

# THE IMPACT OF HUMAN RESOURCES MANAGEMENT PRACTICES ON TURNOVER INTENTION THROUGH EMPLOYEE LOYALTY: EVIDENCE FROM THE BANGLADESH ICT INDUSTRY

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## Abstract:

Given the challenging difficulties the ICT sector is facing, actual staff turnover has become a significant problem for the sector due to its detrimental effects on ICT performance, sustainability, and growth as well as the inability to satisfy customer's expectations. The current study is a survey of the literature that attempts to theoretically examine the causes of employee turnover intention using the social exchange theory. This theoretical examination revealed several significant research needs. Human resources management practices, for instance, are crucial to the success of ICT because they improve employee's attitudes and behaviors, but there hasn't been enough research done to fully understand how these policies affect the likelihood that people will leave their jobs. There is theoretical support for the claim that good HR practices increase employee loyalty, which can significantly increase the person's commitment to their employer and reduce their turnover intention. In other words, employee loyalty might operate as a buffer between HR management practices and plans for high employee turnover.

**Keywords:** Social Exchange Theory, Employee Turnover Intention, Human Resources Management Practices, Employee Loyalty.

## INTRODUCTION

Since they have a considerable impact on viability, success, and competitiveness, employee retention, recruiting, and turnover are still key issues in the ICT business internationally [17]. Employee's constructive work attitudes and contributions are what give the ICT industry its competitive advantage and success. (Podsakoff & MacKenzie, 1997) has motivated organizational scholars to more fully understand and explain the factors that motivate employees in order to enhance work attitudes and lessen employees' desire to leave their companies [20].

Due to the high costs of lost production and efficiency as well as the costs of having to hire and train new staff, researchers, human resource experts, and managers have long been particularly interested in employee turnover in the ICT sector. When employees are dissatisfied with their positions or devoted to their organization, turnover intention (TI) progressively builds, which motivates them to



look for new job possibilities. If they find a better opportunity, turnover will be unavoidable. (Bufquin, DiPietro, Orlowski, and Partlow, 2017). In terms of behavior, employee turnover intention (ETI) is defined as the desire of voluntary employees to quit their place of employment due to dissatisfying organizational conditions [32].

TI is regarded as the main antecedent or real turnover behavior and is defined as the behavioral intentions illuminating an individual's intention to stay or go. For efficiency and to maintain a solid business reputation and image, reducing turnover in a freshly founded organization is very crucial. Therefore, understanding the effects of turnover is crucial for organization's so that the issue may be handled effectively [9]. Studies in the past supported the notion that HRM procedures and employee loyalty have great influence on employee turnover intention [21].

However, these studies did not examine how these characteristics might interact or how they might be combined in a single model. A company's capacity to accomplish its goals and objectives and create a long-lasting competitive edge in its industry is greatly influenced by the function of human resource management (HRM) within the company [30].

By fostering and improving the capacity, attitudes, behaviors, and performance of human capital resources. This is achieved through the tactics and techniques used by each business to find and retain the best employees to satisfy its needs [38].

HRM practices also include any organizational actions aimed at managing the existing human resources and making sure they're put to use advancing the goals of the organization [24]. The chosen HRM practices in the current study include "Training and Development," "Job Security," "Compensation," and "Performance Appraisal" [16]. HRM practices are responsible for increasing positive organizational behaviors among workers and decreasing negative ones, such the desire to leave the company [42]. HRM practices serve as an independent variable for turnover intention in this study. Employee loyalty, on the other hand, acts as a balancing factor between employee TI and HRM procedures. Employee loyalty is defined as the extent to which a worker is internally motivated and willing to work for the success of the company because the job itself is exciting and stimulating [43]. Because it is closely tied to job satisfaction, turnover risk, affective commitment, performance, and innovation, employee loyalty is essential in firms [36].

Built a model to look at how effective HRM practices affect giving employees the abilities and skills they need to fulfil organizational goals, suggesting that it's crucial to keep those people in the company who have them and lessen their intention to quit the company. The implications of human resource management strategies on employee turnover intention have caught the attention of scholars [41]. There aren't many studies on this topic, nevertheless, that use samples from the ICT industry. The current study is therefore relevant and useful since it shows how human resources management strategies in the ICT sector affect employees' intentions to leave their employers [6].

