to bring about changes and face challenges through creativity in processes, products, and services.

**Keywords:** Information Technology, Human Capital, Organizational Innovation, learning.

## Introduction

There are a number of ongoing changes and advancements that the current era is seeing that could present a challenge for businesses and put a lot of pressure on them to continue, succeed, and improve their performance (HUSSEIN & KAMMOUN, 2022). Due to fierce

rivalry, diversity in technology and knowledge, and the quantity and quality of resources, it is essential for enterprises to develop qualified human resources who can adopt and adapt. Modern administrative ideas have been based on (the perceived orientation to IT, HC, dimensions of learning orientation (IO), and OI) in accordance with these changes and advances.

Additionally, the current study's concept emerged to deal with these modern managerial concepts for their significant contribution to the achievement and perfection of performance through their investment and creation of a climate that is suitable for innovation because of essential and intrinsic assets and permanent wealth (Alnujaimi et al., 2022).

The current study notion did not come from anything, but rather from the administrative philosophy, which emphasizes the importance of human resources in determining an organization's success (Al-Basha & Flayyih, 2017). In order to assist their success, corporations are now focusing on this important component. By mediating the dimensions of orientation to learning in the Electrical and Electronic Industries Company in Baghdad, the research seeks to demonstrate the modest significance of the POIT in enhancing the relationship between HC and OI. the amount to which it has adopted OI and its conviction in the significance of these enterprises in carrying out their vital function in Iraq's economy, which primarily relies on technical skills and people energies working in it, are the final two objectives.

It is significant to note that this business is regarded as among the most significant ones in Iraq's industrial sector, producing and supplying a wide range of products required by both the public and private sectors. The company's competitive strength decreased because of the government's indifference, lack of financial support, increase in the volume of foreign goods entering the market, suspension of several production lines because of technological outmodedness, qualifications gaps, a lack of primary resources, failure to perform innovation, and improvements (Hussein et al., 2021). One of the main causes for the researcher's decision to use the current research topic in the research sample company is that it is one of the businesses that need to do so because it bases its operations and activities on HC, OI, and instruction, which strengthens its situation and competitive advantage in the face of fierce rivalry.

## **Review of Literature and Building Hypotheses**

Innovation has become a critical topic to ensure an organization's survival, expansion and success. Having creative people is important for the survival and growth of organizations through the generation of new ideas, products, and services (Bai et al., 2016). The HC represented by workers' experience, skill, knowledge, and capabilities help the organization achieve OI (March 1991). Providing the organization with new human resources carrying knowledge and experiences different from what the organization possesses plays a vital role in achieving the organization's strategic goals of technological and operational innovations. It also has more importance for the organization's operations and material and financial resources, being more influential in innovation efforts (Slavova et al., 2016). Link IO to an interactive role across IT and the HC and IO dimensions as Iraqi corporate-level mediator in the electrical and electronics industry is a fairly new phenomenon notion. It was practically not translated and explained. innovation is one of the most important managerial inputs that enable an organization to master varied and ever-faster challenges and rely on innovation e Creativity by increasing the innovative capacity of human resources. (Hussein, 2016).

The greatest policies that assist innovation are also determined by creating an atmosphere that does so. As his study is regarded as the first at the level of the Arab world, (Seleim et al., 2004) found flaws and shortcomings in focusing on human and intellectual

capital among the Arabian nations. Sharabati et al. (2009) Business corporations did not reflect the idea of intellectual and human capital.

Researchers in this field find many problems in Iraqi companies in the administrative, human, technical, and technological aspects. For the administrations to address these problems and appropriately invest in HC, try it out sincerely to provide a suitable measurement tool for improvement and development of Innovation in Iraqi companies. A study (Perez et al., 2012) investigated the significance of HC as a leader of innovation.

Al-Khumili (2015) investigated how activating HC affected the growth of creative talents and came to the conclusion that there is a favorable correlation between activating HC and the creative abilities of the insurance firm in El Tarf State. It was discovered by evaluating earlier research that HC was treated with other variables. The current study, however, stands out since it examines the direct effect of HC as an independent variable on OI, leading to the formulation of the following hypothesis:

(H1): The HC has a positive effect on OI as a whole.

