

ADAPTIVE PERFORMANCE IN THE 4IR: THE IMPACTS OF ORGANIZATIONAL LEARNING AND RESILIENCE

*Foluso Philip Adekanmbi*¹✉
foladex12@yahoo.com

*Wilfred Isioma Ukpere*¹

¹*Department of Industrial Psychology and People Management
College of Business & Economics
University of Johannesburg
Auckland Park, South Africa, PO Box 524, 2006*

✉ Corresponding author

Abstract

This research investigates the impacts of organizational learning and resilience on adaptive performance within the banking industry during the 4IR. This study implemented a cross-sectional survey approach, having its sample (250 employees), purposively obtained from five (5) Lagos State of Nigeria's banks. These five (5) banks are First City Monument Bank Limited, Zenith Bank Plc, United Bank for Africa Plc, Guarantee Trust Bank Plc, and First Bank of Nigeria Plc. The current researchers encouraged voluntary participation and guaranteed respect for related ethical matters. Two hundred and forty-six (247) surveys were successfully retrieved and suitably utilized. Data recovered was cleaned and analyzed with Statistical Packages for Social Sciences (SPSS vs. 28). This paper confirms that organizational learning and resilience independently and significantly increase and sustain positive adaptive performance. This investigation also found that organizational learning and resilience significantly and jointly impact adaptive performance. Hence, management within Nigeria's banking industry should consider adopting more organizational learning programs and exercises for the varied circumstances and contests from the fourth industrial revolution. Moreover, the management and leaders within Nigeria's banks should adopt human resource practices that cultivate the mastering of transformative activities, making the most disruptive surprises that potentially impend organization survival in the fourth industrial revolution.

Keywords: 4IR, Organizational Learning, Resilience, Performance, Banks, Nigeria.

DOI: 10.21303/2504-5571.2022.002570

1. Introduction

Over three centuries, the impacts of revolutions have enormously changed our civilizations. The current world is confronted by the Fourth Industrial Revolution (4IR) and the incursion of rapid technological innovations, which attempts to change how information and services are spread and delivered [1]. According to [2], there are 4 phases of the industrial revolution. The initial transformation happened in the late eighteenth century, focussing on mechanization. The next revolution took place at the start of the twentieth century, focusing on manufacturing in massive quantities. However, around the 1970s, the discovery of microchips, automation, and information technology systems ushered in the 3IR. The fourth and current industrial revolution comprises cyber-physical systems (CPS), artificial intelligence (AI), 3D printing, cloud computing, the internet of things, advanced materials, autonomous vehicles, big data analytics, and other innovative digital technologies [3].

Adaptive performance has become critical to organizations as new technologies emerge, where employees progressively need to be able to adapt to changing roles and work systems [4, 5]. Apart from referring to adaptive performance (AP) as adaptive expertise and performance adaptation, some studies noted adaptive performance as a behavior. Adaptive performance indicates employees' capacities to modify their behaviors to satisfy work demands [6]. Others describe it as an aptitude to adjust [7]. They also emphasized that AP behaviors usually maintain performance levels in the face of change. Several scholars [8, 9] describe adaptive performance as the capa-

bility of employees to modify behaviors and cognitions in adjusting to the ever-changing work environments.

[10] opined that learning relates to experimentation in looking for answers and interfacing with the environment. Learning is essential for an organization to adapt to changes – the ability to reconfigure after interference with the work setting [11]. Attention moved drastically from organizations gaining wealth to a period of learning, becoming essential, to organizational continuous growth and survival [12]. Hence, in this fast and ever-varying business environment, organizations need to acquire, create, and use knowledge to be ahead of their contestants [13]. Also, [14] stated that organizational learning (OL) is a significant stimulus for every organization's long-term performance and survival. Organizational learning allows organizations to cope with the challenges of modern times [15]. Combining new technologies and sustainability or organizations involves a relevant investment in organizational learning [16]. Hence, it is vital to foresee, deal with, and recuperate from disruption [17]. This becomes one of the purposes of OL.