### **BANGLADESHI ICT SECTOR**

Since 2009, the country's information and communications technology (ICT) industry has sustained average annual export growth of 57.21%. In the fiscal year (FY) 2016-17, the ICT sector in Bangladesh generated export revenues totalling US\$0.8 billion from the world market and US\$1.54 billion from the local market, contributing around 1% to the GDP (GDP) Up until now, the ICT industry has generated about 300,000 job prospects. As Internet usage increases, the government projects that the IT sector will contribute 7.28 percent to GDP growth by 2021.



The IT and IT-enabled services outsourcing (ITES) market in Dhaka is growing, and Bangladesh's ICT industry is primed for further development [10]. According to the International Telecommunication Union, internet usage has gradually increased over the previous several years, rising from 6.5 percent of the population in 2013 to 18.2 percent in 2017. (ITU). Only 1.9 percent of people have a fixed broadband connection, yet 30 percent of people subscribe to mobile broadband. On the ITU's yearly report that measures ICT development, the ICT Development Index 2017, Bangladesh still comes in at 147 out of 176 [5].

According to the Bangladesh Association of Software and Information Services (BASIS), more than 1500 enterprises engaged in software and IT have registered in Bangladesh (Hossain, M., 2018). Without telecoms, it is estimated that the ICT market is worth \$600 million, and there are currently roughly 250,000 industry professionals employed in the sector. According to BASIS, more than 400 IT companies export their goods to more than 60 nations, with North America serving as their primary market. The expansion of the ICT industry is predicted to open up prospects for U.S. companies to export equipment and services, including training [13].

More than 1500 software and IT companies have registered in Bangladesh, according to the Bangladesh Association of Software and Information Services. (BASIS) (Wasif, T., 2019). Without taking into consideration telecoms, the ICT business is projected to be worth \$600 million, and there are currently about 250,000 experts working in the sector. More than 400 IT companies, with North America as their main market, export their products to more than 60 countries, according to BASIS. It is anticipated that the growth of the ICT sector would increase opportunities for American businesses to export services and goods, including training [23].

#### **CRITICAL ANALYSIS OF PREVIOUS RELATED STUDIES AND RESEARCH GAP**

The performance and profitability of the information and communications technology business have been shown to be significantly harmed by employee turnover, which results in the loss of numerous intellectual and financial resources [19]. Staff turnover intention is the primary research issue that the current study attempts to address, since it has been reported that real employee turnover affects the stability and growth of the ICT sector in several countries where the industry is a major source of income. The lack of studies examining the impact of HRM practices and employee loyalty on turnover intention is the specific theoretical issue and ICT business concern discussed. Numerous scholars concur that HRM procedures are crucial and employee loyalty in decreasing employee turnover intention [22].

However, no research has been done to combine employee loyalty, HRM practices, and turnover intention into a single model; instead, the effects of these variables on employee turnover intention have been empirically studied separately. These earlier research also shown that HRM procedures had a considerable impact on employee turnover intention, but they did not demonstrate how HRM practices can negatively impact employee turnover intention. The researcher discovered certain study gaps while evaluating the connections between these traits and turnover intention, which will be covered here. Researchers have suggested that the concepts of organizational commitment and confidence in organizations function as mediation mechanisms in the relationship between HRM practices and desire to leave, but they have downplayed the significance of the employee loyalty mechanism as a mediating factor. For instance, (1) Organizational commitment and engagement operate as mediators in the interaction between HRM strategies and employee turnover [3]. (2) Organizational commitment and engagement operate as mediators in the interaction between HRM strategies and employee turnover [31]. (3) The perception of corporate support mediates the relationship between HRM practices and employee retention [8]. And (4) Employee turnover and HRM practices are mediated by organizational commitment [4].



Employee loyalty is recognized as a potent predictor of employee turnover intention, despite previous studies ignoring the mediating influence of employee loyalty between the independent variables of HRM practices and turnover intention [47].

Previous research has only examined the relationship between these independent variables and intention to leave the company and how employees view the behaviors, trust, and support of their bosses. However, past research indicated that HRM practices could increase worker loyalty, and just a few empirical studies have examined these practices' effects. The current study, which examines for the first time the direct impact of HRM practices on intrinsic motivation and the mediating function of employee loyalty between HRM practices and TI, will significantly add to the body of knowledge on employee turnover intention in the ICT and service industries.