The emphasis on learning is one of the essential strategic trends that help the organization rise, boost, and build knowledge, which impacts the behavior of working individuals. The IO allows the organization to develop its capabilities and skills, which is reflected in developing and improving innovation and organizational performance (Serna et al., 2016). Referring to the results of the 2017 study (Chang et al.), learning mediates the relationship between innovation and knowledge acquisition. Hassan et al. (2013) found their way around Learning as a mediating variable in the relationship between marketing Orientation and the performance of Pakistani companies. Therefore Kalmuk (2015) asserted the role of organizational learning as a mediator in the association between innovation and performance among Turkish companies then highlighted the assured role of learning in increasing innovation and efficiency in the subsidiary. Likewise, the studies of (Beneke et al., 2016, Lestari et al. 2018 and Sawaeen & Ali, 2020), indicated that there was a positive effect of IO on innovation. Notwithstanding, some studies found no positive effect of IO on organizational performance (Gomes & Wojhan, 2017; Long, 2013). Thus, uncertainty persists in the relationship and this magnitude to generating an intellectual controversy and giving us the incentive to search for bridging this gap.

Additionally, this is because the proportions of the orientation of learning (shared vision, commitment to learning, and openness) were used as intermediary variables in the relationship between HC and OI and there was no previous study that tested the POIT using the variables in the current study. Because of this, conducting an applied study to comprehend the expanded role of the POIT between HC and OI via the dimensions of orientation towards learning as a mediator in the Iraqi environment is a necessity deserving of attention, especially in the General Company for Electrical and Electronic Productions in Baghdad. The encounter for the organization to persist and endure, particularly in the extreme competing market, is to attain OI by offering innovative products and services. Because of this, conducting an applied study to comprehend the expanded role of the POIT between HC and OI through the dimensions of orientation towards learning as a mediator in the Iraqi environment is a necessity deserving of attention, especially in the General Company for Electrical and Electronic Industries in Baghdad. Opening the Iraqi markets to regional and worldwide markets is necessary in order to accomplish OI, which presents a challenge to the business in order to remain and sustain, particularly in the intensely competing Iraqi environment. The company may fail if these difficulties and obstacles are not addressed.

As a result, the research question can be developed by the consequent central issue:

Is the Iraqi executive capable to increase the effect of the interactive role of IT and HC in OI through the dimensions of the direction for learning as a mediator? By means of the above theoretical, intellectual, and applied propositions, the following hypotheses can be formulated:

(H<sub>2</sub>): The shared vision mediates the relationship between HC and OI.

(H<sub>3</sub>): The commitment to learning mediates the relationship between HC and OI.

(H<sub>4</sub>): Openness mediates the relationship between HC and OI.

On the other hand, it refers to the importance of IT in managing HC through the acquisition, creation, storage, sharing, and application of knowledge. Moreover, the capabilities support the success and OI through the generation of new ideas, products, and services. This was confirmed by the Norek's study conducted in 2013 and the study of Al-Fatlawi (2011) that indicated the responsibility of IT in the growth of HC in the Iraqi Telecom Company. Xia et al. (2012) tried to analyze the relationship between HC and technological innovation, they emphasized the critical and positive role of HC on innovation. Despite the large number of studies that dealt with this aspect, there are shortcomings and shortages in studies that dealt with the specific factors and means through which HC can achieve OI. The study of Chen et al., (2014) indicated the use of technological orientation as one of the factors affecting the association between transformational leadership and the performance of Chinese companies in their ability to achieve new products, which recommended that companies should give priority to technological orientation as a rate to achieve innovation and create new projects and products, while A study (Imran. H et al., 2015) used technological orientation as a modifier in the relationship between human resources and the quality of the internal audit service (Flayyih & Flayyih, 2019). Boise et al., (2015) examined the modified role of IT in the relationship between communications and customer satisfaction in hotel services. Moreover, another research conducted by Mashi and Lamia in 2018 also dealt with the modified role of the POIT in the link between transformational leadership and human resource performance.

