ISSN 2831-1434

Journal homepage: https://jem.fpm.ues.rs.ba/index.php/journal

Journal of Engineering and Management

Volume 3 / No 2 / October 2025 / 46-52

UDK 005.336.4:005.583.1

DOI 10.7251/JEM2502046G

COBISS.RS-ID 143667713

Original Research Paper

The Role Of Organizational Learning In Encouraging Innovation

Uloga organizacionog učenja u podsticanju inovativnosti

V. Gluvakov[1], M. Kavalić*[1], M. Nikolić[1], S. Stanisavljev[1], M. Bakator[1]

[1]University of Novi Sad, Technical faculty „Mihajlo Pupin“, Đure Đakovića bb, Zrenjanin, Serbia

Abstract: *The aim of this paper is to examine the impact of dimensions of organizational learning on the innovation of middle management in companies in Serbia, which operate in the conditions of a transitional economy and limited resources. Organizational learning was observed through seven dimensions (continuous learning, research and dialogue, team learning, systems for recording and sharing knowledge, collective vision, connecting with the environment and strategic leadership), while innovation was measured through product and service innovations, process and administrative innovations. The research was conducted on a sample of 406 respondents at the middle management level, using a survey questionnaire and a Likert scale (1-7). Data were analyzed by multiple regression analysis in SPSS 26.0. The results show that the model explains 49.2% of the innovation variance, which confirms the significant influence of organizational learning on innovative behavior. The strongest positive predictors are knowledge recording and sharing systems (β = .411), strategic leadership (β = .281), collective vision (β = .249) and connection with the environment (β = .131). Two dimensions, research and dialogue (β = –.290) and team learning (β = –.180), showed a significant negative impact, while continuous learning was not statistically significant. The findings indicate that innovation depends on a balanced approach to different learning practices, where institutional support, leadership and openness to the external environment play a key role, while excessive insistence on discussion or teamwork can be counterproductive. The results contribute to the improvement of existing business practices, a. it is recommended to develop integrated systems for knowledge management, strengthen the role of leaders in learning and encourage an open organizational culture.*

Keywords: organizational learning, innovation, middle management

Apstrakt: *Cilj ovog rada je da ispita uticaj dimenzija organizacionog učenja na inovativnost srednjeg menadžmenta u preduzećima u Srbiji, koja posluju u uslovima tranzicione ekonomije i ograničenih resursa. Organizaciono učenje je posmatrano kroz sedam dimenzija (kontinuirano učenje, istraživanje i dijalog, timsko učenje, sistemi za beleženje i deljenje znanja, kolektivna vizija, povezivanje sa okruženjem i strateško vođstvo), dok je inovativnost merena kroz inovacije proizvoda i usluga, procesne i administrativne inovacije. Istraživanje je sprovedeno na uzorku od 406 ispitanika na nivou srednjeg menadžmenta, korišćenjem anketnog upitnika i Likertove skale (1–7). Podaci su analizirani višestrukom regresionom analizom u SPSS-u 26.0. Rezultati pokazuju da model objašnjava 49,2% varijanse inovativnosti, što potvrđuje značajan uticaj organizacionog učenja na inovativno ponašanje. Najsnažniji pozitivni prediktori su sistemi za snimanje i deljenje znanja (β = .411), strateško vođstvo (β = .281), kolektivna vizija (β = .249) i povezivanje sa okruženjem (β = .131). Dve dimenzije, istraživanje i dijalog (β = –.290) i timsko učenje (β = –.180), pokazale su značajan negativan uticaj, dok kontinuirano učenje nije bilo statistički značajno. Nalazi ukazuju da inovativnost zavisi od balansiranog pristupa različitim praksama učenja, pri čemu institucionalna podrška, liderstvo i otvorenost ka spoljašnjem okruženju imaju ključnu ulogu, dok preterano insistiranje na diskusiji ili timskom radu može biti kontraproduktivno. Rezultati doprinose unapređenju postojećih poslovnih praksi, a. preporučuje se razvoj integrisanih sistema za upravljanje znanjem, jačanje uloge lidera u učenju i podsticanje otvorene organizacione kulture.*

Ključne riječi: organizaciono učenje, inovacije, srednji menadžment

* mila.kavalic@uns.ac.rs

1 INTRODUCTION

Organizational learning represents one of the key processes in modern companies, because it enables the continuous acquisition, sharing and application of knowledge with the aim of improving competitiveness and long-term development. Research indicates that organizations that develop mechanisms for constructive conflict resolution, building trust and teamwork, as well as for maintaining common goals, achieve a higher degree of adaptability and sustainability in a dynamic business environment [1, 2]. It is through such learning processes that organizations create the basis for innovative practices, as they enable employees and managers to integrate new knowledge and transform it into concrete solutions and improvements.