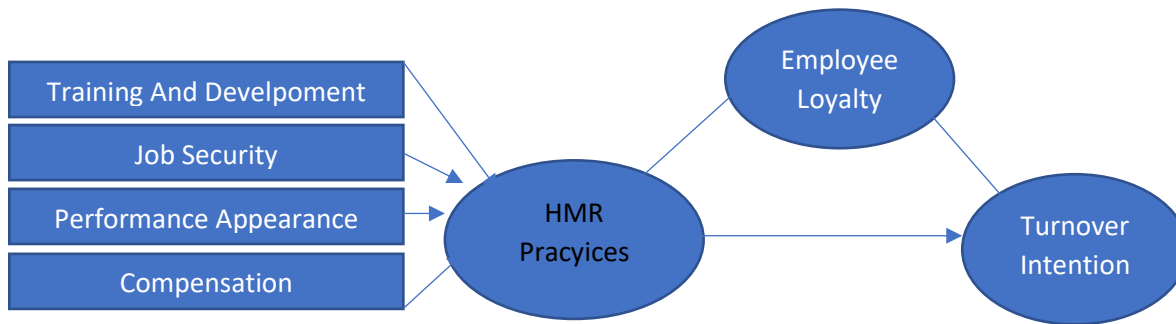
### THE ADOPTED THEORY OF THE CURRENT STUDY

One of the most crucial concepts for understanding employees' attitudes and behaviors at work is social exchange theory [29]. When the first part (the ICT industry in the current study) acts favorably toward the second component, for instance by implementing improved HRM practices, the social exchange theory is dependent on the interaction between the two parts (ICT employees in the current study). That will encourage the second component to respond favorably to the first component (e.g. remain in the workplace) [33]. The social exchange hypothesis has been applied in previous research to link HRM practices to employee turnover intentions [35]. Therefore, the current investigation adopts this theory.

### CONCEPTUALIZATION OF THE RESEARCH FRAMEWORK

HRM practices are employed by organizations as instruments to mold and institutionalize workers' attitudes and behaviors in order to accomplish their goals and objectives [11]. The growth of employee organizational commitment, which has a substantial impact on employee TI, was found to be significantly influenced by HRM strategies that include training and development, job security, compensation, and performance appraisal [44]. Increased organizational commitment and work enthusiasm are essential for keeping personnel better HRM procedures have been demonstrated statistically to increase employee loyalty [26]. Additionally, effective HRM techniques raise workers' views of organizational support, which reduces workers' intentions to leave their jobs [38]. Practices in human resources management (HRM) that encourage employee loyalty and produce excellent performance include investing in employee development through fostering and preserving knowledge, skills, and behaviors that boost employees' value to the firm [28]. Additionally, a better performance evaluation system can promote improved performance by naturally inspiring employees' loyalty [15]. According to reports, loyal employees are more likely to achieve goals, put out more effort, and be more invested in their work. As a result, loyal employees are more likely to respond to HRM procedures that depend on their initiative and self-regulatory behavior in an effective manner [7].

According to the current study's findings (see Fig. 1), Employee loyalty can mitigate the relationship between HRM practices and intention to leave the organization. Employee morale (EM) is a key aspect in determining how well employees operate; devoted employees display a variety of positive emotions, attitudes, actions, and performances. Employee attitudes, actions, and performance are most significantly influenced by employee loyalty, which has been demonstrated in several studies to have a significant negative impact on the intention to leave a work [37]. Employee loyalty is a key factor in driving employee outcomes because it fosters a wide range of positive feelings, attitudes, behaviors, and performances while also shielding workers from bad feelings and stressors [45].