Furthermore, Al-Ani and Kabashi (2019) examined the modified function of IT in the connection between supply chains and operational efficiency. It indicates that information technologies play a moderate role in the relationship between the variables investigated. Meanwhile, Abdullah and Muhammad 2021 tested the moderate role of IT in the relationship between knowledge management and professional performance at the Al-Faisal Islamic Bank in Sudan. They concluded that there is no relationship between IT, knowledge management, and job performance. That IT modifies the relationship between the variables investigated. Hence, the third research gap is related to the absence of both theoretical and empirical studies that dealt with the POIT as a ratio between HC and OI in the mediating dimensions of orientation toward learning (Al-Jubouri et al., 2017). Thus, the question appears to be relevant specifically to the fact that the Common Company for Electrical and Electronic Productions in Baghdad.

Moreover, if these questions are considered as an issue in developed economics, how about developing countries? Iraq is one. Through applied studies and theoretical propositions, the following research hypothesis can be formulated:

(H<sub>5</sub>) The perceived IT orientation modifies the relationship between HC and OI.

### **Research Methodology:**

The descriptive-analytical manner has used to carry out the study, and the survey was the main instrument for data collection. A sample of (262) was taken from all administrative, technical, and organizational levels working in the Public Company for Electrical and Electronic Productions in Baghdad, including (6) factories. A group of appropriate statistical methods using the STATA 26 statistical analysis program and structural equation modeling (SEM) is adopted to accomplish and achieve the study's objectives.

## Conclusions

To conclude, it is important to notify that the management of the Public Company of Electrical and Electronic Productions considers the nature of the positive relationship to the dimensions of HC in general in achieving OI in the company in question. The HC will be used to bring about innovation in its products and services provided in general. This is done through a commitment to learning (a shared vision, a commitment to learning, and openness), which is the ability to recognize and understand problems and be familiar with the basic work requirements. These will create innovation and help respond to new challenges. However, it was unsuccessful in achieving the harmonization between HC and IT to bring about OI, despite the presence of a positive role for IT in bringing about innovations in the company. Thus, the relationship of HC with OI should be studied in light of the dimensions of orientation towards learning because of its essential role in increasing the impact of HC on creativity in the researched company.

## Recommendations

In order to progress its condition, bring about changes, innovate, and handle failures, the company's management should develop and increase its employees' skills, talents, and experiences. This could be accomplished by enrolling them in specialised training programmes and taking them on field trips to businesses that are active in the same industry to broaden their knowledge. The reputation and competitiveness of the business will benefit from such a solution. Additionally, it enables innovation and modification in its procedures. Additionally, innovative human resource management strategies must be created in order to attract talent and support innovation and development. Additionally, enhancing HC and IT collaboration is essential for creating innovation using the tools and databases offered by IT. Emphasis must be placed on the learning process and creating an encouraging environment through the development of financial and moral incentives and appropriate conditions for exchanging information and knowledge among employees.

## Future Studies:

There are restrictions that can be distilled into a pattern from past investigations to be useful study. As a result, it will be intriguing to investigate the association between the similar factors within service sector in the context of Iraq in order to highlight any potential variations. It will also be important to include additional factors as a relationship mediator, such as leadership, company culture, and information exchange. and lastly, to investigate the link between HC and building a long-term competitive edge through education

## References

- Abdullah, S., & Mohamed, A. H. (2021). The modified role of information technology in the relationship between knowledge management and job performance (Doctoral dissertation, Sudan University of Science and Technology).
- Ahamad, S., Gupta, P., Acharjee, P. B., Kiran, K. P., Khan, Z., & Hasan, M. F. (2022). The role of block chain technology and Internet of Things (IoT) to protect financial transactions in crypto currency market. *Materials Today: Proceedings*, 56, 2070-2074.
- Al-Ani, A. H., & Kabashi, M. H. (2019). The modified role of information technology in the relationship between supply chains and operational performance (Doctoral dissertation, Sudan University of Science and Technology).
- Alanizi, S. A., Hameed, A. A. (2016). The role of human capital in the business organizations strength , *Journal of Al-Dananeer*, Volume 1, Issue 8, Pages 383-416