Emotional intelligence also makes a significant contribution to organizational learning, because it enables employees to constructively manage business processes, improve interpersonal relationships and acquire and exchange knowledge in a more efficient way [3]. In addition, the motivation to learn and the development of an innovative climate are recognized as important factors that boost overall company performance and ensure long-term growth and competitiveness [4]. In complex and unpredictable business conditions, leaders should encourage organizational agility and develop mechanisms for adapting to changes, making organizational learning an integral part of the company's strategy [5].

At the same time, innovation stands out as a key prerequisite for the survival and growth of modern organizations. It is reflected in the company's ability to generate and implement new ideas, products and processes, thereby creating added value and a stronger market position. Previous research indicates that factors such as entrepreneurial orientation, proactivity and willingness to take risks significantly shape the innovative capacities of organizations [6, 7]. In addition, the heterogeneity of knowledge and the mechanisms of its sharing are shown to be important incentives for innovation performance, especially in small and medium-sized enterprises [8]. Leadership styles and human capital further shape innovation processes. Namely, while autocratic and transactional styles can limit innovation, democratic and transformational approaches in combination with developed competencies of employees encourage their creativity and tendency to innovate [9].

The role of middle management in this context occupies a special place. Middle managers represent a bridge between strategic leadership and the operational level, which allows them to influence the transfer, interpretation and application of organizational knowledge [10]. Their ability to encourage learning, motivate employees and implement innovative initiatives directly affects the development of the organization's competitive advantages [11]. In Serbian companies, which operate in the conditions of a transitional economy and limited resources, the importance of middle management is particularly important, because it is middle managers who have the potential to recognize opportunities for innovation and translate them into sustainable business practices.

From the above, it follows that research into the impact of organizational learning on the innovation of middle management is important for understanding the processes that contribute to the improvement of business practices in Serbia. Analysis of these relationships can provide significant insights for management theory as well as practical recommendations for companies that want to improve their innovation capacities through more effective organizational learning.

2 METHODOLOGY

2.1 Problem and subject of research

In modern business conditions, a company's ability to learn and innovate its business processes is a key factor for survival and long-term sustainability. The challenge in achieving organizational learning and innovation can occur in companies that operate in limited conditions, especially when it comes to capital, knowledge and human resources. In such conditions, i.e. conditions of the transitional economy, companies operate on the territory of Serbia, and despite the fact that the literature connects organizational learning and innovation, this relationship has not been examined in the context of domestic companies and middle management. This raises the question to what extent and in what way

organizational learning affects the innovation of middle management and whether there are measures to improve these processes in terms of increasing competitiveness.

The subject of the research is the analysis of the impact of organizational learning on the innovation of middle management in Serbian companies. The focus is on examining the ways in which the processes of knowledge acquisition, exchange and application shape the innovative capacities of middle managers, bearing in mind their specific position between strategic leadership and the operational level.

2.2 Research method

This paper represents an empirical research in which the conclusions were drawn based on the obtained results. The research includes a statistical analysis of the obtained data, with the aim of examining the mentioned relationships and providing significant insights for the domestic economy, as well as economies with a similar transactional economy.

2.3 Research goal

The goal of the research is to examine the impact of organizational learning on the innovation of middle management in Serbian companies. The research seeks to identify the existence and significance of the aforementioned influence, as well as to provide recommendations for improving the competitiveness of Serbian companies through strengthening the role of middle management.

2.4 Research hypotheses

The main hypothesis in the research is as follows:

H0: The dimensions of organizational learning contribute significantly to the explanation of innovativeness in organizations.

The specific hypotheses in the research are as follows:

H1: Creating opportunities for continuous learning is statistically significantly related to innovation.

H2: Promotion of research and dialogue is statistically significantly related to innovation.

H3: Encouraging cooperation and team learning is statistically significantly related to innovation.

H4: Creating a system for recording and sharing learning is statistically significantly related to innovation.

H5: Empowering people towards a collective vision is statistically significantly related to innovation.

H6: The connection of the organization with the environment is statistically significantly related to innovation.

H7: Providing strategic learning leadership is statistically significantly related to innovation.

2.5 Research procedure

In this research, organizational learning is operationalized through seven dimensions: creating opportunities for continuous learning, promoting research and dialogue, encouraging collaboration and team learning, creating a system for recording and sharing learning, empowering people towards a collective vision, connecting the organization with the environment and providing strategic leadership for learning [12].

