

**أثر ممارسات الإدارة الرشيدة في تعزيز الإبداع في شركات
الأدوية اليمنية**

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The impact of lean management practices on
enhancing creativity in Yemeni pharmaceutical
Companies

أثر ممارسات الإدارة الرشيقة في تعزيز الإبداع في شركات الأدوية اليمنية

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Abstract:

The study aimed to identify the impact of lean management in its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees) on enhancing creativity in its dimensions (sensitivity to problems, fluency, originality, and flexibility) in Yemeni pharmaceutical companies. The research population was represented by all employees of the Modern Pharma Company and the Global Pharma Company in Yemen, who numbered (966) male and female employees. The research sample consisted of (246) who were selected using the proportional stratified random sampling method, and the descriptive analytical method was used, by adopting the questionnaire as a data collection tool, which included (32) items distributed over the variables of the study. The results of the study showed that the reality of applying lean management in Yemeni pharmaceutical companies was high. It highlighted that the level of enhancing creativity was moderate, and the results demonstrated that there was a statistically significant effect of applying lean management in enhancing creativity in its dimensions. In light of the results, the study recommends the following: the necessity of expanding the use of lean management tools by Yemeni pharmaceutical companies because of their essential and clear role in achieving the elements of creativity.

Keywords: Lean management, enhancing creativity, pharmaceutical companies, Yemen.

I. INTRODUCTION

Background:

The business environment is characterized by intense competition amidst rapid developments and changes. To ensure survival and continuity in this environment, a company must adopt modern management approaches and methods, such as lean management, instead of traditional or sluggish management approaches. Lean management is an integrated management system that eliminates waste and achieves optimal performance through the optimal use of

organizational resources. Lean management is one of the appropriate management approaches for leading change processes within companies, achieving profits and gaining competitive advantage. Lean management is an integrated system that seeks the optimal use of resources, whether material or human, tangible or intangible. Lean management has become an approach that supports the concept of continuous improvement, a long-term approach to work that systematically seeks to achieve gradual changes in management to enhance product efficiency and the quality of the company's work (Abbas, 2004). Creativity plays a key role in empowering employees to recognize the need for change and improvement, as well as developing their capabilities and providing an enabling environment that encourages them by demonstrating their capabilities and harnessing them optimally. Creativity is a fundamental pillar of a company's cognitive and economic superiority and also represents added value for companies. From this perspective, creativity ensures a company's survival and continuity in a highly competitive business environment, which in turn makes creativity a competitive advantage (Mekimah, 2020; Mahal, 2021).

Considering the use of lean management in various financial and managerial operations in companies and the tasks related to them that contribute to creating distinguished results for managerial work, especially those related to the efficiency and effectiveness of performance, therefore, the use of the lean management method requires the provision of many of the main components necessary for its success. This requires changing the company's culture to adopt new methods based on creativity and service provision; This is done by developing employee performance and adopting modern managerial methodologies and techniques through caring for and nurturing employees and providing an appropriate environment that enhances creativity (Mahmoud, 2022).

Given the important role of lean management in our current era, this study aims to identify the impact of lean management in enhancing creativity among pharmaceutical companies in Yemen. The lack of lean management has negative effects in many areas, including unprofessional behavior, as well as rigidity and routine procedures that negatively impact pharmaceutical companies' performance and weaken their creativity.

Problem statement:

Yemeni pharmaceutical companies operate under unstable economic and political conditions, hindering their ability to develop creative solutions that improve production efficiency and enhance competitiveness. Given that creativity plays a pivotal role in an organization's ability to adapt and survive, pharmaceutical companies must cultivate management environments that foster creative thinking and problem-solving.

Recent studies such as those by Mekimah (2020), Belaqrâa et al. (2021), Shams Al-Din (2022), and Mahmoud (2022), show that creativity is positively associated with modern management approaches, particularly lean management, which focuses on reducing waste, simplifying processes, and promoting continuous improvement. Although previous research indicates a positive relationship between lean management and creativity in various industries, very few empirical studies have addressed this link within Yemeni pharmaceutical companies. This gap highlights the need to explore how to promote the application of lean management practices for innovation in this vital sector. Therefore, this study aims to demonstrate the impact of lean management practices on enhancing creativity in Yemeni pharmaceutical companies.

