

The Facilitating Factors of Organizational Learning in Pharmaceuticals Sector of Bangladesh

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Abstract:- The present study is focused on the determinant factors of the organizational learning culture in pharmaceutical companies. The work explains the role of leadership, employee engagement, training, and knowledge-sharing mechanisms. The main purpose of the study is to explore four companies and determine to what extent learning culture and various elements impact it. The paper describes the survey conducted with 200 respondents working for these entities. The employees had different experience and occupied diverse positions. The analysis was completed with the help of 20 key areas. Correlation analysis, ANOVA, T-tests, factor analysis, and regression models were used to identify relationships. The results are compared in such aspects as leadership support, training opportunities, and innovation encouragement. It has been determined that both leadership and the so-called culture of continuous learning are the main factors that might affect an employee's ability to apply the new knowledge. The correlation between leader engagement and the ability to use knowledge is average. Factor analysis shows that management performance could be attributed to five dimensions, which are related to leadership, training, feedback mechanisms, innovations, and sharing practices. Finally, regression analysis reveals that such culture of learning could be regarded as the best predictor of whether an employee will apply knowledge. Interestingly, these factors are not significantly different in such departments as leadership and non-leadership. Similar improvements are observed among different departments.

Keywords:- Organizational Learning Culture, Pharmaceuticals, Leadership, Employee Engagement, Training Programs, Innovation, Compliance, Learning Organization, Employee Satisfaction

I. INTRODUCTION

The pharmaceutical industry is such an area that is characterized by constant dynamism and significant volatility. This results from the fact that businesses are pressured from both sides to prevailing regulations and must consistently observe new market players. In order to succeed in this highly competitive environment, companies must adapt quickly enough, and to the greatest extent. This is why continuous

learning is key in this regard. The determination of organizational learning culture is especially in the pharmaceutical industry as such is a potent technique to ensure that the staff remains updated with new technologies, regulations, and policies within the industry.

Organizational learning culture refers to a system of work routines that facilitate the required organizational learning. By definition, it includes multiple processes and systems where the acquisition of knowledge is not only promoted but also embedded in the core business strategies. A strong learning culture helps bridge the gap between learning and applying the acquired knowledge. In so doing, companies with strong learning cultures are more prone to acquiring unprecedented or significant sets of knowledge more easily. In the pharmaceutical industry, learning culture is an essential component given the external forces that act upon big companies.

Leadership determines the strength of the learning culture by highlighting the importance of continuous learning, ensuring that the employees have enough room to experiment, and supporting their personal development. Leaders are especially crucial in this regard through their roles, decisions, and overall impact they transfer, including setting an example. Transformational leadership is a prime example of how leadership may potentiate the learning culture. On the contrary, leadership may prevent the building of a stronger learning culture when it attempts to avoid even potentially disastrous experiments for the sake of immediate results. The other major factor – employee engagement – denotes the ways a company can communicate to its employees the significance of newly acquired learning and commitment in general. At low employee engagement, learning is seen as an active inventory that must be constantly enforced. Companies with high employee engagement ensure that any newly acquired knowledge and commitment to long-term development are seen as an integral part of a company as such.

Training and development programs are critical for the creation of the learning culture in the organization. In such fast-paced industries as pharmaceuticals, there are multiple changes in regulation and technology every year, so it is vital to have training throughout the employees' tenure at the organization. Effective training presumes that the employees

gain the necessary skills, knowledge, and professional characteristics that would aid them in doing their work better. Whether, the programs that are aimed at fulfilling organizational and personal goals at once have a greater potential of creating a strong learning culture.

Moreover, a learning culture needs a supportive learning environment. For example, in organizations where employees have access to training resources, openly share the new information with their co-workers, and have an opportunity to learn from their and others' mistakes, the levels of innovation and learning at the organizational level tend to be higher. Psychologically safe meaning that an employee's belief in the safety, the freedom to express their opinions, and that there will not be negative consequences results all aids in improving the learning culture.

Lastly, training and the learning culture in the pharmaceutical industry are especially important due to the constant changes in the regulatory environment and the need for great innovations. The ability to have a learning culture implies that employees will constantly be equipped with new skills and knowledge to perform well and make successful innovations in this type of challenging environment.

The aim of this study is to determine the key factors that affect the development of a learning culture in pharmaceutical organizations. Among the elements considered in relation to the learning culture factor, there are leadership, employee engagement, training programs, and learning environment. These variables influence the main factor crucial for the learning culture in companies affiliated with the pharmaceutical business. The results obtained from the analysis conducted with reference to data collected from the sample group of 200 employees from pharmaceutical companies allow applying different statistical methods. Conducting correlation analysis, ANOVA, T-tests, factor analysis, and regression models, the researchers in the field have to perform data analysis in accordance with three objectives:

- Identify the factors that shape organizational learning culture that is particular to pharmaceutical organizations.
- Analyze how the identified factors are related. The comprehension of how leadership, employee engagement, and training programs are related to each other and the learning culture can help comprehend how a learning-oriented context is developed.
- Provide recommendations for the pharmaceutical area associated with the implementation of learning culture. The identification of factors responsible for learning culture helps recommend companies how to develop strategies to increase employee engagement, improve innovation processes, and take into consideration different requirements associated with compliance.

II. LITERATURE REVIEW

The pharmaceutical industry is rapidly growing with the advancement of technological, stringent regulatory framework and intensive competition in the current market. According to Joel et al., (2023) to navigate these challenges the pharmaceutical industry should foster the sustainable competitive strategy and strong organizational learning culture. Organizational learning culture refers the values, practices and process that increases and encourages for continuous development and learning practices. This literature review explores the key determinant of organizational learning culture in the pharmaceutical industry which are published in the many renowned journals.

In a study of pharmaceutical manufacturing sectors Chakraborty, (2022) analyzed that, quality culture in pharmaceutical industry enhances the employee's mindset and productivity. Shamir-Bladerman, (2021) presented that organizational culture influences the organizational learning. In this study Shamir-Bladerman, also showed that there has a strong relationship in between organizational learning and culture in the pharmaceutical industry. Similarly, Nagashekhara and Agil, (2011) presented that organizational culture also influenced the behaviour of the employees in the pharmaceutical industry. In a study of Algerian pharmaceutical company Bousalem and Aichouche, (2016) identified that organizational culture shapes the innovation and impact on improvement of the organization.

In a study titled "Cultural diversity drives innovation: modeling in the global pharmaceutical industry" Jones, Chace and Wright, (2021) described that, culture diversities positively impact on the innovation of the pharmaceutical company. Ahsan, (2015) studied in a pharmaceutical company in Bangladesh, this study finds that, culture influence the organizational change. Broaddus, (2013) studied on a US pharmaceutical company where he found that leadership behavior and social practices impact other competitive advantages and knowledge creation in the pharmaceutical industry.