**Fig 1: Research Framework**

It was discovered that employee loyalty was positively correlated with affective and normative organizational commitment, well-being, self-reported psychological health, and job satisfaction; however, it was also discovered that employee loyalty was negatively correlated with psychological distress and turnover intention, particularly in prior employment [48]. Moreover, several authors [40] established the links between low job burnout, emotional tiredness, and employee loyalty that lead to higher turnover intention. The ability of an employee to manage their organizational behavior allows them to better control and balance both their goal to leave their job and their unfavorable work associations [14]. One of the main goals of HRM procedures is to make employees feel more emotionally connected to their employers, which boosts their commitment and loyalty to the business and lowers the risk that they would quit their positions [2]. According to the current study, TI for employees is indirectly influenced by HRM methods via EL. It is widely acknowledged that HRM techniques aim to mould, develop, and enhance employees' attitudes and behaviors in order to acquire highly competitive advantages and fulfil corporate goals and objectives, which include keeping skilled individuals [34]. Employee loyalty is essential for achieving organizational goals and objectives, and HRM strategies are crucial in this regard [12]. HRM methods have a significant impact on employee loyalty, particularly those that support employee growth through training to improve knowledge, skills, and behaviors [25]. Additionally, improved HRM practices result in favorable workplaces with healthy, engaging, and joyful working environments, as well as employees with high EL [27]. It has also been demonstrated that highly devoted workers are willing to put forth extra effort to accomplish extra duties and participate in volunteer work for the benefit of the business since these workers have a strong emotional organizational commitment to stay with their current employer [1]. As a result, HRM methods seek to develop individuals with high EL, as this form of loyalty strengthens the link between the employees and their employer and significantly reduces the likelihood that they would leave.

### CONCLUSION

Because staff turnover had such severe negative effects on the ICT industry, the problem of employee turnover is still a current issue. That motivates researchers to learn the causes of this problem and what strategies might support these causes in order to reduce employee turnover. As a result, the current study is an effort to close a gap in the body of work on employee TI and HRM practices. The present work conceptually highlighted that employee loyalty may mediate the link between HRM practices and employee TI, using on the social exchange theory and empirical research.




## Reference:

- [1] Ahmad, A., 2018. The relationship among job characteristics organizational commitment and employee turnover intentions: A reciprocation perspective. *Journal of Work-Applied Management*.
- [2] Ahmed, K., Adeel, A., Ali, R. and Rehman, R.U., 2019. Organizational democracy and employee outcomes: The mediating role of organizational justice. *Business Strategy & Development*, 2(3), pp.204-219.
- [3] Aktar, A. and Pangil, F., 2018. Mediating role of organizational commitment in the relationship between human resource management practices and employee engagement: does black box stage exist?. *International Journal of Sociology and Social Policy*.
- [4] Albalawi, A.S., Naughton, S., Elayan, M.B. and Sleimi, M.T., 2019. Perceived organizational support, alternative job opportunity, organizational commitment, job satisfaction and turnover intention: A moderated-mediated model. *Organizacija*, 52(4), pp.310-324.
- [5] Albert, J.R.G., Quimba, F.M.A., Tabuga, A.D., Mirandilla-Santos, M.G., Rosellon, M.A.D., Vizmanos, J.F.V., Cabaero, C.C. and Muñoz, M.S., 2021. *Expanded data analysis and policy research for National ICT Household Survey 2019* (No. 2021-20). PIDS Discussion Paper Series.
- [6] Al-Dalahmeh, M. and Héder-Rima, M., 2021. The effect of talent management practices on employee turnover intention in the Information and Communication Technologies (ICTs) sector: case of Jordan. *Problems and Perspectives in Management*, 18(4), p.59.
- [7] Althnayan, S., Alarifi, A., Bajaba, S. and Alsabban, A., 2022. Linking environmental transformational leadership, environmental organizational citizenship behavior, and organizational sustainability performance: A moderated mediation model. *Sustainability*, 14(14), p.8779.
- [8] Arasanmi, C.N. and Krishna, A., 2019. Employer branding: perceived organisational support and employee retention-the mediating role of organisational commitment. *Industrial and Commercial Training*, 51(3), pp.174-183.
- [9] Asghar, M., Tayyab, M., Gull, N., Zhijie, S., Shi, R. and Tao, X., 2021. Polychronicity, work engagement, and turnover intention: The moderating role of perceived organizational support in the hotel industry. *Journal of Hospitality and Tourism Management*, 49, pp.129-139.
- [10] Askari, M.M., Zabeen, S.S. and Uddin, K.M., 2015. Problems and Prospects of IT and IT Enabled Services Outsourcing in Bangladesh. *Bangladesh Journal of Tariff and Trade*, 1(3), pp.34-59.
- [11] Botla, L. and Kondur, H., 2018. Socio technical systems of a company: The dimensionality of socio technical systems. *PURUSHARTHA-A journal of Management, Ethics and Spirituality*, 11(1), pp.24-38.
- [12] Darmawan, D., Mardikaningsih, R., Sinambela, E.A., Arifin, S., Putra, A.R., Hariani, M., Al Hakim, Y.R. and Irfan, M., 2020. The Quality of Human Resources, Job Performance and Employee Loyalty. *International Journal of Psychosocial Rehabilitation*, 24(3), pp.2580-2592.
- [13] Dudnik, O., Vasiljeva, M., Kuznetsov, N., Podzorova, M., Nikolaeva, I., Vatutina, L., Khomenko, E. and Ivleva, M., 2021. Trends, impacts, and prospects for implementing artificial intelligence technologies in the energy industry: the implication of open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), p.155.
- [14] Giao, H.N.K., Vuong, B.N., Huan, D.D., Tushar, H. and Quan, T.N., 2020. The effect of emotional intelligence on turnover intention and the moderating role of perceived organizational support: Evidence from the banking industry of Vietnam. *Sustainability*, 12(5), p.1857.
- [15] Gorgenyi-Hegyes, E., Nathan, R.J. and Fekete-Farkas, M., 2021. Workplace health promotion, employee wellbeing and loyalty during COVID-19 Pandemic—Large scale empirical evidence from Hungary. *Economies*, 9(2), p.55.
- [16] Hassanpour, M.K., Chong, C.W., Chong, S.C., Ibrahim Okour, M.K., Behrang, S. and Tan, X.Y., 2022. HR practices and turnover intention; the mediating role of organizational commitment in Tehran: a cross-sectional study. *F1000Research*, 10, p.1130.