With work environments becoming more complex and unstable, organizational resilience (OR) has become substantial for research and practice. According to [17], OR is the organization's "ability to anticipate potential threats, cope effectively with adverse events, and adapt to changing conditions". OR has become the latest normal regarding organizational existence and recuperation after disruptions [18]. Consequently, understanding OR has become imperative [19]. [20] indicated OR as a business's ability to successfully engage, cultivate situation-specific reactions, and eventually participate in transformative activities to make the most of disruptive surprises that potentially impend organization survival. Organizational resilience (OR) has been examined from individual [20], group, and organizational perspectives [17, 21]. [17] has referred to organizational resilience as surviving a difficulty or crisis. According to [22], resilience is the ability to develop and recover in an atmosphere of uncertainty, emergency, and discontinuity.

Several changes are going on within the banking industry in several developing countries. Customer service and behavior worldwide are moving toward quickening the adoption of digital services. Looking into today's technology-driven competitive world, automation of the banking industry has become essential for a bank's existence in the financial sector [1]. Also, with the advent of the 4IR, it is logical to conclude that the banking industries of several developing countries (such as Nigeria) will face several challenges if they do not embrace rapid technological innovations in their operations. Hence, this research investigates a few predictors of adaptive performance within the banking industry in Nigeria to inspire a practical standard of attaining and sustaining excellent adaptive performance in the 4IR.

1. 1. Organizational Learning and Adaptive Performance

One quality of any known learning organization is the aptitude to guarantee and improve continuous learning. This is possible when the organization uses methodical rationality to understand itself [23]. Seeing the energetic nature of the work environment where businesses function, due to technological innovations and adoption, organizations need to ensure they secure an encouraging AP level to ensure long-term existence [13, 24]. Hence, organizational learning remains essential for adaptation performance and existence in a fast-paced, varying work setting [14]. Learning empowers an organization to stay competitive and productive in an unstable business environment. Hence, organizational learning is a process, initiated through learning organization and implies activities for organizational development and performance [25]. Organizational learning develops new insight and knowledge that might impact behavior and performance [26]. It concerns employee development and recent knowledge acquisition, which fits staff dimensions [27]. Organizational learning promotes adaptability among employees and organizations in changing work environments and systems [28]. Based on the above, the following is hypothesized:

H1: In the fourth industrial revolution, organizational learning significantly impacts adaptive performance in Nigeria's banking industry.

1. 2. Organizational Resilience and Adaptive Performance

Organizational resilience provides the organization with the ability to manage disruptive challenges, which results in improved organizational performance [29]. Organizational resilience (OR) impacts adaptive performance as it assists the organization in bouncing back from the obstacles, stemming from changes to work and environment, increasing the likelihood of survival during both crunches or normality [30]. [31] indicated a significant influence of organizational resilience on adaptive performance. Also, [32] suggests that organizational resilience influences the adaptive performance of work organizations during changes and variations in the work environment or system. Stemming from the above, the following hypotheses were formulated:

H2: In the 4IR, organizational resilience significantly influences adaptive performance within the banking industry in Nigeria.

Consequently, following the noted literature, the hypothesis below is expressed:

H3: In the 4IR, organizational learning and resilience significantly impact achieving adaptive performance within Nigeria's banking industry.

This paper adds to the literature on organizational performance, learning organization, organization learning, human resource management, and employee/organizational development. It also substantiates that the banking industry in Nigeria can enjoy and increase the benefits of the 4IR, while minimizing its challenges and adverse effects.

The aim of the research was to increase the literature by exploring the influences of organizational learning and resilience on adaptive performance within the banking industry during the 4IR to infer an applied model to inspire, increase, and sustain adaptive performance.

2. Materials and Methods

This study implemented a cross-sectional survey approach. Surveys were purposively dispensed to 250 employees of five Lagos State of Nigeria's banks: Zenith Bank Plc, First City Monument Bank Plc, Guarantee Trust Bank Plc, First Bank Plc, and United Bank for Africa Plc. The current researcher encouraged voluntary participation and guaranteed respect for ethical matters. Two hundred and forty-six (247) surveys were retrieved and concluded suitably. Data recovered was cleaned and analyzed with Statistical Packages for Social Sciences (SPSS vs. 28). Nevertheless, this research conducted a reliability analysis to realize the measure's local dependability.

2. 1. Instrumentation

This study's survey has sections:

Section A – Participants' demographics

It covers the respondents' demographics, for example, gender, age, level of education, marital status, and work experience (in years).