Based on the problem statement, the researcher formulated the research questions as follows:

1. What is the impact of lean management, with its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees) on enhancing creativity in its combined dimensions (sensitivity to problems, fluency, originality, and flexibility) in Yemeni pharmaceutical companies?
2. What is the level of creativity enhancement in its dimensions (sensitivity to problems, fluency, originality, and flexibility) in Yemeni pharmaceutical companies?
- 3 .What is the degree of implementation of lean management, with its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees) in Yemeni pharmaceutical companies?

Study hypotheses:

Based on the problem statement, questions, and objectives, the study's hypotheses were formulated as follows:

H0: There is no statistically significant effect at a significance level ($\alpha \leq 0.05$) of lean management with its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees) on enhancing creativity in its combined dimensions (sensitivity to problems, fluency, originality, and flexibility) among Yemeni pharmaceutical companies.

The following sub-hypotheses emerge from this:

H01: There is no statistically significant effect at a significance level ($\alpha \leq 0.05$) of continuous improvement on enhancing creativity in its combined dimensions among Yemeni pharmaceutical companies.

H02: There is no statistically significant effect at a significance level ($\alpha \leq 0.05$) of standardized work on enhancing creativity in its combined dimensions among Yemeni pharmaceutical companies.

H03: There is no statistically significant effect at a significance level of ($\alpha \leq 0.05$) of participative leadership on enhancing creativity in all its dimensions in Yemeni pharmaceutical companies.

H04: There is no statistically significant effect at a significance level of ($\alpha \leq 0.05$) of respect for employees on enhancing creativity in all its dimensions in Yemeni pharmaceutical companies.

Study model

The study model was prepared based on the problem statement, the study questions and its hypotheses.

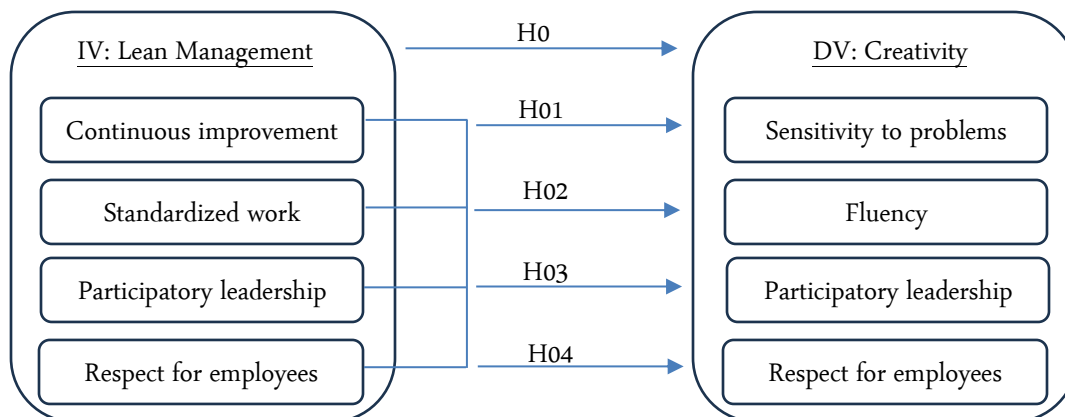


Figure 1: Study Model

Study objectives:

The study aimed to achieve several objectives, including the following:

- To determine the degree of implementation of lean management, with its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees) among pharmaceutical companies in Yemen.
- To identify the level of creativity enhancement, with its dimensions (problem sensitivity, fluency, originality, and flexibility) among pharmaceutical companies in Yemen.
- To clarify the impact of lean management, with its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees), on enhancing creativity, with its dimensions (problem sensitivity, fluency, originality, and flexibility) among Yemeni pharmaceutical companies.