- [17] Hassan, M., Jambulingam, M., Alam, M.N. and Islam, S., 2019. Redesigning the retention strategy against the emerging turnover of Generation Y: Revisiting the long-standing problems from 20Th to 21St century. *International Journal of Entrepreneurship*, 23(2), pp.1-16.
- [18] Hossain, M., 2018. Labor market and skills gap in the ICT sector in Bangladesh: An exploratory study. *Asian Development Bank: Manila, Philippines*.
- [19] Hwang, S. and Kim, J., 2021. Toward a chatbot for financial sustainability. *Sustainability*, 13(6), p.3173.
- [20] Irabor, I.E. and Okolie, U.C., 2019. A review of employees' job satisfaction and its affect on their retention. *Annals of Spiru Haret University. Economic Series*, 19(2), pp.93-114.
- [21] Kadiresan, V., Selamat, M.H., Selladurai, S., Ramendran, C.S. and Mohamed, R.K.M.H., 2015. Performance appraisal and training and development of human resource management practices (HRM) on organizational commitment and turnover intention. *Asian Social Science*, 11(24), p.162.
- [22] Kazakov, S., Ruiz-Alba, J.L. and Muñoz, M.M., 2020. The impact of information and communication technology and internal market orientation blending on organisational performance in small and medium enterprises. *European Journal of Management and Business Economics*.
- [23] Kenney, M., Breznitz, D. and Murphree, M., 2013. Coming back home after the sun rises: Returnee entrepreneurs and growth of high tech industries. *Research Policy*, 42(2), pp.391-407.
- [24] Khan, M.M.R., 2020. Strategic human resource management in facilitating the organizational performance: Birds-eye view from Bangladesh. *Annals of Management and Organization Research*, 2(1), pp.13-24.
- [25] Kurdi, B. and Alshurideh, M., 2020. Employee retention and organizational performance: Evidence from banking industry. *Management Science Letters*, 10(16), pp.3981-3990.
- [26] Labetubun, M.R. and Dewi, I.G.A.M., 2022. Organizational Commitment: It's Mediating Role in the Effect of Human Resource Management Practices and Workplace Spirituality on Employee Performance. *European Journal of Business and Management Research*, 7(2), pp.112-123.
- [27] Li, X. and Lin, C., 2020. The influence of high-commitment work system on work well-being: the mediating role of psychological empowerment and the moderating role of leader trust. *Personnel Review*.
- [28] Moustaghfir, K., El Fatihi, S. and Benouarrek, M., 2020. Human resource management practices, entrepreneurial orientation and firm performance: what is the link?. *Measuring Business Excellence*.
- [29] Nazir, S., Qun, W., Hui, L. and Shafi, A., 2018. Influence of social exchange relationships on affective commitment and innovative behavior: Role of perceived organizational support. *Sustainability*, 10(12), p.4418.
- [30] NGUYEN, H., TRAN, T.H.M., NGUYEN, T.H.Y. and TRUONG, D.D., 2021. The influence of competitive advantage on financial performance: A case study of SMEs in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(5), pp.335-343.
- [31] Oguegbe, T.M. and Edosomwan, H.S., 2021. Organizational-based self-esteem and organizational identification as predictors of turnover intention: Mediating role of organizational trust. *SEISENSE Journal of Management*, 4(2), pp.56-71.
- [32] Pahi, M.H., Hamid, K.A. and Khalid, N., 2016. Save talent of banking sector of Pakistan: Mediating job satisfaction between job stress and employee turnover intention. *International Review of Management and Marketing*, 6(3), pp.617-624.
- [33] Pak, K., Kooij, D.T., De Lange, A.H. and Van Veldhoven, M.J., 2019. Human Resource Management and the ability, motivation and opportunity to continue working: A review of quantitative studies. *Human Resource Management Review*, 29(3), pp.336-352.