Section B – Organizational Learning Scale (OLS)

This paper adopted the organizational learning measure from [28]. The instrument contains 14 items with 2 items for the experimentation dimension, 2 for the risk-taking sub-scale, 3 for interaction with the external environment, 4 for the dialogue dimension, and 3 for participation in the decision-making sub-scale. The whole measure showed a reliability coefficient of $\alpha=0.78$. However, the present research reached an $\alpha=0.82$ coefficient. Each statement was responded to using a 5-point Likert-type answer scale.

Section C – Organizational Resilience Scale (ORS)

The participants' perceived organizational resilience was assessed using the [33] scale. This measure has 8 items with two dimensions (planning and adaptive capacity), and participants specified their response on a 7-point Likert measure stretching. This measure showed a consistency coefficient of $\alpha=0.72$. However, this study attained a reliability coefficient of $\alpha=0.76$.

Section D: Adaptive Performance Scale (APS)

A 6-item measure of perceived adaptive performance was adopted from the study [34]. The initial alpha coefficient for the items was $\alpha=.79$. The current research realized a reliability measurement of $\alpha = .81$. This scale has a 5-point Likert answer layout.

Nonetheless, these researchers piloted the research instrument to spot any problems ahead of floating the instrument.

3. Results

Table 1 showed that organizational learning and resilience jointly and significantly impact adaptive performance in Nigeria's banking industry ($R=0.984$, $R^2=0.968$, $F=03667.805$, $p<0.01$). The p-value is satisfactory, showing that organizational learning and resilience jointly and significantly induced a 98.4 % variance in an adaptive performance. So, the postulation is confirmed that organizational learning and resilience have a significant joint impact in achieving AP in Nigeria's banking industry in the 4IR.

Table 1

Multiple regression results present the combined impacts of OL and OR on AP

Model	R	R-squared	Adjusted R-squared	F	Sig
1	0.984 ^a	0.968	0.968	3667.805	0.000

a. Dependent Variable: Adaptive Performance

Similarly, the model, presented in **Table 2**, specifies that organizational learning positively and significantly impacts adaptive performance at $\beta=0.345$, $t=17.010$; $p<0.01$. The p-value is suitable. Therefore, this research indicates that organizational learning had about 34.5 % impact on change in an adaptive performance. Hence, the specified proposition, in the fourth industrial revolution, organizational learning significantly impacts adaptive performance within Nigeria's banking industry. In addition, **Table 2** stipulates that organizational resilience positively and significantly impacts adaptive performance at $\beta=0.680$, $t=33.548$; $p<0.01$. The p-value is fit. Thus, this study shows that organizational resilience made a 68.0 % impact on adaptive performance. So, the statement is proven that in the fourth industrial revolution, organizational resilience significantly influenced adaptive performance within the banking industry in Nigeria.

Table 2

Measurements of the influencers of adaptive performance

Influencers	B	β	t	Sig	95.0 % Confidence Interval for B		R	R ²	F (2, 246)	P
					Lower Bound	Upper Bound				
(Constant)	1.658		6.531	0.001	1.158	2.158				
Organizational Learning	0.125	0.345	17.010	0.001	0.111	0.140	0.984 ^a	0.968	3667.805	<0.01
Organizational Resilience	0.348	0.680	33.548	0.001	0.328	0.369				

a. Dependent Variable: Adaptive Performance

4. Discussion

This study confirmed that organizational learning positively and significantly impacted adaptive performance in the 4IR. The current results infer that increased employees' and work organizations' adaptability in changing work environments and systems results in more ability to reconfigure after a disruption to the work environment, caused by the 4IR. According to a previous pragmatic indication, this result is that organizational learning promotes adaptability among employees and work organizations in changing work environments and systems [26, 28].

Moreover, this research has noted a significant and positive impact of organizational resilience in sustaining adaptive performance in the fourth industrial revolution. The current findings infer that the more Nigeria's banks can effectively engage and cultivate situation-specific responses to make the most of disruptive surprises that potentially impend organization survival, the better

they are in displaying adaptive performances in the fourth industrial revolution. This result also aligns with [31]'s (2010) result, which indicated a significant influence of organizational resilience on adaptive performance. Also, the present result corroborates the result of [32] that organizational resilience influences the adaptive performance of work organizations during changes and variations in the work environment or system.