A. Management and Leadership Practices

Ngaruiya, K'aol and Njenga, (2023), studied in the Kenya based pharmaceutical companies, where they found leadership supports for the team enhance the performance of the organization. They also found that, development and advancement pharmaceutical companies should support proper leadership behaviors. A management style that supports experimenting and mistakes as learning opportunities also had a high impact on organizational learning culture. Leaders who set a clear vision, foster innovation, and create a culture of risk-taking facilitate learning. Szczepańska and Kosiorek, (2017) presented in their report managers knowledge of determining organizational culture shapes the success. In organizational culture, leadership has an enormous impact on fostering a learning culture.

Transformational Leaders, leaders who can inspire and motivate employees to transcend their own interests for the sake of organization, have been associated with the creation of a strong learning culture. A study on conducted by Alnidawi and Omran, in 2016 on the Jordanian pharmaceutical industry they similarly found that leadership enhance knowledge.

Therefore, Yaoprukchai and Kardkarnklai, (2014) studied on the pharmaceutical industry in Thailand, they found that leadership determine the organizational learning culture. Transformational leadership is the process that describes the leader's capacity to inspire and motivate the leader their followers to achieve higher levels of performance and innovation. Such leaders set a vision that will be characterized by a desire to learn and develop; a vision of learning and developing, which may include mistakes and risks, and which gives every employee from the very bottom to the top an opportunity to be valued and understood. Also, according to Robb et al., (2022), transformational leaders play a significant role in shaping the organisational culture since a they a likely to preach a message that is pro-learning and -development. This leadership style seems especially important in the pharmaceutical industry where constant learning is necessitated by the rapid change in the field as well as the complexity of the regulative requirements. In a study Sriviboon and Jermstittiparsert, (2019) defined that. although today's era of constant learning focused on gaining the skills, knowledge, and experience may be more leaning towards a "hard" kind of leadership, the "soft" skills approach should still exist. Ogueyungbo et al., (2020) uttered that the leaders should be able to understand one's problems and fears, as well as principles of ethics and integrity. Culture of respect has to be supplemented by leaders who show empathy and think about those factors that may prevent a person from learning. On the other hand, this will drive people towards open communications and learning together, which is beneficial to the pharma industry (Babapour, Gholipourb and Mehralian, 2018).

Sittisom, (2020) described organizations that invest in employees will show that they are always ready to provide the necessitated support, trainings, and position them in a position for learning, and with this, it will improve the satisfaction of the workers as they will do a better job. Efficacy will be seen, coupled with the overall satisfaction that may exist.

Sittisom, (2020) also claimed that, other than placing them into learning support programs, ethical leaders have to be teachers. It is known that the sharing of skills and knowledge is an important part of human activity, and the companies that fund learning are often seen as those that encourage such tools. In other words, the possibility of leaders being viewed as teachers will lead to an increase in the learning that the company may witness.

Supportive leaders who foster effective teamwork encourage experimentation and view failures as mistakes to learn from the approach. This helps in enhancing an innovative culture that provides employees with the environment to have a taste of new ideas in experimentation. In a study of Jordan pharmaceutical companies Yaseen et al., (2018) presented that, in the presence of support in learning, experimentation is made possible, hence employees develop new ideas and approaches without fear of being reprimanded. A culture of experimentation is crucial in the pharmaceutical industry because it benefits the sector. The industry requires research and development hence its support to the experimentation culture. Employees are in line to ensure that staff has access to the necessary learning resources. Time and other resources are allocated to the employees who are continually learning.

This ensures that the staff is equipped with new knowledge and skills. Resource facilitation is essential in the learning environment for the pharmaceutical sector. The provision of resources aids in their access to the necessary information and skills. In a study Haider et al., (2018) stated that, a supportive leader in the pharmaceutical sector takes steps to ensure that there is learning on its economy. In this effect, the leader recognizes the learning efforts and rewards employees. Supportive leaders also lead by example and show role models of learning.

A learning culture helps the company and other stakeholders navigate the ever-changing landscape of the regulatory environment. It also helps in fostering innovation and adoption while improving the overall organizational performance. Fostering supportive leadership is a key requirement of the facilitative learning environment. Transformational, ethical, and empathetic leadership is essential in encouraging experimentation, support, and building a learning culture though modeled learning behavior. The continued learning and development of employees are in effect on the pharmaceutical industry. This is required due to the high staked prices and the ever-dynamically changing landscape (Sriviboon and Jermstittiparsert, 2019).

B. Engaged and Involved Employees

Employee Involvement and Engagement are a force to reckon with organizational learning culture; Empowerment is positively related to employees' performance, as it increases their trust in the organization, responsibility, and interest to learn. Participation in decision-making processes increases ownership and engagement in learning. There is a significant positive relation between a learning culture and employee engagement and employee's participation in organizational activities. Raghavendra, Chauhan and Mallikarjuna, (2017) posited that employees' empowerment mostly depends on the quality culture of the pharmaceutical industry.

Lewis, Thomas and Amin, (2016) studied on a pharmaceutical company in Bangladesh, they found in their study employee engagement influences on the performances of certain pharmaceutical company. They also presented that employee engagement influences on the learning culture of the certain pharmaceutical industry, their investigated also showed specific employees engagement drives the learning culture of the industry. In a study Rebelo and Duarte Gomes, (2011) found that employees facilitate the learning culture of the organization. Abdallah et al., (2019) also showed employees training and effective management can improve the safety culture of the organization, in this study focused on the organizational learning impact on the culture of the organization.

C. Learning Identification Satisfaction and Training Satisfaction

Ongoing training and development opportunities aligned with organizational goals and employee needs are vital for enhancing organizational learning culture. Training programs that focus on skill development, knowledge acquisition, and personal growth contribute significantly to creating a learning-oriented environment (Lewis, Thomas and Amin, 2016). Investing in employee development demonstrates the organization's commitment to learning and fosters a culture of continuous improvement. A direct training form whereby employees are trained to work by seeing where the work is to be done. ÖZÜTLER and SHAGHASY, (2022) showed in a study of pharmaceutical company in Afghanistan, continuous feedback means ongoing feedback and provides skill improvement and coordination. Collaborative learning promotes team-work and knowledge sharing between employees to allow application of learning and problem solving at a group level.