To measure innovation, a scale containing three dimensions was used: product and service innovations, process innovations and administrative innovations, formed on the basis of validated scales from previous research [13, 14, 15]. All items were measured using a Likert scale (1-7), where a higher value indicates a higher degree of agreement.

Data were analyzed using the SPSS 29.0 software package. The statistical method implemented in this research is a multiple regression analysis with innovativeness as the dependent variable, and dimensions of organizational learning as predictors. All seven dimensions were included in the model using the Enter method, and the basic assumptions of regression analysis (normality of residuals, linearity, multicollinearity and homoscedasticity) were tested.

2.6 Research population and sample

The research was conducted on a sample of 406 respondents (N = 406), i.e. employees at the middle management level in the territory of the Republic of Serbia. All data were collected through a survey. Missing data were processed using the listwise deletion method, so only those cases for which all relevant variables were available were included in the analysis.

3 RESULTS

In order to assess how much organizational learning dimensions explain the variance of innovativeness, a multiple regression analysis was conducted. The basic indicators of the model are presented in *Table 1*.

Table 1 – Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Durbin–Watson
1	.702	.492	.483	.425	2.231

Note: Predictors: seven dimensions of organizational learning. Dependent variable: innovativeness.

The analysis shows that the model has a high explained variance (R^2 = .492; Adjusted R^2 = .483), which means that the organizational learning dimensions explain almost half of the innovation variance. The value of the Durbin–Watson statistic (2.231) indicates the absence of autocorrelation of the residuals, which satisfies the conditions for the validity of the model. These findings confirm that the model predicts innovation well, and further analysis of individual predictors was undertaken. The analysis of diagnostic graphs (histogram of residuals, P–P plot and scatterplot) confirmed that the assumptions of normality, linearity, homoscedasticity and the absence of multicollinearity were met, which additionally confirms the validity of the regression model.

The results of the multiple regression analysis, with innovativeness as the dependent variable and the seven dimensions of organizational learning as predictors, are shown in *Table 2*.

Table 2 – Rezultati višestruke regresione analize

Predictor	B	SE B	β	t	p
(Constant)	1.143	.228	—	5.007	< .001
Continuous learning	.102	.069	.096	1.480	.140
Research and dialogue	–.279	.055	–.290	–5.070	< .001
Team learning	–.181	.060	–.180	–3.024	.003
Embedded system	.448	.053	.411	8.513	< .001
Empowerment	.238	.067	.249	3.547	< .001
Connecting the system	.133	.063	.131	2.127	.034
Strategic leadership	.261	.057	.281	4.608	< .001

Note: Dependent variable: innovativeness. R = .702, R^2 = .492, Adjusted R^2 = .483, $F(7,398) = 55.093$, $p < .001$. Durbin-Watson = 2.231.

The results shown in Table 2 show that of the seven dimensions of organizational learning, four were positive and significant predictors of innovation: creating a system for recording and sharing learning ($\beta = .411$, $p < .001$), empowering people towards a collective vision ($\beta = .249$, $p < .001$), providing strategic leadership for learning ($\beta = .281$, $p < .001$) and connecting the organization with the environment ($\beta = .131$, $p = .034$). In contrast, two dimensions had a significant but negative effect on innovativeness: promoting inquiry and dialogue ($\beta = –.290$, $p < .001$) and encouraging collaboration and team learning ($\beta = –.180$, $p = .003$). The only dimension that did not prove to be a significant predictor was creating opportunities for continuous learning ($p = .140$).

4 DISCUSSION

The results of the research showed that the dimensions of organizational learning have a significant impact on the innovativeness of employees and organizations. The model explains 49.2% of the variance of innovativeness, which is

a very high percentage in the social sciences. This confirmed the general hypothesis (H0), which was based on the assumption that organizational learning as a multidimensional construct represents a significant factor in predicting innovative behavior. This finding is consistent with theoretical models that see organizational learning as a key basis of innovation processes [16, 17, 18].

When it comes to individual dimensions, the results showed varied patterns. Creating opportunities for continuous learning (H1) was not found to be a significant predictor of innovation. This result indicates that only providing the conditions for learning is not enough to encourage innovative behavior, if that learning is not integrated into organizational processes and turned into applicable knowledge. This is in accordance with the literature that emphasizes that learning, in order to have an effect, must be systematically transmitted and implemented through concrete actions [19, 20].