Following the results, stated in the paragraphs above, this research confirms these hypotheses:

- in the fourth industrial revolution, organizational learning significantly impacts adaptive performance in Nigeria's banking industry.
- in the 4IR, organizational resilience significantly influences adaptive performance within the banking industry in Nigeria.
- in the 4IR, organizational learning and resilience significantly impact achieving adaptive performance within Nigeria's banking industry.

Furthermore, based on the current findings, this paper significantly propounds a practical model in **Fig. 1** to inspire and sustain outstanding AP in the 4IR within the banking industry in Nigeria. Thus, the model in **Fig. 1**.

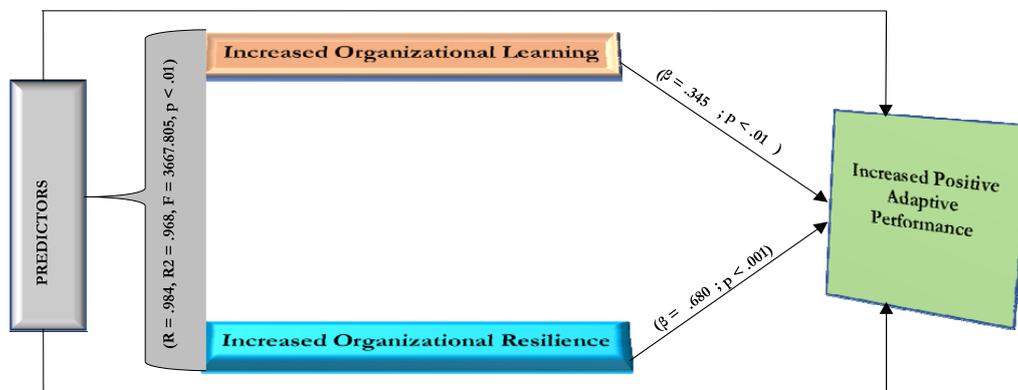


Fig. 1. A model to inspire and sustain outstanding AP in the 4IR within the banking industry.
Source: Author's findings

Research limitations. This paper is with some limitations. Firstly, the recent sample was restricted to the employees in Lagos State, Nigeria; thus, future research could compare more states from other regions. Second, this research adopted a cross-sectional survey design.

The prospects for further research. For more study, this research recommends a mixed-method practical study, which improves the comprehension of the predictors of adaptive performance in the 4IR.

5. Conclusion

This research concludes that organizational learning and resilience increase and sustain adaptive performance. Hence, these stated influencers support positive adaptive performance in Nigeria's banking industry.

Nevertheless, the following recommendations are worth considering:

- There is an urgent need for management within Nigeria's banking industry to consider and introduce more organizational learning programs and exercises for the varied circumstances and contests from the fourth industrial revolution.
- Also, the management and leaders within Nigeria's banks should adopt human resource practices that cultivate the mastering of transformative activities, making the most of disruptive surprises that potentially impend organization survival in the fourth industrial revolution.
- Furthermore, a mixed-method research approach is used to explore the topic to have a broader knowledge of the influencers of adaptive performance in the 4IR from a single study's qualitative and quantitative perspectives.

Conflicts of interest

The authors declare that there is no conflict of interest in relation to this paper, as well as the published research results, including the financial aspects of conducting the research, obtaining and using its results, as well as any non-financial personal relationships.

Acknowledgment

The present author acknowledges the Department of Industrial Psychology and People Management, College of Business and Economics, University of Johannesburg, under Professor Wilfred Ukpere, for funding this research and its publication.