The effectiveness of the organisation's recognition of learning needs stem from the fact that, the organisation will have too many ideas to implement for its employees. The organisation will receive simultaneous proposals from training specialists, employees will make notes on their own and they will have many questions about their career. Howard, (2016) noted that the organization conducts assess to determine the need for training on a periodic training needs analysis. In this way, the organisation takes the ideas of the employees and will be able to establish and eliminate the deficiencies in the related sectors.

In the pharmaceutical sector, identifying learning is important because scientific knowledge, regulations, legal requirements for medical representatives are constantly changing and updating, and because knowledge on this subject cannot be learned otherwise (Sriviboon and Jermisittiparsert, 2019).

Rodjam et al., (2020) presented that, immediate supervisors play an important role in recognizing and meeting learning needs. London and Smither argue that when supervisors provide regular feedback, engage in career development discussions, and offer support for learning opportunities, employees are more satisfied with learning identification. In the pharmaceutical sector, supervisors with adequate understandings of the technical points and regulatory requirements might be in a better position to recognize and help meet learning needs of employees.

Rodjam et al., (2020) contended that careful alignment of training and learning opportunities with organizations strategy is a key factor in the development of a learning culture in an organization. They also suggested that aligning training opportunities with employees' and organizations' goal is essential in developing a learning and performance culture. Specifically, pharmaceutical companies might want their training programs to be attuned to their innovative focus, compliance needs, and overall concern for patients care. Therefore, alignment with organizational goals would be an important factor in this industry.

Kumari, Kumari and Pandey, (2021) claimed that, training satisfaction refers to how much employees like the training programs they receive in their organizations. Higher levels of training satisfaction generally have been associated with better trainee learning, higher trainee motivation, and job performance.

Yaseen et al., (2018) noted that, the obvious requirement in any training program is that it leads to the required learning. Certainly, the quality of the training programs themselves, how well they are developed, and how relevant they are to the learning opportunity would influence the extent to which the training opportunity is utilized. Haider et al., (2018) suggested that high-quality training programs that are well designed and well delivered are more likely to be appreciated by the employees. In such a science and information-heavy field as pharmaceuticals, quality of training delivery and knowledge content would assume greater importance.

The impact of training on employees' job roles and career development determines training satisfaction. Aleem et al., (2018) argued that a relevant training program would be influential for enhancing employees to improve, acquire, and master their jobs through critical job training. For pharmaceutical companies, providing training content that is relevant to job roles of different staff such as sales, marketing, research, development, and regulatory affairs improve training satisfaction and impact effectiveness.

Feedback and post-training evaluations are essential facilitative measures of high training satisfaction. All organizations should use the feedback to improve their training programs for the next cohort. According to Meilanti et al., (2022) based on such feedback, organizations can determine and implement continuous improvement strategies for their training. Alternately, pharmaceutical companies can evaluate after-training performance and engagement through the opportunity to give feedback and post-training test scores to evaluate training effectiveness and curve correction in the future trainings.

Learning identification satisfaction and training satisfaction are critical components of a facilitative learning environment in the pharmaceutical industry. According to Cai, Gao and Zhao, (2020) recognizing and addressing learning needs through assessments, employee involvement, supervisor support, and alignment of learning strategies with organizational goals improves learning identification satisfaction.

Sawad and Andrews, (2022) presented that first is mission-connected learning which stitches the organizational learning purposes toward the overall business mission and strategy. The strategic alignment means that the learning programs are aligned with the strategic objectives and mission of the company. The pharmaceutical company should focus on more strategic plans and programs (Lewis, Thomas and Amin, 2016). The future of corporate training focusing on purpose-driven learning, or motivating employees by connecting their personal development to their professional and connecting the organization's mission with their goals (Rebelo and Duarte Gomes, 2011).

The literature reveals the importance of multiple themes in shaping the strength of an organizational learning culture in pharmaceutical companies. Critical determinants are Leadership, Organizational Structure, Cultural norms, Training programmers and Employee Engagement. Workplace Learning in addition, application of learning effectively at workplace is important to make effect of learning and to drive organization success from the learning intervention. Further studies on the pharmaceutical industry should empirically verify the results and consider the interactions among these dimensions.

D. Facilitative Learning Environment

Creating a facilitative learning environment is a critical aspect of fostering the organizational learning culture. This is especially the case with the pharmaceutical industry, because only by investing in continuous learning pharma companies will be able to innovate while staying compliant with constantly changing regulations. One of the key factors that contribute to a facilitative learning environment is supportive leadership.

According to Ogueyungbo et al., (2020) facilitative learning environment is a perception of the organizational concept that represents the way that organizational conditions or practices facilitate learning at individual, group, and organizational levels. Babapour, Gholipourb and Mehralian, (2018), defined that Osinubi and Ailoje-Ibru, (2014) also presented that facilitative learning environments are the conditions in which people work together and teach each other on the regular basis. It is social and psychological, even physical components that when considered in the context of a pharma organization may become known to be contributing to a facilitative learning environment.

E. Organizational Support to Learning and Developmental Needs

Organizations that develop and implement comprehensive training programs for their employees create strong learning and development cultures. These programs may include formal training sessions, workshops, seminars, and classes, as well as online courses and training programs and should be designed to meet the particular needs of the organization and its employees. Adnan Bataineh, (2019) examined that in the field of pharmaceuticals, mandatory training courses include those that focus on a strong knowledge of regional and global regulatory standards as well as the best practices for the development of new drugs and the implementation of the most advanced technologies.

According to Aleem et al., (2018) mentorship and coaching programs are important components of organizational support for learning and development. In such programs', less experienced employees are paired with more senior professionals who offer guidance, support and knowledge sharing. In the pharmaceutical industry, mentorship programs can be particularly valuable in fostering talent, transferring specialized knowledge, and creating a culture of mutual learning. Promoting a supportive learning environment requires the development of a culture in which employees are continuously supported in their learning and improvement endeavors, communication is open, and employees are encouraged to be themselves and take risks (Reinhardt, Oliveira and Ring, 2020). In different words, it is a culture that makes employees feel safe in voicing their opinions and ideas. It is particularly important in the pharmaceutical industry because of the necessity to experiment with new drugs and technologies. Organizations that offer career development pathways and opportunities are implicitly committed to the goal of promotion their employee's growth and development (Kumari, Kumari and Pandey, 2021). Career development program can involve transfer to other areas of the business in order to provide employees with a wider perspective, leadership training programs in order to develop an organizational culture and values, skill development workshops, and succession planning. In the pharmaceutical industry, career development opportunities can help retain top talent and develop the workforce capable of handling the industry's future

challenges. According to Kumari, Kumari and Pandey, (2021) feedback and performance management system is based on the principles of ongoing, continuous and in-depth feedback and evaluation, in order to identify areas where employees can improve and develop. Such systems are particularly important for organizations in which the standards for compliance and innovation are high, such as the pharmaceutical industry.