Interestingly, two dimensions had a significant but negative effect on innovativeness. Promotion of research and dialogue (H2) showed a negative relationship with innovativeness. Although one would theoretically expect an open exchange of ideas to encourage new ideas, an over-insistent emphasis on dialogue can lead to "paralysis in analysis", where the decision-making process slows down and the implementation of innovations becomes difficult. Similarly, encouraging cooperation and team learning (H3) had a negative effect. It is possible that the complexity of team processes and potential conflicts within teams may discourage innovative initiatives. These results confirm hypotheses H2 and H3 in a statistical sense, but represent unexpected findings, as they deviate from most theoretical assumptions. Precisely because of this, they open space for future research that should examine in more detail contextual factors, for example the type of organization, organizational culture or stage of the innovation process, in which dialogue and team learning can have different effects on innovation. On the other hand, several dimensions confirmed the theory's expectations and had a strong positive impact on innovativeness. Creating a system for recording and sharing learning (H4) proved to be the strongest predictor of innovation. This finding clearly shows that innovation is mostly conditioned by the fact that newly acquired knowledge is institutionalized, stored and shared within the organization. Organizations that have developed knowledge management systems are better able to transform innovations from individual ideas into organizational practices.

Also, empowering people towards a collective vision (H5) and providing strategic leadership for learning (H7) had a strong and positive effect. Leadership that sets a clear vision and strategically directs learning processes, together with the motivation of employees to accept and implement that vision, has proven to be a key factor in fostering innovation. These findings confirm theories that emphasize the role of leadership and organizational culture in creating innovative environments [21, 22].

The connection of the organization with the environment (H6) also proved to be a significant and positive predictor of innovativeness. Openness to partners, competition and the market ensures access to new information and ideas, which increases the likelihood of innovation. Therefore, organizations innovate faster and more successfully when they actively exchange knowledge and ideas with external actors.

The findings confirm that innovation depends on a balanced approach to different dimensions of organizational learning. While institutional support, leadership and openness to the environment have an undeniably positive effect, an overemphasis on discussion and teamwork can have the opposite result. This paradox opens up space for further research that should examine contextual factors such as the type of organization, the stage of the innovation process or cultural specificities, which influence whether a certain dimension of learning will have a positive or negative effect.

5 CONCLUSIONS

The results of the research showed that the dimensions of organizational learning have a significant impact on innovation, whereby the model explains almost half of the variance of the innovative behavior of employees. In particular,

systems for sharing and recording learning, collective vision, strategic leadership and connecting with the environment stand out as key positive predictors. On the other hand, research and dialogue, as well as team learning, have proven to be dimensions that can have a counterproductive effect if they are not adequately managed, while the mere existence of opportunities for continuous learning is not enough to generate innovative outcomes.

The findings suggest that innovation depends on a balanced approach to organizational learning: institutional support, leadership and openness to the environment encourage innovation, while excessive or inadequate use of certain practices can have limiting effects. The obtained results have practical implications for managers, because they indicate which dimensions of organizational learning should be developed as a priority in order to increase the innovative capacity of organizations.

Acknowledgment

This paper has been supported by the Provincial Secretariat for Higher Education and Scientific Research of the Autonomous Province of Vojvodina, number: 003897158 2025 09418 003 000 000 001 04 004.

6 REFERENCES

[1] Durotimi, A., Dare, J., & Ayuba, S. (2022). Constructive conflicts and organizational-learning in small and medium firms in Kogi state. *BUSINESS EXCELLENCE AND MANAGEMENT*, *12*(3), 77–90. https://doi.org/10.24818/beman/2022.12.3-06

[2] Joel, O. O., Moses, C. L., Igbinoba, E. E., Olokundun, M. A., Salau, O. P., Ojebola, O., & Adebayo, O. P. (2023). Bolstering the moderating effect of supervisory innovative support on organisational learning and employees' engagement. *Administrative Sciences*, *13*(3), 81. https://doi.org/10.3390/admsci13030081

[3] Vapiwala, F., & Pandita, D. (2024). Managing workplace interpersonal conflicts: Harnessing employees' emotional intelligence and organizational learning. *Development in Learning Organizations an International Journal*. https://doi.org/10.1108/dlo-01-2024-0017

[4] Zhang, Y., Liao, C., Liu, J., Zhang, Y., Gui, S., & Wei, Q. (2024). Unveiling the Nexus: Influence of learning motivation on organizational performance and innovative climate of Chinese firms. *PLoS ONE*, *19*(5), e0304729. https://doi.org/10.1371/journal.pone.0304729

[5] Keebler, D. W. (2022). An Approach for Navigating Through Sustained Organizational Whitewater. *International Leadership Journal*, *14*(1).