References

- [1] Rahman, A., Abedin, Md. J. (2021). The Fourth Industrial Revolution and private commercial banks: the good, bad and ugly. *International Journal of Organizational Analysis*, 29 (5), 1287–1301. doi: <http://doi.org/10.1108/ijoa-05-2020-2218>
- [2] Kagermann, H., Wahlster, W., Helbig, J. (2013). Recommendations for implementing the strategic initiative Industrie 4.0: Final report of the Industrie 4.0 working group. Berlin: Forschungsunion, 84.
- [3] Vaidya, S., Ambad, P., Bhosle, S. (2018). Industry 4.0 – A Glimpse. *Procedia Manufacturing*, 20, 233–238. doi: <http://doi.org/10.1016/j.promfg.2018.02.034>
- [4] Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet Henrica, C. W., van der Beek, A. J. (2011). Conceptual Frameworks of Individual Work Performance. *Journal of Occupational & Environmental Medicine*, 53 (8), 856–866. doi: <http://doi.org/10.1097/jom.0b013e318226a763>
- [5] Landy, F. J., Conte, J. M. (2016). *Work in the 21st century: An introduction to industrial and organizational psychology*. John Wiley & Sons.
- [6] Charbonnier-Voirin, A., El Akremi, A., Vandenberghe, C. (2010). A Multilevel Model of Transformational Leadership and Adaptive Performance and the Moderating Role of Climate for Innovation. *Group & Organization Management*, 35 (6), 699–726. doi: <http://doi.org/10.1177/1059601110390833>
- [7] Jundt, D. K., Shoss, M. K., Huang, J. L. (2014). Individual adaptive performance in organizations: A review. *Journal of Organizational Behavior*, 36 (S1), S53–S71. Portico. doi: <http://doi.org/10.1002/job.1955>
- [8] Sweet, K. M., Witt, L. A., Shoss, M. M. (2015). The interactive effect of leader-member exchange and perceived organizational support on employee adaptive performance. *Journal of Organizational Psychology*, 15 (1), 49–62. Available at: http://m.www.na-businesspress.com/JOP/SweetKM_Web15_1_.pdf
- [9] Heinze, K. L., Heinze, J. E. (2018). Individual innovation adoption and the role of organizational culture. *Review of Managerial Science*, 14 (3), 561–586. doi: <http://doi.org/10.1007/s11846-018-0300-5>
- [10] Zubair, A., Shabbir, R., Abro, M. A., Mahmood, M. A. H. (2019). Impact of consumer information acquisition confidence, social outcome confidence on information search and sharing. *The Bottom Line*, 32 (3), 230–246. doi: <http://doi.org/10.1108/bl-05-2019-0085>
- [11] Bhamra, R., Dani, S., Burnard, K. (2011). Resilience: the concept, a literature review and future directions. *International Journal of Production Research*, 49 (18), 5375–5393. doi: <http://doi.org/10.1080/00207543.2011.563826>
- [12] Marquardt, M. J. (2019). Building learning organization with action learning. *The Oxford Handbook of the Learning Organization*. Oxford University Press, 104–118. doi: <http://doi.org/10.1093/oxfordhb/9780198832355.013.23>
- [13] DiBella, A. J. (2019). From learning organizations to learning cultures and more: evolutions, in theory, changes in practice, continuity of purpose. *The Oxford Handbook of the Learning Organization*. Oxford: Oxford University Press, 215–228. doi: <http://doi.org/10.1093/oxfordhb/9780198832355.013.14>
- [14] Kyoungshin, K., Zhenqiu, L. L. (2019). Learning organization and organizational performance. *The Oxford Handbook of the Learning Organization*. Oxford University Press, 332–346. doi: <http://doi.org/10.1093/oxfordhb/9780198832355.013.18>
- [15] Olejarski, A. M., Potter, M., Morrison, R. L. (2018). Organizational Learning in the Public Sector: Culture, Politics, and Performance. *Public Integrity*, 21 (1), 69–85. doi: <http://doi.org/10.1080/10999922.2018.1445411>
- [16] Ivaldi, S., Scaratti, G., Fregnan, E. (2021). Dwelling within the fourth industrial revolution: organizational learning for new competences, processes and work cultures. *Journal of Workplace Learning*, 34 (1), 1–26. doi: <http://doi.org/10.1108/jwl-07-2020-0127>
- [17] Duchek, S. (2019). Organizational resilience: a capability-based conceptualization. *Business Research*, 13 (1), 215–246. doi: <http://doi.org/10.1007/s40685-019-0085-7>
- [18] Linnenluecke, M. K. (2015). Resilience in Business and Management Research: A Review of Influential Publications and a Research Agenda. *International Journal of Management Reviews*, 19 (1), 4–30. Portico. doi: <http://doi.org/10.1111/ijmr.12076>