- Al-Basha, A. S., & Flayyih, H. H. (2017). The academic and vocational integration to accounting and its role of supply the labor market. *The third scientific conference of the Shatt Al-Arab University College*.
- Al-Jubouri, N., Al-Tamimi, A. H., & Flayyih, H. H. (2017). Methods of Scientific Research (2nd ed.). Ishtar Academy group (IAG).
- Alnujaimi, A. W., Almageed, M. K. A., Flayyih, H. H., & Murad, A. H. (2022). USING THE CONCEPT OF STRATEGIC FOCUS AND FUTURE ORIENTATION TO CREATE AN INTEGRATED FRAMEWORK BETWEEN THE CONCEPTUAL FRAMEWORK OF FINANCIAL ACCOUNTING AND INTEGRATED REPORTS. In the 1st International Scientific and Practical Internet Conference.
- Alnujaimi, Aws Saeed Mirdan, Hakeem Hammood Flayyih, Amged Hamid Murad, Muthana Al-Obaidi, Waleed Katee, Hussein, Mustafa Khudhair & Abdulwhab. (2022). USING THE MODEL OF THE EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT IN EVALUATING THE PERFORMANCE OF CONTROL AND INTERNAL AUDITING. *the 1st International Scientific and Practical Internet Conference*.
- Beneke, J., Blampied, S., Dewar, N., & Soriano, L. (2016). The impact of market orientation and learning orientation on organisational performance: A study of small to medium-sized enterprises in Cape Town, South Africa. *Journal of Research in Marketing and Entrepreneurship*.
- Boise, N. C., Ronald, B., & Kimeli, C. T. (2015). Moderating effect of information Technology utilization on the relationship between commitment and customer satisfaction.
- Broekema, W., Porth, J., Steen, T., & Torenvlied, R. (2019). Public leaders' organizational learning orientations in the wake of a crisis and the role of public service motivation. *Safety science*, 113, 200-209.
- Chang, W. J., Liao, S. H., & Wu, T. T. (2017). Relationships among organizational culture, knowledge sharing, and innovation capability: a case of the automobile industry in Taiwan. *Knowledge Management Research & Practice*, 15(3), 471-490.
- Chen, Y., Tang, G., Jin, J., Xie, Q., & Li, J. (2014). CEO s' transformational leadership and product innovation performance: The roles of corporate entrepreneurship and technology orientation. *Journal of product innovation management*, 31, 2-17.
- Flayyih, H. H. (2015). Enhance financial reporting of companies to use economic value added. *Journal of Baghdad College of Economics*, 43, 379–408.
- Flayyih, H. H. (2016). Factors affecting of the audit quality And its role in enhancing dimensions that is quality. *Journal of the Accountant*, 23(46), 201–219.
- Flayyih, H. H., & Flayyih, M. Z. (2019). *Internal auditing in public companies according to international auditing standards* (1th ed.). Ishtar Academy group (IAG).
- Flayyih, H. H., Al-Mufraji, S. H., & Alhelle, M. H. (2019). Islamic Banks: Basic Concepts and Applied Cases.
- Hasan, M. F. (2022). Bank Mergers and Acquisitions Trends Under Recent Crises. *Iconic Research and Engineering Journals*, 6(2).
- Hasan, M. F., Hadi, H. S., & Jasim, N. A. H. (2021). The Validity of Altman's Models in Predicting Iraqi Private-Banks Soundness. *JOURNAL OF MANAGEMENT AND ACCOUNTING STUDIES*, 9(01), 79-89.
- Hassan, Masood. U., Qureshi, S. U., Hasnain, A., Sharif, I., & Hassan, R. (2013). Market orientation, learning orientation and organizational performance: evidence from banking industry of Pakistan. *Science International*, 25(4), 945-956.