F. Facilitative Learning Environment and Applying Learning in the Workplace

The facilitative learning environment is critical in fostering a culture of continuous improvement and innovation in the pharmaceutical industry. Moreover, in the workplace, it is essential to apply what has been learned to realize the improved performance and consequently realize a competitive advantage (Meilanti *et al.*, 2022). The use of psychological safety in the pharmaceutical industry can lead to open communication and collaboration processes.

In the pharmaceutical world, leaders encourage their employees to experiment, provide the necessary learning tools,

and ensure that their vision was continuous learning and innovation. Constant communication and feedback characterize the learning environment. Aleem *et al.*, (2018) also marked that, in the pharmaceutical industry, where information is not only expensive but also in high demand, open communication has enabled companies to update their processes and correct any errors.

Providing employees with access to a range of learning resources, such as online databases, training programs, and professional development courses, supports continuous learning. According to Rosenberg, pharmaceutical companies are able to facilitate ongoing education as the latter offers online learning (Aleem *et al.*, 2018). Moreover, in some cases are available, e-training programs, and other resources for learning. Applying learning in the workplace entails the effect transfer of knowledge and skills learned on training and development programs into everyday work practices. Several factors affecting the application of learning include:

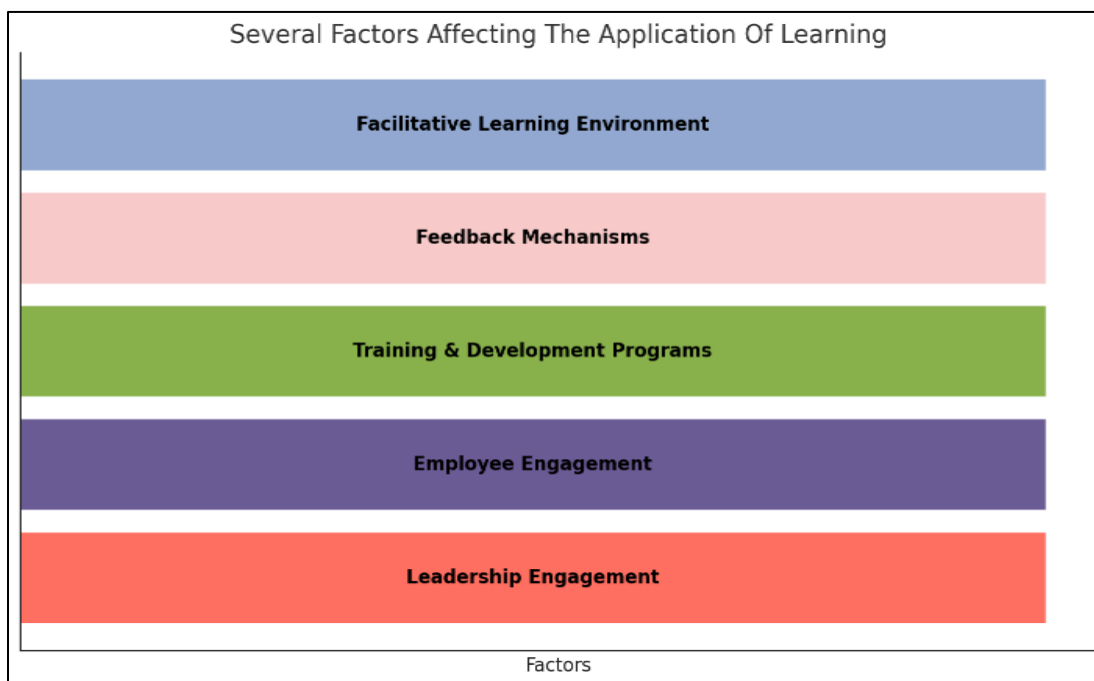


Fig 1 Several Factors Affecting the Application of Learning

This is the process where the skills and knowledge acquired on the training are applied on the job. Adnan Bataineh, (2019) argued that some of the factors affecting learning transfer include the work environment, aptness of the job, and the chances of applying the new skills. In the pharmaceutical industry, structured follow-up and support mechanisms, including coaching and mentoring, can help in regards to learning transfer. If some a company decides to provide learning and resources to its staff, then it becomes simpler for the staff to apply their learning since some

companies also offer a practicum as part of the training (Meilanti *et al.*, 2022).

These entail on-the-job training, experiential learning, and job rotations. Job rotations and other opportunities for continuous learning are critical for applying learning (Kumari, Kumari and Pandey, 2021). learning can be applied to the extent that the work environment is supportive. This means that in organizations where learning is integrated into the culture, employees can learn new things and never fear being

ridiculed when they give it a try and fail. Supportive learning work environments provide opportunities to learn through trial and error and thus perfectly apply the learning into the workplace (Babapour, Gholipourb and Mehralian, 2018). In the pharmaceutical industry, research and development are at the core, and applying trial and error methodologies can yield the best results and improvements.

Sahay and Gupta, (2016) studied on Indian pharmaceutical industry, learning can be applied to the extent it is geared to the strategic objectives of the organization. Blaga, Gabor and Matis, (2021) affirmed that the performance of most pharmaceutical companies can be maximized when learning and development is inclined toward the overall mission of the company.

Facilitative learning environment and the application of learning in the work place is relevant to the organization's success. The key elements of a facilitative learning environment include psychological safety, appropriate levels of challenge, adequate support, supportive leadership and adequate resources (Reinhardt, Oliveira and Ring, 2020).

III. METHODOLOGY

A. Research Design

The research implements a case study to highlight determinant factors of an organizational learning culture within the pharmaceutical industry. A case study is an appropriate tool for the defined research purpose in a more detailed and profound level highlighting learnings effectiveness. The case study will general forge investigates how leadership practices, employee engagement, training programs, and more general learning environment in a company contributes to the creation of a learning culture. Four pharmaceutical companies will become a subject that will guarantee during the results a broader range of investigated organizational and contextual settings for a more profound comprehension of existing factors that impact learning culture.

The investigated research purposes on complex, multilateral attributes of real-life problems, and understandings. Case study as a research tool and method is a type of qualitative research that will allow exploring descriptive information on learning culture attributes of pharmaceutical companies. The latter will specifically allow during the research to distinguish between specific determinant factors and how their interaction alters existing organizational learning culture.