[6] Ingram, T., Bratnicka-Mysliwiec, K., Krasnicka, T., & Steinerowska-Streb, I. (2022). Entrepreneurial orientation as a determinant of sustainable performance in Polish family & Non-Family organizations. *Sustainability*, *14*(24), 16393.

https://doi.org/10.3390/su142416393

[7] Neessen, P. C. M., Caniëls, M. C. J., Vos, B., & De Jong, J. P. (2018). The intrapreneurial employee: toward an integrated model of intrapreneurship and research agenda. *International Entrepreneurship and Management Journal*, *15*(2), 545–571. https://doi.org/10.1007/s11365-018-0552-1

[8] Gan, R., Chen, X., Wang, Z., & Zhang, X. (2023). Knowledge heterogeneity and corporate innovation performance: The mediating influence of task conflict and relationship conflict. *PLoS ONE*, *18*(10), e0292283. https://doi.org/10.1371/journal.pone.0292283

[9] Costa, J., Padua, M., & Moreira, A. C. (2023). Leadership styles and innovation management: What is the role of human capital? *Administrative Sciences*, *13*(2), 47. https://doi.org/10.3390/admsci13020047

[10] Hermkens, F. J. (2021). Middle management a reinforcement of change. *IOSR Journal of Business and Management*, *23*, 20–28. https://doi.org/10.9790/487x-2302032028

[11] Engle, R. L., Lopez, E. R., Gormley, K. E., Chan, J. A., Charns, M. P., & Lukas, C. V. (2015). What roles do middle managers play in implementation of innovative practices? *Health Care Management Review*, *42*(1), 14–27. https://doi.org/10.1097/hmr.0000000000000090

[12] Marsick, V.J., Watkins, K.E. (2003). Demonstrating the value of an organization's learning culture: the Dimensions of the Learning Organization Questionnaire. Advances in Developing Human Resources. 5(2), 132-151.

[13] Perdomo-Ortiz, J., Gonzalez-Benito, J., Galende, J. (2009), An analysis of the relationship between total quality management based human resource management practices and innovation, International Journal of Human Resource Management, Volume 20, Number 5, pp. 1191–1218.

[14] Jimenez-Jimenez, D., Sanz-Valle R. (2005), Innovation and human resource management fit: an empirical study, International Journal of Manpower, Volume 26, Number 4, pp. 364-381.

[15] Huang, J-W., Li, Y-H. (2009), The mediating effect of knowledge management on social interaction and innovation performance, International Journal of Manpower, Volume 30, Number 3, pp. 285-301.

[16] Lin, H., & Lee, Y. (2017). A study of the influence of organizational learning on employees' innovative behavior and work engagement by a Cross-Level examination. *Eurasia Journal of Mathematics Science and Technology Education*, *13*(7). https://doi.org/10.12973/eurasia.2017.00738a

[17] Awad, J. a. R., & Martín-Rojas, R. (2024). Digital transformation influence on organisational resilience through organisational learning and innovation. *Journal of Innovation and Entrepreneurship*, *13*(1). https://doi.org/10.1186/s13731-024-00405-4

[18] Du, J., Zhang, C., & Wu, Q. (2022). The influence of organizational learning and external cooperation configuration on enterprise technological innovation: A study based on fsQCA approach. *PLoS ONE*, *17*(8), e0271960. https://doi.org/10.1371/journal.pone.0271960

[19] Yang, Y., Zheng, Y., Xie, G., & Tian, Y. (2022). The influence mechanism of learning orientation on new venture performance: The Chain-Mediating Effect of Absorptive Capacity and Innovation Capacity. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.818844

[20] Auqui- Caceres, M., & Furlan, A. (2023). Revitalizing double- loop learning in organizational contexts: A systematic review and research agenda. *European Management Review*, *20*(4), 741–761. https://doi.org/10.1111/emre.12615

[21] Santa, R., Zarate-Torres, R., Rey-Sarmiento, C. F., & Morante, D. (2025). Strategic Innovation and Leadership Dynamics: Unveiling Mediating effects on operational quality in manufacturing organizations. *Administrative Sciences*, *15*(3), 98. https://doi.org/10.3390/admsci15030098

[22] Whitehead, J., Hashim, M. a. M., Tlemsani, I., & Gilani, S. a. M. (2025). Strategic Leadership 5.0: Reality or illusion? *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-025-02785-8