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- [34] Panda, S., Pandey, S.C., Bennett, A. and Tian, X., 2019. University brand image as competitive advantage: a two-country study. *International Journal of Educational Management*.
  - [35] Paul, G.D. and Kee, D.M.H., 2020. HR, workplace bullying, and turnover intention: The role of work engagement. *Journal of Environmental Treatment Techniques*, 8(1), pp.23-27.
  - [36] Purwanto, A., 2020. Effect of compensation and organization commitment on turnover intention with work satisfaction as intervening variable in Indonesian industries. *Sys Rev Pharm*, 11(9), pp.287-298.
  - [37] Redondo, R., Sparrow, P. and Hernández-Lechuga, G., 2021. The effect of protean careers on talent retention: examining the relationship between protean career orientation, organizational commitment, job satisfaction and intention to quit for talented workers. *The International Journal of Human Resource Management*, 32(9), pp.2046-2069.
  - [38] Rodríguez-Sánchez, J.L., González-Torres, T., Montero-Navarro, A. and Gallego-Losada, R., 2020. Investing time and resources for work-life balance: The effect on talent retention. *International journal of environmental research and public health*, 17(6), p.1920.
  - [39] Rubel, M.R.B., Kee, D.M.H. and Rimi, N.N., 2020. High-performance work practices and medical professionals' work outcomes: the mediating effect of perceived organizational support. *Journal of Advances in Management Research*.
  - [40] Saleh, T.A., Sarwar, A., Islam, M.A., Mohiuddin, M. and Su, Z., 2022. Effects of Leader Conscientiousness and Ethical Leadership on Employee Turnover Intention: The Mediating Role of Individual Ethical Climate and Emotional Exhaustion. *International Journal of Environmental Research and Public Health*, 19(15), p.8959.
  - [41] Samimi, E. and Sydow, J., 2021. Human resource management in project-based organizations: revisiting the permanency assumption. *The International Journal of Human Resource Management*, 32(1), pp.49-83.
  - [42] Sobhani, F.A., Haque, A. and Rahman, S., 2021. Socially responsible HRM, employee attitude, and bank reputation: the rise of CSR in Bangladesh. *Sustainability*, 13(5), p.2753.
  - [43] Su, L. and Swanson, S.R., 2019. Perceived corporate social responsibility's impact on the well-being and supportive green behaviors of hotel employees: The mediating role of the employee-corporate relationship. *Tourism management*, 72, pp.437-450.
  - [44] Suksod, P. and Cruthaka, C., 2020. The effects of human resource practices on employee organizational commitment: Findings from the pharmaceutical industry in Thailand. *Sys Rev Pharm*, 11(3), pp.77-86.
  - [45] Tarkang Mary, M.E.M. and Ozturen, A., 2019. Sustainable ethical leadership and employee outcomes in the hotel industry in Cameroon. *Sustainability*, 11(8), p.2245.
  - [46] Wasif, T., 2019. Business Development Activities Practiced by the Nascenia Limited: A hands-on initiative through a Software Development Company.
  - [47] Yaqub, R.M.S., Rehman, A., Kausar, S. and Qureshi, Z.H., 2022. Insights from Theory of Reason Action to Determine the Faculty Turn-Over Intentions in HEI's of Southern Punjab: Mediating and Moderating Role of Perceived Organizational Justice and Organizational Climate. *iRASD Journal of Management*, 4(2), pp.375-389.
  - [48] Zandi, G., Shahzad, I., Farrukh, M. and Kot, S., 2020. Supporting role of society and firms to COVID-19 management among medical practitioners. *International Journal of Environmental Research and Public Health*, 17(21), p.7961.