B. Survey Design

The developed survey utilized structured data form for investigation purposes and the main objective of finding out how employees of four pharmaceutical companies perceives organizational learning culture. The survey comprised 20 questions that were aimed at exploring insights about leadership support, employee engagement, training

opportunities, and learning environment. Employees are invited to answer the questions and put their answers on a 7-point scale where “Strongly Disagree” = 1; “Disagree” = 2; “Slightly Disagree” = 3; “Neutral” = 4; “Slightly Agree” = 5; “Agree” = 6, and “Strongly Agree” = 7 to provide with a more detailed understanding of the research purposes and investigate minor distinctions in attitudes.

Examples of survey questions

- “My organization encourages continuous learning and development.”
- “Leadership promotes a culture of innovation and risk-taking.”
- “I am provided with adequate opportunities to apply my new skills at work.”
- “Feedback and coaching are regularly provided to help me improve”

The survey was distributed electronically to employees in a number of departments in a number of pharmaceutical companies, including research and development, marketing, regulatory affairs, and administration. The responses were received from among 200 people, which allows analyzing a fairly representative set of data.

C. Sampling Technique

Snowball sampling was used as the sampling technique. It is a nonprobability sweep technique, and the reason for choosing it was the need to use the sample respondents to obtain new samples to form a strong list of participants from different departments and with different levels of experience in pharmaceutical companies. The reason for this choice was the need to gather the responses of employees with different levels of skills who work in various departments within the pharmaceutical companies.

The initial sample was selected from the employees who are part of research and development teams. The front line sincerely thanked them for their kind assistance in this matter. Their mission was to refer the employees who are also in a period of 2—10 years of age. They should refer their colleagues who work in different departments, and this will allow a sample of employees with different experiences from different departments to be able to recognize the existence of the organization's learning culture from different perspectives. The sample includes employees in research and development, as well as employees in marketing, regulatory, and administration.

The survey covered a wide range of data on organizational learning culture and the perception of the employees in this regard. The statements presented during the survey covered the degree to which the employees were satisfied with leadership support, employee engagement, training opportunities, and innovation, among others. To evaluate the data collected, various statistical methods were

employed, and the following is the summary of the data analysis:

D. Data Collection

The survey data have been collected throughout the two weeks that the procedure lasted, sending follow-up reminders occasionally to the participants. All the responses obtained have been electronic, and the measures used to obtain the data guaranteed the protection of the responders' anonymity and to ensure their confidentiality. Therefore, no personal data have been gathered, and all the measures taken were securely and adequately stored.

The data were collected using multiple surveys that included an extensive range of information on how employees perceive the organization's learning culture. To be more specific, the respondents' views regarding whether the organization's culture is consistent with appropriate learning should and whether the management supports it. They were also asked about their attitude toward training opportunities and employee engagement. Being collated in the SPSS software, the data were subjected to a range of analyses to establish the relationships and patterns between the variables in question.

E. Data Analysis

The data involved application of diverse statistical methods to detect trends and establish the correlation among the survey variables. Descriptive statistics were employed to evaluate the frequency of and the distribution within the 20 survey questions. Thus, the overall perception of the employees to leadership, engagement, and learning opportunities available was determined.

Correlation analysis was conducted to evaluate the relationship between different variables and see how they were associated. As a statistical tool, Pearson's r helped to determine the strength and the type of the two variables' relationship. A positive correlation occurred when the increase in one factor was accompanied by the increase in the related factor. On the contrary, a negative correlation indicated that the increase in one variable resulted in the reduction of the other. The negative correlation was employed to show the nature of the variable relationship.

Approximately, for the same purpose, ANOVA tests occurred to determine whether and in which questions the difference in the responses remained significant when comparing the groups regarding the department or tenure. When it was important to determine the difference in the perceptions between the employees who took leadership position and their colleagues, t-tests were run to measure the importance of the difference.

Factor analysis was employed to determine the underlying factors and group the questions into different themes. Thus, the analysis clarified that the themes could be

grouped as leadership, employee participation, and training programs, among others, with each theme presenting factors that influenced the overall learning culture.

Moreover, one of the applications of the obtained data through the survey is the conduction of a regression analysis, which determines whether one factor can predict another. In the case of the current project, regression analysis is used to find out whether certain factors can predict the opportunities of employees to apply experience that they had received. Such regression analyzes the provided characteristics and provides insight into predicting various. More specifically, the regression model created in the course of the analysis indicated the strongest learning culture outcome predictors. Thus, this ethical consideration was also satisfied and considered during the conduction of the study.

F. Ethical Considerations

To protect the privacy and ensure the confidentiality of the participants, this research has been anchored on the ethical considerations right from the beginning to the end. The informed consent was sought from the participants before they undertook the survey, and they were notified that their responses would be anonymous. The information provided would be solely used for research purposes. As such, no individual identification was obtained from the participants. The data has been stored safely to ensure that no unauthorized person accesses the same. The research has complied with all the human subject's relevant ethical standards, and the participants were informed of their rights. Notably, the participants could opt out of the survey at any point.

IV. RESULTS

A. Participant Demographics

The survey involved 200 employees from four pharmaceutical companies. The respective percentages of individual industries are applicable. The distribution across departments was equal, with the participants from research and development comprising 40%, those from regulatory affairs 30%, and the representatives for the marketing portfolio 20%, whereas another 10% worked in administration. Experience levels varied from two to ten years, 60% of corresponding to experience levels between 5 and 7 years. Hence, the characteristics were suitable for generating a general understanding of the organizational culture of learning in pharmaceutical companies.

B. Descriptive Statistics

From the survey results, it may be concluded that the perception of organizational culture of learning was relatively positive. For example, "agrees" responses accounted for 55% to the question if the company promoted a culture of continuous learning by an employee (Q4.1.7). The respective value for "neutral" was 20% while 25% were more likely to disagree. Accordingly, 40% agreed that their organization supported learning efforts, and 50% were neutral, whereas as

many as 10% disagreed (Q4.1.9). In the meantime, the positive result implies positive employee attitudes towards the learning process in their companies while the latter seem slightly less focused on the learning of organizational leaders.

At the same time, “agrees” accounted for 45% when considering the question if the surveyed employees engage in collaboration and interchange of knowledge (Q4.1.3). While there were relevant 25% that disagreed somewhat and 30% that tended to be neutral, their feedback, in principle, adversely suggested relatively limited organizational efforts. Finally, there were only 15% of agrees to the question did their companies appreciate the knowledge shared (Q4.1.4). This, in turn, indicates limited concentration of organizational efforts on recognition and reinforcement of knowledge shared.