Study significance:

The significance of the study stems from the importance of the topic it addresses. It is one of the few, if not the first, studies to address the impact of lean management practices on enhancing creativity in pharmaceutical companies in Yemen. Moreover, the subject of the study, lean management, is a new subject that enables the organization to be creative, especially the pharmaceutical sector.

This research aims to evaluate the impact of lean management practices on enhancing organizational creativity, the extent to which they can be employed, and highlight their importance in pharmaceutical companies. It also aims to enrich Arabic and local literature by providing new insights and ideas that encourage researchers and enable them to conduct further research in the same field, apply these concepts in different contexts, and discover new dimensions.

From a scientific perspective, this study aims to clarify the research concepts and demonstrate its impact on creativity, with the goal of providing a set of findings and recommendations that will help stakeholders in pharmaceutical companies, particularly modern and global pharmaceutical companies, make appropriate decisions to support or activate the role of the lean management methodology.

II. LITERATURE REVIEW

Lean management:

Given the concept of lean management and the principles upon which it is based, this tool's goal is to target, reduce, and address waste in administrative work. Therefore, implementing lean management requires the provision of several key components necessary for its success. It also requires the commitment of all parties involved in the managerial process, as well as efforts to change the company's culture by promoting and utilizing lean management in managerial processes, which contributes to the success of this approach.

Furthermore, the managerial practices and methods adopted by business organizations, there is a dire need to introduce modern managerial methods and practices, such as lean management, due to its critical importance in reducing costs, reducing waste, and responding to customer needs (Mekimah, 2020). Nicolas & Thomas (2019) indicated that the use of lean management in various administrative and technical operations and related tasks will contribute to achieving outstanding results that are reflected in performance, particularly in reducing waste,

maximizing the use of available resources, solving problems, and providing qualified workers in all aspects. Therefore, implementing lean management in companies requires the provision of several key components necessary for its success. This requires seriousness from everyone, commitment, and cooperation from all parties, including employees and management. It also requires the company and its employees to develop a culture of lean management.

Giles (2017) believes that the implementation of lean management revolves around two main aspects: eliminating all forms of administrative or financial waste, and developing, enhancing, and improving all processes, activities, services, and goods related to the company's operating model.

Based on the research's perspective, lean management relies on three essential elements: striving to continuously improve and develop the company's performance; eliminating waste in all its forms; and working to achieve quality and competitiveness in the provision of goods and services.

In addition, lean management derives its importance from: engaging employees in developing and achieving the organization's strategy and objectives; emphasizing intelligence and logical analysis to solve problems; exploiting emerging business opportunities; and its role in digital transformation, which adds value to the company and helps it survive and grow. It also creates modern business models that allow it to create creative business opportunities through reliance on and efforts to support positive forces and reduce negative ones among all employees within the company. It also encourages communication and interaction between leaders and employees. Lean management also encourages employees and managers to be creative and excel by finding appropriate solutions to the obstacles and challenges facing the work environment. It supports the company's future plans and provides means to support operational goals by anticipating future challenges. It leads to a sustainable competitive advantage and sustainable development based on lean performance (Al-Kaaby & Al-Yasiri, 2023).

Similarly, the implementation of Lean Management requires the following components: developing an integrated strategic plan that reflects the company's main objectives, directions, and future vision. The company must also have flexible organizational structures that are compatible with new performance requirements and are open to development, modification, and change. Employees must be able to adapt to internal and external variables. The company must also work to provide an integrated information system to support decision-making. Furthermore, the company must have integrated systems for evaluating individual performance, evaluating the performance of the managerial unit, and evaluating the overall performance of the company. The company must also strive for a digital transformation in managerial work to avoid wasting various material and human resources and reduce errors. It must also work to ensure effective management that supports the company's chances of achieving Lean Management (Alofi, 2022).