- Hussein, M. K. (2016). *Tacit knowledge of auditors and their reflection on the effectiveness of the performance to some inspectors general offices* (Doctoral dissertation, Master Thesis in Performance Evaluation, Administration and Economics, University of Baghdad).
- HUSSEIN, M. K., & KAMMOUN, R. (2022). The impact of human capital on the dimensions of organization innovation by mediating the orientation of learning.
- Hussein, M. K., Kammoun, R., & Hasan, M. A. (2021). The Impact (Influence) of Human Capital Dimensions on Organizational Innovation Through Learning Orientation: in the General Company for Electrical and Electronic Industries in Baghdad (Evidence from Iraqis Industries). *Journal of Positive Psychology and Wellbeing*, 5(4), 218-232.
- Imran, H., Habbe, A. H., & Ferdiansah, M. I. (2015). The Role of Information Technology as Moderating Variable and Internal Control Effectiveness as Intervening Variable in The Relationship between Human Resource Competency and Internal Auditor Service Quality on Quality of Report
- Kalmuk, G., & Acar, A. Z. (2015). The mediating role of organizational learning capability on the relationship between innovation and firm's performance: A conceptual framework. *Procedia-Social and Behavioral Sciences*, 210, 164-169
- Khamili, Farid, (2015). The impact of human capital activation on the development of creative capabilities A case study of insurance companies in El Tarf state in Algeria. *AL-Mostansiriyah journal for arab and international studies*, (51).
- Laverie, D. A., Madhavaram, S., & McDonald, R. E. (2008). Developing a learning orientation: The role of team-based active learning. *Marketing Education Review*, 18(3), 37-51.
- Long, H. C. (2013). The relationship among learning orientation, market orientation, entrepreneurial orientation, and firm performance of Vietnam marketing communications firms. *Philippine Management Review*, 20.
- Long, H. C. (2013). The relationship among learning orientation, market orientation, entrepreneurial orientation, and firm performance of Vietnam marketing communications firms. *Philippine Management Review*, 20.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.
- Mariz-Pérez, R. M., Teijeiro-Álvarez, M. M., & García-Álvarez, M. T. (2012). The relevance of human capital as a driver for innovation. *Cuadernos de economía*, 35(98), 68-76.
- McGuirk, H., Lenihan, H., & Hart, M. (2015). Measuring the impact of innovative human capital on small firms' propensity to innovate. *Research policy*, 44(4), 965-976.
- Meshi, & Lamia Bakri Mahmoud. (2018). The modified role of the perceived orientation of information technology in the relationship between transformational leadership and human resource performance in Sudanese commercial banks (Doctoral dissertation, Sudan University of Science and Technology).
- Norek, T. (2013). The effectiveness of innovative processes implemented by the SME companies. Results of the empirical research. *ACTA Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 61, 287.
- RASHID, R. N., KAREEM, H. B., ALI, M. H., & HASAN, M. F. (2021). The Role of Internal Control Techniques in Sustainable Development to Improve Financial Performance. *Estudios de Economia Aplicada*, 39(11), 1–14.  
<https://doi.org/10.25115/eea.v39i11.6324>
- Sawaeen, F., & Ali, K. (2020). The impact of entrepreneurial leadership and learning orientation on organizational performance of SMEs: The mediating role of innovation capacity. *Management Science Letters*, 10(2), 369-380.
- Seleim, A., Ashour, A., & Bontis, N. (2004). Intellectual capital in Egyptian software firms. *The Learning Organization*.

- Serna, M. D. C. M., Martínez, J. E. V., & Martínez, J. V. (2016). The impact of learning orientation on innovation and performance in smes in México. *International Review of Management and Business Research*, 5(1), 48
- Sharabati, A. A. A., Jawad, S. N., & Bontis, N. (2010). Intellectual capital and business performance in the pharmaceutical sector of Jordan. *Management decision*.
- Slavova, K., Fosfuri, A., & De Castro, J. O. (2016). Learning by hiring: The effects of scientists' inbound mobility on research performance in academia. *Organization Science*, 27(1), 72-89.
- Tajeddini, K. (2016). Analyzing the influence of learning orientation and innovativeness on performance of public organizations: The case of Iran. *Journal of Management Development*, 35(2), 134-153
- Xia, Z., Yu, H. X., Wang, J. X., & Xia, Y. (2012, September). Empirical study on impact of human capital on exploratory and exploitative technological innovation. In *2012 International Conference on Management Science & Engineering 19th Annual Conference Proceedings* (pp. 1248-1252). IEEE.
- Yuan, Y., Feng, B., Lai, F., & Collins, B. J. (2018). The role of trust, commitment, and learning orientation on logistic service effectiveness. *Journal of Business Research*, 93, 37-50.