C. Correlation Analysis

The results of the correlation analysis indicate that there is a significant relationship between several important factors. Firstly, based on the fact that the value of the Pearson correlation coefficient $r = 0.16$, which is closer to 1 than 0, one can state that there is a moderate positive correlation between Q4.1.6 and Q4.1.7. In other words, because “companies that promote a culture of continuous learning are more likely to provide opportunities for employees to apply their new knowledge”.

there was also a moderate positive correlation between “Adequate Resources for Training” and “Support for External Training (Q4.1.2).” This implies that a company that provides resources for training encourages external learning opportunities as well (Q4.1.16), facilitating a unified process of firm-induced and self-education. In the meantime, there was a weak negative correlation between “Encourages Experimentation and Innovation” and “Opportunities to Apply Knowledge.” It may be suggested that employees see their companies as innovative and entrepreneurial; however, sometimes, the skills and expertise acquired in the process of innovation are not used.

D. ANOVA Results

In order to identify whether employees from different departments significantly differ on the “Culture of Continuous Learning, (Q4.1.7)” an ANOVA test was conducted. In the results, there was no significant difference between the departments ($F = 0.091$, $p = 0.913$) as per the given criterion; This implies that every unit, present at the firm’s disposal, thinks of it in a similar way regarding learning.

E. T-test Results

A T-test was conducted to see if non-leadership and leadership employees significantly differ in their perceptions of being promoted for learning (Q4.1.9). In these terms, the results of the test were ($t = -0.173$, $p = 0.863$) not significant, meaning that the two groups of employees harbor similar attitudes about being promoted by the leaders for the learning and training function.

F. Factor Analysis Results

In order to identify which survey questions should be grouped into the same dimension, a factor analysis was conducted. As a result, five underlying dimensions were identified:

- Encourages Experimentation and Innovation and Opportunities to Apply Knowledge. These two factors were grouped together because as a result of “Opportunities to Apply Knowledge” (Q4.1.6), it was identified that they were closely related on the Opportunities to Apply Knowledge.
- Factor 2 was connected with “Regular Feedback and Coaching (Q4.1.12)” and “Encouraged to Share Knowledge (Q4.1.13)”, so feedback seems to be crucial for knowledge-sharing practices.

G. Regression Analysis

Regression analysis was conducted to predict “Opportunities to Apply Knowledge (Q4.1.6)” by the answers of such questions as “Encouraged to Learn New Skills (Q4.1.1)”, “Leaders Promote Learning (Q4.1.9)” and “Culture of Continuous Learning (Q4.1.7)”. The results showed that the strongest predictor of the employees’ possibilities to apply the newly got knowledge was “Culture of Continuous Learning (Q4.1.7)” with a coefficient of 0.16. In contrast, “Encourages Experimentation and Innovation” had a slightly (Q4.1.5) negative effect with the coefficient of -0.17. The model, as a whole, explains ($R^2 = 0.056$) of the variance in the opportunity to apply new knowledge, meaning that the suggested factors should be considered, but there may be other factors that affect learning opportunities.

V. DISCUSSION

The results of this study offer important information about the factors that influence organizational learning culture in the pharmaceutical industry. Correlation analysis indicates that organizations that promote a culture of continuous learning are more likely to provide employees with opportunities to apply newly learned knowledge. Previous research also indicates that continuous learning helps create innovation and meaning at work.

Despite the moderate degree of the correlation between other variables, the coefficient, and the second most significant variable, leadership promotion of learning, these two concepts are probably the two most important aspects of organizational learning culture. First, the pre-survey interviews show that leadership engagement is one of the most important aspects of organizational learning for pharmaceutical company employees, adding to leadership promotion of their ability to shape organizational learning. However, a large number of neutral responses for this concept indicate that there are not enough cases of this. Only systems

where learning can be successfully enforced by additional leaders and no need to work to keep these systems active.

Innovation encouragement is a key aspect of organizational learning culture, but this concept is not as important as it can lead to learning opportunities. Over time, an increase in innovation efforts or refocusing this effort on useful and applicable innovations may contribute to the emergence of new opportunities for employees to use their knowledge – or employees with direct opportunities provided with the previously unknown support. There were not enough opportunities to implement existing knowledge. Finally, the fact that there are no significant differences between the departments in the organization of organic learning shows that this effect is systemic and not determined by the differences in department responsibilities.

According to the results of the T-test, there are no significant differences in the perceptions of the degree of leadership promotion of learning among respondents from the head of the department and non-leadership. From this point, learning culture may not become a role of leadership, at least, employees perceive it in the same way among different parts of organizations. From this point, the study validates the idea that a learning culture must be uniform to provide equal opportunities for all employees. The factor analysis found five basic factors of organizational learning culture. First, the internal variables relate to the leadership promotion of learning, training, and perception of innovations. Second, feedback and coaching also become an integral part of organizational learning culture. Feedback and coaching help people improve their performance. Regression analysis found that organizational culture, where employees can constantly learn from their learning, is a significant factor in their ability to apply new knowledge at work. Therefore, the provision of regular feedback and coaching as central elements of organizational learning culture leads to the creation of an adaptable system, which significantly facilitates the implementation of new knowledge. This conclusion also correlates with preceding studies, proving it is possible to put the main efforts in this area when an organization decides to increase its learning culture. The regression analysis also shows a slightly negative relationship existing between encouraging innovation and opportunities to apply new knowledge. This means that for some organizations there may be a certain discrepancy between developing innovative thinking and providing an employee with the means to apply their innovations in practice. This may also be related to some of the difficulties prevalent within the industry, as many innovative views can find large regulatory and practical barriers. Thus, an organization needs to make sure that its incentives to develop innovative thinking are complemented by some concrete technologies and mechanisms that the employee can be involved in to make a certain outcome come from an idea.

The findings of the study also have a number of certain practical implications that need to be considered by managers and organizational leaders within the pharmaceutical industry. First of all, it seems that the engagement of leadership needs to be enhanced. This means that every leader in the organization should make sure that they are promoting a certain culture of learning and innovation in a predictable manner. The leader is expected to provide feedback and coaching in a certain predictable manner, encourage risk-taking behavior and continuously provide opportunities for the employee to apply their new knowledge. By doing this the “social learning behavior should become less dependent on spontaneous human factors”. Secondly, the training and development opportunities should be made more practically applicable. This means that employees should have as many opportunities to apply the skills they have been trained within their routine work before the next training event occurs. Finally, the creation of a facilitative learning environment can help to increase the productivity of the knowledge flow and, combined with an adaptive culture, create a source for innovation.