Creativity:

There is no doubt that embracing the concept of creativity is a fundamental and crucial element for companies, especially in light of the trend toward adopting and implementing modern management concepts such as total quality management, business process reengineering, and comprehensive performance planning. Creativity is one of the basic requirements for the successful application of these management concepts in corporate operations (Blomberg & Kallio, 2017). The definition of creativity in companies and institutions varies according to the purpose behind its use. For

instance, Azizi (2018) defined creativity as the process that results in a new product, service, idea, or practice that can be adopted or imposed by management or employees within a company, bringing about some kind of intended change in the operations, quality of outputs, or work environment within the company. Similarly, Jabr (2022) described it as the process through which imaginary or real ideas or objects are produced and used in unfamiliar and novel ways. In addition, Mohammed (2021) defined it as unfamiliar ideas characterized by innovation and development, arising from scientific and practical experience and technical and managerial knowledge, aware of the company's reality and based on company information and analysis. It also requires the availability of creative capabilities in order to achieve everything new. Furthermore, Ali (2016) defined it as a set of personal and scientific abilities, dispositions, and characteristics that grow. By creating a suitable environment, a company's performance and outcomes can be enhanced.

In addition, the importance of creativity lies in working to find solutions to the problems facing the company and enhancing interaction between the company and its internal and external environment. Creativity is also considered one of the elements of human capital that drives and drives the company to achieve its goals. It also works to better manage work by introducing improvements and developments to the work environment and the company's managerial and organizational structure. Its importance stems from its contribution to raising the company's future ambitions and goals. Creativity raises the company's competitiveness and helps it adapt to internal and external changes in the company's environment, leading to improved service and product quality (Abu Nasser, 2018; Al'aejam & Fattouh, 2021).

Elements of managerial creativity:

There are several characteristics that most researchers agree upon as elements of managerial creativity:

Sensitivity to problems: By identifying the problem from all its aspects, this leads to solutions. This allows the employee to be exposed to a specific situation or problem, transforming that problem into new ideas. Since a creative person possesses sensitivity and the ability to deal with problems, they are better able than others to see the problem and identify its causes.

Flexibility: This means looking at things from a new perspective, different from what others are accustomed to. Therefore, flexibility plays a significant role in the discoveries and inventions we see. Flexibility represents the qualitative aspect of creativity, and thus, changing one's mental state by changing one's thinking as the situation changes (Manivelmuralidaran, 2015).

Fluency: This refers to an individual's ability to generate a large number of ideas within a specific period of time, in response to a specific stimulus. It is essentially the process of remembering and recalling previously learned information, experiences, or concepts.

Originality: This refers to an individual's ability to produce new solutions by not repeating traditional ideas or solutions to problems.

Risk and challenge: This is considered an element, but a person should not resort to it constantly, as this leads to taking risks resulting from undertaking this work or introducing new ideas or methods in the workplace. Analytical

Ability: One of the characteristics of a creative person is their ability to break down a problem into sub-ideas, acting in a manner that departs from traditional practices (Ahmed & Hamdana Allah, 2019).

Overview of the pharmaceutical companies studied:

1. Modern Pharma Company: It was established in 1999 as the first national antibiotic factory in the Yemeni capital, Sana'a. It began operating solid dosage form production lines (capsules and dry syrups) as a first step. In the subsequent phase, the company contracted manufacturing with sister factories to add other dosage forms to its product mix, covering the local market and contributing to the development of national industries in Yemen.

2. Global Pharma Company: It is a private joint-stock company based in Sana'a. Founded in 2004, the company began operations and entered the market in 2009. It is the largest and most modern pharmaceutical producer in Yemen. Its rapid growth has enabled it to become a market leader, capturing more than 9% of the local market share in less than four years. Since its inception, it has developed, manufactured, marketed, and distributed branded pharmaceutical products, remaining committed to meeting community needs and playing a significant role in the development of national healthcare.

III. METHODOLOGY

Research design:

The research followed a descriptive-analytical approach, which aims to describe the phenomenon under research, based on the data collected through primary sources. The data were then analyzed, and hypotheses were tested to arrive at conclusions, based on which appropriate recommendations are made. The subject of the current research is the practice of lean management and its impact on enhancing creativity among Yemeni pharmaceutical companies. Accordingly, the descriptive approach was used to describe the research variables and their sub-dimensions, and to identify the level of their achievement among Yemeni pharmaceutical companies. The analytical approach was used through the research sample's responses to the questionnaire.