- [19] Ruiz-Martin, C., Lopez-Paredes, A., Wainer, G. (2018). What we know and do not know about organizational resilience. *International Journal of Production Management and Engineering*, 6 (1), 11–28. doi: <http://doi.org/10.4995/ijpme.2018.7898>
- [20] Lengnick-Hall, C. A., Beck, T. E., Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21 (3), 243–255. doi: <http://doi.org/10.1016/j.hrmr.2010.07.001>
- [21] Witmer, H., Mellinger, M. S. (2016). Organizational resilience: Nonprofit organizations' response to change. *Work*, 54 (2), 255–265. doi: <http://doi.org/10.3233/wor-162303>
- [22] Xiao, L., Cao, H. (2017). Organizational Resilience: The Theoretical Model and Research Implication. *ITM Web of Conferences*, 12, 04021. doi: <http://doi.org/10.1051/itmconf/20171204021>
- [23] Tan, F. Z., Olaore, G. O. (2021). Effect of organizational learning and effectiveness on the operations, employees productivity and management performance. *Vilakshan - XIMB Journal of Management*, 19 (2), 110–127. doi: <http://doi.org/10.1108/xjm-09-2020-0122>
- [24] Lam, A. (2019). Ambidextrous learning organizations. *The Oxford Handbook of the Learning Organization*. Oxford: Oxford University Press, 162–180. doi: <http://doi.org/10.1093/oxfordhb/9780198832355.013.31>
- [25] Arthur, J. B., Aiman-Smith, L. (2001). Gainsharing and Organizational Learning: An Analysis of Employee Suggestions Over Time. *Academy of Management Journal*, 44 (4), 737–754. doi: <http://doi.org/10.5465/3069413>
- [26] Mavondo, F. T., Chimhanzi, J., Stewart, J. (2005). Learning orientation and market orientation. *European Journal of Marketing*, 39 (11/12), 1235–1263. doi: <http://doi.org/10.1108/03090560510623244>
- [27] Cambra-Fierro, J. J., Hart, S., Polo-Redondo, Y., Fuster-Mur, A. (2011). Market and learning orientation in times of turbulence: relevance questioned? An analysis using a multi-case study. *Quality & Quantity*, 46 (3), 855–871. doi: <http://doi.org/10.1007/s11135-011-9429-x>
- [28] Pradhan, R. K., Singh, S. K., Jena, L. K. (2016). Workplace Spirituality, Organizational Commitment and Job Satisfaction: A Study. *Academy of Management Proceedings*, 2016 (1), 16259. doi: <https://doi.org/10.5465/ambpp.2016.16259abstract>
- [29] Weick, K. E., Sutcliffe, K. M., Obstfeld, D. (2005). Organizing and the Process of Sensemaking. *Organization Science*, 16 (4), 409–421. doi: <http://doi.org/10.1287/orsc.1050.0133>
- [30] Fathi, M., Yousefi, N., Vatanpour, H., Peiravian, F. (2021). Organizational resilience and strategic foresight on firm performance: Competitive advantage as mediating variable. *Iranian Journal of Pharmaceutical Research: IJPR*, 20 (4), 497. doi: <http://doi.org/10.22037/ijpr.2021.116145.15723>
- [31] Parsons, D. (2010). Organizational resilience. *Australian Journal of Emergency Management*, 25 (2), 18–20.
- [32] Beuren, I. M., dos Santos, V., Theiss, V. (2021). Organizational resilience, job satisfaction and business performance. *International Journal of Productivity and Performance Management*, 71 (6), 2262–2279. doi: <http://doi.org/10.1108/ijppm-03-2021-0158>
- [33] Orth, D., Schuldis, P. M. (2020). Organizational resilience and the roles of learning and unlearning-an empirical study on organizational capabilities for resilience during the COVID-19 crisis.
- [34] Kim, K. (2020). A measure of adaptive performance and the DLOQ. *The Learning Organization*, 28 (4), 397–412. doi: <http://doi.org/10.1108/tlo-03-2020-0047>

Received date 20.06.2022

Accepted date 23.08.2022

Published date 30.09.2022

© The Author(s) 2022

This is an open access article under the
Creative Commons CC BY license

How to cite: Adekanmbi, F. P., Ukpere, W. I. (2022). Adaptive performance in the 4IR: the impacts of organizational learning and resilience. *EUREKA: Social and Humanities*, 4, 3–9. doi: <http://doi.org/10.21303/2504-5571.2022.002570>