A. Role of Leadership in Fostering Learning

The role of leadership in fostering organizational learning culture is important. As the results of the correlation and regression analysis indicated, leadership engagement had a significant effect on employees' abilities to apply new knowledge. Leaders who emphasized learning and provided regular feedback can create an environment that enables continuous development. However, as the results of the factor analysis of the neutral items indicated, these efforts may not always be sufficient, as many of the employees admitted that leadership may do more to facilitate learning and innovation. In this regard, the role of leadership should be centered on creating an environment where mistakes are seen as learning experiences, and not necessarily failures that have to be avoided. Such an environment would encourage the employees to be more risk-prone and proactive, knowing that their efforts will be supported whenever they hit a wall, and that they will always have the opportunity to learn from their mistakes. On the other hand, leadership plays a pivotal role in ensuring that the knowledge developed by individual members of the organization is shared across the various departments and teams and the organization benefits from its lessons.

B. The Role of Employee Engagement in The Creation of a Strong Culture

The results of the factor analysis of the positive items indicated that an essential part of a strong learning culture consists of employee engagement. This conclusion draws support from the results of the present study. As they indicated, engaged employees were also more likely to engage in the learning activities available through HC organization and promote knowledge via contributing requests for support as well as suggestions and documents. However, as indicated by the relative low number of recognition responses, organizations should do more to recognize and reward the best

contributors to the learning culture. Indeed, like with any endeavor, recognition of achievements is essential to maintaining the motivation of the members of the organization for constantly improving. As for the means by which organizations could generate ambient rewards, one of the most effective implies developing a formal recognition system that the employees feel secure in being rewarded through, which would highlight their contributions toward generating and maintaining a healthy learning culture within the organization.

In addition, giving employees a role in designing and implementing learning programs can have a positive effect on participation and satisfaction. When employees are part of the decision-making process and feel that their learning needs are being addressed, they are more likely to be motivated to learn. It is also more likely that employees' new perceptions and knowledge will be transferred to their jobs if they are able to apply their learning.

C. The Importance of Practical Application

One of the major findings of this study is the importance of employees having the opportunity to use their knowledge. As shown by both the correlation and the regression analyses, the ability to apply new knowledge is strongly tied to the perceptions of a continuous learning culture. Employees who feel they are able to use their new skills in practice are more likely to feel that the organization supports their development.

To have a strong learning culture, it is important that employees not only learn but also that they apply their learning. This means that learning not be limited to the training room. Instead, it is important to integrate opportunities to apply learning into employees' daily work. For example, on-the-job training, mentoring, or work on special projects are opportunities for employees to apply their skills. In addition, organizations should support employees in the implementation of their plans and ideas. This can include providing the necessary tools or technology to apply learning, and networks of mentors or colleagues to canvass for advice. In this way, a culture is created in which learning is not only promoted but also applied, and where employees continue to develop the necessary skills to be of value to the organization.

D. Addressing Gaps in Innovation and Application

We would suggest that the negative relationship between fostering innovation and opportunities to apply new knowledge implies a gap between these two phenomena that needs to be bridged by organizations. This may be particularly relevant for industries such as pharmaceuticals, where heavy regulations and processes might pose a challenge to the rapid application of innovative ideas. In this light, we would recommend that organizations focus on creating "innovation pipelines" that would ensure employees have a pathway from the first idea to implementation.

One idea could be creating teams that will bring together members of different, relevant departments to both create innovations and implement them. Additionally, organizations should ensure that employees have the opportunity to experiment to test their newly created approaches in a controlled setting. Overall, we would recommend that organizations align their efforts to foster innovations with the practical implementation of these new ideas to ensure that their investment brings clear returns.

VI. CONCLUSION

The purpose of the study was to identify factors that influenced the organizational learning culture. Pharmaceutical companies have been chosen as the target industry, and the study has made a significant contribution to the literature on both culture and organizational learning. The results confirmed that leadership, learning from knowledge and new skills as well as facilitative learning environment were significant factors affecting organizational learning culture.

Thus, the results show that in the pharmaceutical industry, firms that engage in organizational learning are more adaptable, innovative, and productive. The study results have shown that leadership is an essential part of the organizational learning process. Aspects of active leadership, such as continuous learning, feed-back, and innovation, are vital in creating a culture that supports employee development and drives long-term success. However, responses to questions on leadership showed that employees held a neutral point of view. From the results, most employees feel that their leaders could do more for learning and innovation.

Another significant finding was that learning from knowledge and new skills was vital in determining whether employees perceived their firms as engaging in an organizational learning culture. Responses demonstrated that employees who feel they can use their new skills in their work consider their firms committed to their development. This implies that learning should be an integral part of the employees' workstations and access to resources and the necessary support to implement the new things they have learned. On the other hand, while there is an encouraging environment to encourage innovation and learning, a gap existed between that and the value of knowledge and new things learned and finding ways to let the employees apply what has been learned practically.

To conclude, facilitating a strong organizational learning culture should address the gap by developing innovation pipelines for firms to encourage future employees to put their learning into practice. Thus, considering the factor analyzed, a learning culture in the pharmaceutical industry must feature leadership practices that consistently support learning at all levels across the organization. This has contributed to understanding the factors behind developing a successful learning culture that can help attracting learning organization

certification. Thus, leadership engagement, learning from knowledge and new skills, and innovative environment facilitating learning culture play essential roles. Future studies should involve longitudinal studies to explore whether organizational learning culture is related to long-term performance, innovation, and employee satisfaction.