Study population:

The research population represents all employees of the Modern Pharma Company and the Global Pharma Company in Yemen, totaling (966) male and female employees distributed across all departments of the two companies. Table (1) shows the distribution of the research population according to (gender, educational qualifications, number of years of experience, and company name) as follows:

Table (1): Demographic distribution of study participants by gender, education, experience, and company

Variable	Category	No. of research population	Percentage
Gender	Male	832	86.1%
	Female	134	13.9%
	Total	966	100%
Academic Qualifications	Diploma or below	215	22.3%
	Bachelor's degree	584	60.4%
	Postgraduate studies	167	17.3%

	Total	966	100%
Number of years of experience	Less than 5 years	205	21.2%
	5 years - less than 10 years	171	17.7%
	10 years - less than 15 years	192	19.9%
	15 years and more	398	41.2%
	Total	966	100%
Company Name	Modern Pharma	578	59.8%
	Global Pharma	388	40.2%
	Total	966	100%

- According to the HR statistics of the two companies, 2023.

Research sample:

Two pharmaceutical companies in Yemen were included in the research sample. Employees were selected using a proportional stratified random sampling method, given its suitability for the nature of this research and the aim of ensuring representation of both companies, based on the number of employees in each company, and across all categories. The researcher distributed (276) questionnaires to the research sample electronically and retrieved them in the same manner. (257) questionnaires were retrieved, of which (246) were valid for analysis. This was achieved after excluding (11) questionnaires for their unsuitability for analysis due to incomplete responses to various sections. Thus, the percentage of returned questionnaires that were valid for statistical analysis reached (89.1%) of the total distributed questionnaires.

IV. RESULTS AND DISCUSSION

After conducting a statistical analysis of the study sample members' responses to the questionnaire items, the study reached a set of results related to describing the study variables and testing the study's hypotheses. In light of these results, a number of recommendations were presented.

1. Results and discussion related to research variables:

The degree of lean management implementation among Yemeni pharmaceutical companies was high. This is attributed to the fact that Yemeni pharmaceutical companies seek to eliminate any waste of time, effort, or money by identifying each step in a business process and then reviewing or eliminating steps that do not create value. This result is consistent with the study by Omar (2023) and the study by Abu Salim et al (2018), while the results differed from the study by Mahmoud (2022). Regarding the dimensions of lean management, the dimension of respect for employees ranked first with high relative importance. The researcher attributes this to the Yemeni pharmaceutical company's awareness that respecting employees enhances their job satisfaction, motivates them to develop their capabilities and innovate new solutions at work, and increases their sense of belonging and loyalty. Furthermore, respect for employees creates an atmosphere of fair competition among them, constantly competing to deliver their best, which ultimately benefits the company. The dimension of standardized work ranked last with high relative

importance. The researcher attributes this to the nature of pharmaceutical companies' work requiring high precision and a lack of haste in completing work, given that their products are linked to human life or death.

The study results also showed that the level of creativity enhancement in Yemeni pharmaceutical companies was moderate. The researcher attributes this to employees' fear of failure or rejection, which limits the ability of pharmaceutical company employees to offer creative ideas. The researcher also believes that the low level of creativity is due to the nature of the company's work, as well as the lack of competition due to the small number of pharmaceutical companies in Yemen. This result is consistent with the study by Mahmoud (2022) and Adjei (2022) but did not differ based on the researcher's knowledge of any other study. Regarding the dimensions of creativity enhancement, the flexibility dimension ranked first with high relative importance. This is due to Yemeni pharmaceutical companies' awareness that flexibility helps achieve goals efficiently and effectively. It also helps improve employee satisfaction, retain employees, and attract new talent. Work flexibility also contributes to improving employee quality of life and achieving a balance between personal and work life. Fluency dimension ranked last with moderate relative importance. This is due to the difficulty of implementing it in pharmaceutical companies across all departments, as it is limited to certain departments that are farthest from the production element.

2. Results and discussion related to the study hypotheses:

Main hypothesis:

The study results showed a statistically significant effect between the implementation of lean management, in terms of its dimensions (continuous improvement, standardized work, participatory leadership, and respect for employees), on enhancing creativity in all its dimensions. This means that the implementation of lean management has a positive impact on enhancing creativity, leading to the advancement of pharmaceutical companies and increasing their chances of success and development. Furthermore, the primary goal of implementing lean management is to reduce waste by eliminating items that do not add value to the company, as well as to achieve continuous improvement, which can only be achieved through the use of creative methods in service and product delivery. The results of this study are consistent with the study by Abu Salim et al (2018), while they differ from the results of Mahmoud (2022), Adjei (2022), and Mekimah (2020).

First sub-hypothesis:

The study demonstrated a statistically significant effect of implementing continuous improvement on enhancing creativity in all its dimensions among pharmaceutical companies in Yemen. The researcher attributes this to Yemeni pharmaceutical companies' awareness that continuous improvement is an essential process for enhancing creativity in product and service delivery. Furthermore, pharmaceutical companies' policies are based on continuous improvement and development, and the improvement and development process is linked to creative methods to achieve a competitive advantage. Furthermore, implementing creativity in work leads to improved plans and procedures, the development of skills and capabilities, enhanced effective response, enhanced cooperation and coordination, and enhanced readiness and flexibility to achieve the company's goals and aspirations. The results of this study are consistent with the study by Abu Salim et al (2018), while they differ from the results of the studies by Mahmoud (2022) and Mekimah (2020). Accordingly, the first sub-hypothesis was rejected, and the alternative hypothesis was

accepted, which states, "There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) of continuous improvement on enhancing creativity in all its dimensions among pharmaceutical companies in Yemen."

Second sub-hypothesis:

The study showed a statistically significant effect of implementing standardized work on enhancing creativity in all its dimensions among pharmaceutical companies in Yemen. This can be explained by the fact that pharmaceutical companies seek to improve the effectiveness of the standard workflow system by planning, implementing, and monitoring the processes necessary for continuous improvement, all of which will enhance the level of creativity enhancement among Yemeni pharmaceutical companies. The results of this study did not agree with any of the studies reviewed by the researcher, while the results of this study differed from Adjei's (2022) and Mekimah's (2020) study. Accordingly, the second sub-hypothesis was rejected, and the alternative hypothesis was accepted, which states, "There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) of standardized work on enhancing creativity in all its dimensions among Pharmaceutical companies in Yemen.

Third sub-hypothesis:

The study demonstrated a statistically significant effect of implementing participatory leadership on enhancing creativity in all its dimensions among pharmaceutical companies in Yemen. The researcher attributes this to Yemeni pharmaceutical companies' awareness of the importance of implementing collaborative work, as it fosters transparency and clarity. It gives employees the opportunity to contribute their ideas and suggestions to improve work performance and create a creative work environment. It also makes employees more committed to their work, making them more eager to contribute all their creative ideas to develop the work. The results of this study did not align with any of the studies reviewed by the researcher, while the results of this study differed from Adjei's (2022) and Mekimah's (2020) study. Accordingly, the third sub-hypothesis was rejected and the alternative hypothesis was accepted, which states: "There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) of participatory leadership on enhancing creativity in all its dimensions in pharmaceutical companies in Yemen."

Fourth sub-hypothesis:

The study showed a statistically significant effect of the dimension of respect for employees on enhancing creativity in all its dimensions in pharmaceutical companies in Yemen. The researcher attributes this to the fact that respect for employees in Yemeni pharmaceutical companies leads to a positive work environment that encourages creative thinking and innovation. Furthermore, employees will feel free to present new ideas, which contributes to increased creative thinking, which leads to development and positive change in the services and goods produced by Yemeni pharmaceutical companies. The results of this study were consistent with the study by Abu Salim et al (2018), while they differed from the results of the study by Mahmoud (2022). Accordingly, the fourth sub-hypothesis was rejected, and the alternative hypothesis was accepted, which states: "There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) of respect for employees on Enhancing creativity in all its dimensions among pharmaceutical companies in Yemen.