REFERENCES

- [1]. Abdallah, W. et al. (2019) 'Organizational learning and patient safety: hospital pharmacy settings', *Journal of Health Organization and Management*, 33(6), pp. 695–713.
- [2]. Adnan Bataineh, K. (2019) 'Impact of work-life balance, happiness at work, on employee performance', *International Business Research*, 12(2), pp. 99–112.
- [3]. Ahsan, S.M.R. (2015) 'Corporate culture and organizational change-a study on a large pharmaceutical company in Bangladesh', *Asian Business Review*, 4(2), pp. 29–37.
- [4]. Aleem, M.U. et al. (2018) 'Power of Training and Development on Employee Retention in Pharmaceutical Organization', *IBT Journal of Business Studies (JBS)*, 2(2).
- [5]. Alnidawi, A.A.B. and Omran, F.M. (2016) 'Learning organization impact on internal intellectual capital risks: an empirical study in the Jordanian pharmaceutical industry companies', *International Business Research*, 9(10), pp. 176–185.
- [6]. Babapour, J., Gholipourb, A. and Mehralian, G. (2018) 'Human resource management challenges to develop pharmaceutical industry: evidence from developing countries', *Iranian journal of pharmaceutical research: IJPR*, 17(Suppl2), p. 224.
- [7]. Blaga, P., Gabor, M.R. and Matis, C. (2021) 'The Analysis of the Efficiency of e-Learning Training Program in Pharmaceutical Industry. A Romanian Study Case', *Calitatea*, 22(181), pp. 18–25.
- [8]. Bousalem, R. and Aichouche, K. (2016) 'Presenting a model of critical success factors for organizational innovation in Algerian Pharmaceutical Company', in 2016 International Conference on Digital Economy (ICDEc), pp. 45–52.
- [9]. Broadbuss, T.S. (2013) *Confronting the Black Swan: A Case Study of Corporate Learning*. University of Kansas.
- [10]. Cai, L., Gao, J. and Zhao, D. (2020) 'A review of the application of deep learning in medical image classification and segmentation', *Annals of translational medicine*, 8(11).
- [11]. Chakraborty, P. (2022) 'An Investigational Study on Factors of Quality Culture in Pharmaceutical Manufacturing Sectors', *Journal of Management*, 9(S1), pp. 146–154.
- [12]. Haider, S. et al. (2018) 'Dark Side of Leadership: Employees' Job Stress & Deviant Behaviors in Pharmaceutical Industry.', *International Journal of Pharmaceutical Research & Allied Sciences*, 7(2).
- [13]. Howard, A. (2016) 'The Influence of Leadership Paradigms and Styles on Pharmaceutical Innovation', *Value Creation in the Pharmaceutical Industry: The Critical Path to Innovation*, pp. 416–447.
- [14]. Joel, O.O. et al. (2023) 'Bolstering the Moderating Effect of Supervisory Innovative Support on Organisational Learning and Employees' Engagement', *Administrative Sciences*, 13(3). Available at: <https://doi.org/10.3390/admsci13030081>.
- [15]. Jones, G., Chace, B.C. and Wright, J. (2021) 'Cultural diversity drives innovation: modeling in the global pharmaceutical industry', *International Journal of Innovation Science*, 13(2), pp. 133–144.
- [16]. Kumari, J., Kumari, G. and Pandey, K.M. (2021) 'Factors affecting of employee performance appraisal system in the pharmaceutical industry: an analytical study', in *Interdisciplinary Research in Technology and Management*. CRC Press, pp. 290–300.
- [17]. Lewis, A., Thomas, B. and Amin, M. Al (2016) 'Employee engagement in the pharmaceuticals sector in Bangladesh: a case study of a pharmaceuticals company', *International Journal of Indian Culture and Business Management*, 13(3). Available at: <https://doi.org/10.1504/ijicbm.2016.078837>.
- [18]. Meilanti, S. et al. (2022) 'A global study on job and career satisfaction of early-career pharmacists and pharmaceutical scientists', *Exploratory research in clinical and social pharmacy*, 5, p. 100110.
- [19]. Nagashekhara, M. and Agil, S.O.S. (2011) 'Does organizational culture influence the ethical behavior in the pharmaceutical industry?', *Journal of Basic and Clinical Pharmacy*, 3(1), p. 219.
- [20]. Ngaruiya, E., K'aol, G. and Njenga, K. (2023) 'Influence of Sustaining Effective Organizational Culture on Organizational Performance of Pharmaceutical Companies in Kenya', *Research Journal of Business and Finance*, 2(1), pp. 62–76.
- [21]. Ogueyungbo, O.O. et al. (2020) 'Organisational learning and employee engagement: The mediating role of supervisory support', *Cogent Business & Management*, 7(1), p. 1816419.
- [22]. Osinubi, A.A.A. and Ailoje-Ibru, K.O. (2014) 'A paradigm shift in medical, dental, nursing, physiotherapy and pharmacy education: From traditional method of teaching to case-based method of learning-a review', *Annual Research & Review in Biology*, 4(13), pp. 2053–2072.
- [23]. ÖZÜTLER, H.Ş. and SHAGHASY, M.M. (2022) 'The Impact of Organizational Learning Culture on Organizational Performance: Case Study for Afghanistan', *Journal of Yaşar University*, 17(65). Available at: <https://doi.org/10.19168/jyasar.972624>.
- [24]. Raghavendra, D., Chauhan, R. and Mallikarjuna, T. (2017) 'Studying Strategies for Implementing Quality Culture in Pharmaceutical Organizations', *Int J Pharm Qual Assur*, 8(4), pp. 57–67.

- [25]. Rebelo, T.M. and Duarte Gomes, A. (2011) 'Conditioning factors of an organizational learning culture', *Journal of workplace learning*, 23(3), pp. 173–194.
- [26]. Reinhardt, I.C., Oliveira, J.C. and Ring, D.T. (2020) 'Current perspectives on the development of industry 4.0 in the pharmaceutical sector', *Journal of Industrial Information Integration*, 18, p. 100131.
- [27]. Robb, A. et al. (2022) 'Enhancing organisational innovation capability–A practice-oriented insight for pharmaceutical companies', *Technovation*, 115, p. 102461.
- [28]. Rodjam, C. et al. (2020) 'Effect of Human Resource Management Practices on Employee Performance Mediating by Employee Job Satisfaction.', *Systematic Reviews in Pharmacy*, 11(3).
- [29]. Sahay, Y.P. and Gupta, M. (2016) 'Organization design & perceptions of innovation: implications for the Indian pharmaceutical sector', *Indian Journal of Industrial Relations*, pp. 157–170.
- [30]. Sawad, A. Bin and Andrews, K. (2022) 'Marketing training strategies that pharmaceutical sales managers use to reduce unethical behavior', *Journal of Education and Health Promotion*, 11(1). Available at: https://doi.org/10.4103/jehp.jehp_1081_21.
- [31]. Shamir-Bladerman, O. (2021) 'Factors Affecting Organisational Learning: The Case of a Medical Centre', *Journal of Health Management*, 23(3), pp. 425–440.
- [32]. Sittisom, W. (2020) 'Factors affecting Job Satisfaction of Employees in Pharmaceutical Industry: A Case Study of Thailand.', *Systematic Reviews in Pharmacy*, 11(3).
- [33]. Sriviboon, C. and Jemsittiparsert, K. (2019) 'Influence of Human Resource Practices on Thai Pharmaceutical firm Performance with moderating role of Job Involvement.', *Systematic Reviews in Pharmacy*, 10(2).
- [34]. Szczepańska, K. and Kosiorek, D. (2017) 'Factors influencing organizational culture', *Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska* [Preprint].
- [35]. Yaoprukchai, S. and Kardarnklai, U. (2014) 'Organizational Culture: The perspectives of new hires and existing employees of a pharmaceutical company in Thailand', *Asian Social Science*, 10(14), p. 224.
- [36]. Yaseen, M.M. et al. (2018) 'Benchmarking of TQM practices in the Jordanian pharmaceutical industry (a comparative study)', *Benchmarking: An International Journal*, 25(9), pp. 4058–4083.