3. Recommendations:

In light of the study's findings, the researcher recommends the following:

- Expanding the use of lean management tools by Yemeni pharmaceutical companies across production, manufacturing, marketing, and software development, given their essential and clear role in achieving creativity.
- Spreading the culture of creativity among employees at Yemeni pharmaceutical companies through continuous improvement activities for the company's activities and operations.
- Increasing employee focus on implementing standardized work as a component of lean management at Yemeni pharmaceutical companies by establishing appropriate and clear work procedures to ensure the timely delivery of goods and services.
- Employing creativity to address managerial and professional challenges, organize, develop, and improve work to ensure the achievement of the company's goals and future vision.
- Working to foster creative capabilities by enhancing creative fluency for continuous improvement and addressing any operational problems.
- Incorporating creative thinking into the company's work within its approved strategies for future planning, enabling it to address any shortcomings and maximize its potential in developing the product and services it provides.
- Future research should explore other variables to understand the impact of lean management on them that were not covered in this study, in order to gain a more comprehensive understanding of the subject of the study or apply this study to other companies and environments.

V. CONCLUSION

The study examined the impact of lean management practices on enhancing creativity in Yemeni pharmaceutical companies. It aimed to evaluate how the lean management practices - such as continuous improvement, standardized work, participatory leadership, and respect for employees- contribute to enhancing a more creative work environment. The results revealed that these practices play a pivotal and positive role in enhancing creativity in managerial work, contributing to the development of organizations, and increasing opportunities for success and growth.

The study has significant implications for pharmaceutical companies, suggesting that the adopting and expanding lean management practices are pivotal for enhancing creativity. It also recommends integrating creative thinking into company operations as part of future planning strategies, allowing them to address any shortcomings and maximize their potential in developing the creative products and services.

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Conflicts of Interest

The author declares no conflict of interest.

English References:

- Abbas, S. (2004). *Innovative Leadership and Outstanding Performance*. Dar Wael for publication and distribution.
- Abu Nasser, F. (2018). Degree of Practices of Management Creativity from the Viewpoint of Educational Leadership Programs for Gifted Students in the Eastern Province of Saudi Arabia. *Dirasat: Educational Sciences*, 45(4), 570-583.
- Abu Salim, S. S., Msallam, A. A., Al Hila, A. A., Abu-Naser, S. S., & Al Shobaki, M. J. (2018). The role of lean management in promoting the creativity of Jawwal from the point of view of its employees. *International Journal of Academic Information Systems Research*, 2(11), 15-33.
- Adjei, M (2022). The role of agile leadership in managing soft and traditional projects in consulting firms, students Umea school of business autumn semester,3(2), p 15.
- Ahmed, H., & Hamdana allah, M. (2019). Organizational Culture and Its Impact on Managerial Creativity: A Case Study: North Bank. *Journal of Administrative and Economic Sciences*, Tanta University, 4(3), 1101-1165.
- Al'aejam, A., & Fattouh, S. (2021). Transformational Leadership and Its Impact on Creativity in the University of Science and Technology Hospital – Sana'a. *Journal of Social Studies*, 27(4), 67-96.
- Ali, L. (2016). *Creative Thinking among Managers* (1st ed.). Yazouri Group for Publication and Distribution.
- Al-Kaaby, K. M. Y., & Al-Yasiri, A. M. (2023). Agile Leadership and its Impact on Service Quality: Analytical Study of the Opinions of a Sample of Employees in Private Universities and Colleges in the Holy City of Karbala, *Karbala Journal of Studies and Research*, 9(1), 117-147.
- Alofi, A. (2022). The Improvements of Human Resources Practices in the light of Agile Management at Qassim University, *Journal of Qualitative Education Research - Mansoura University*, 2(66), 2533-2568.
- Azizi, Y.et al. (2018). Effects of personality trait, motivation factors on performance of customer service personnel (CSP): A case of MPH bookstores. *African Journal of Business Management*, 5(11), 4519-4530.
- Belaqraa, F., Ben Yahia, N., & Jawal, M. S.The Impact of Lean Management on Achieving High-Involvement Practices of Workers: A Field Research at the Central Directorate of Electricity and Gas Distribution in Djelfa. *Journal of Organization and Work*, Volume 9, Issue 3, pp. 102-119.
- Blomberg,A ,Kallio,T, Pohjanpaa.H (2017). Antecedents of Organizational creativity: drivers, barriers or both? *journal of Innovations Management*, 1(2), 78-104.

- Dang, M. N., & Dang, T. N. (2022). Building a New Management Model for Vietnamese Higher Education Institutions Based on the Made in Vietnam Lean Management. In *Global Changes and Sustainable Development in Asian Emerging Market Economies*, 1(2), 283-297.
- Giles, L. (2017). lean manufacturing (system de production a haute performance) dans les industries travaillant en juste a temps avec flux regules par tak time (rythme de la consommation de client). *la revue des sciences de gestion*, 2, (23), 99-107.
- Hess, J. & Benjamin, B. (2015). Applying Lean Agile management within the university: opportunities for process improvement and cultural change, *International Journal of Lean Agile management*, (6), 3, 249-262.
- Jabr, A. (2022). Ethics Management and its Impact on Enhancing Creativity organizational in Youth and Sports Centers from the Point of View of its Employees. *Journal of Studies and Researches of Sport Education*, 32(2), 172-186.
- lemahieu, P. (2017). Agile management in education, *Quality Assurance in education adlhe* ,25(1), 118-133.
- Mahal, S. (2021). Achieving Competitive Advantages for the North Oil Company Through Lean Management Tools: An Analytical Study, *Araa Journal of Economic and Administrative Studies*, Volume 3, Issue 1. University Center- Aflou, Algeria.
- Mahmoud, M. (2022). The Creative Environment, Communication Technology and Their Relationship to Lean Management in Some Sports Clubs in Upper Egypt Governorates, *Beni Suef Journal*, Volume 5, pp. 154-189.
- Manivelmuralidaran, V. (2015). Agile Manufacturing - An Overview. *International Journal of Science and Engineering Applications*.3(4). p.p.156-159.
- Mekimah, S. (2020). Lean management and its impact on achieving career creativity in the business organization: Case study of National Society for Electricity and Gas in Skikda (Algeria). *Management & Economics Research Journal*. 2(5), 39-56.
- Mohammed, M. (2021). Impact of Managerial leadership on administration creativity. *Tabuk University Journal of Administrative and Economic Sciences*, 2(2), 1-16.
- Nicoulas, H. Thomas, H. (2019). outils reporting structures et pratiques damelioration. *revue francaise de gestion*, (1) 6, 81-103.
- Omar, O. (2023). The Impact of Lean Management Practices on Job Performance as Applied to the Alexandria Drinking Water Company, *Arab Journal of Financial and Administrative Studies and Research*, 15(2), 1-66.
- Ramly, N. (2018). Agile management: Process improvement towards better IT customer Support, *International Journal of e-Education, e- Business, e- Management and e Learning*, (2) 5, 359-364.
- Shams Al-Din, F. (2022). The impact of Creativity levels on the dimensions of lean production: Analytical study for the Functional staffs opinion in the Hyaat company of the soft drinks and mineral water in Erbil., *Journal of Development and Management for Research and Studies*, Volume 11, Issue 1, pp. 589-626.
- Sparrow, Paul & Otaye, Lilian, (2019). Lean management and HR function capability: the role of HR architecture and the location of intellectual capital, *The International Journal of Human Resource Management*, 25 (21), 298-321.

- Vijaya, S. (2019). Lean Agile management in higher education institution, *International Journal of Quality and Service Sciences*, (8), 2, 159-178.
- Vishal, R., InaKakal, K., KiranV, A., Y, A., & Shruthi, M. N. (2021). Productivity Improvement of Shopfloor Process Through Lean Management, *IGRES*, 10(9), 1328-1344.
- Yong, T, & Chen, C. (2020). Impact of role ambiguity and role Conflict on employee creativity". *African journal of Business Management*, Taiwan, Vol. 4, No. 6, 112-121.