The Influence of Work Discipline, Motivation, Job Satisfaction and the Work Environment on the Performance of Contract Employees

Baiq Lisma Rossalia Budirianti; Agusdin; Surati

Master of Management Study Program, Faculty of Economics and Business, Mataram University, Indonesia

http://dx.doi.org/10.18415/ijmmu.v7i11.2174

Abstract

Every company always wants to have quality human resources to support the company's success in achieving its goals. Employees as human resources are an important asset for an organization, institution or company. Therefore, it must be managed effectively and efficiently. The achievement of company goals or the success of the company is greatly influenced by the individual performance of its employees. Thus, every organization must strive to improve employee performance in hopes of achieving company goals. This study aims to analyze the effect of work discipline, motivation, job satisfaction and work environment on the performance of contract employees at Bank Rakyat Indonesia Mataram Branch Office. This study used four analysis tools for validity and reliability, tested classical assumptions, multiple linear regression analysis, Model Test (F test) and Hypothesis Test (t test) using the SPSS application. The results of the study using the t test variables of work discipline, motivation, job satisfaction and work environment showed a significant value smaller than 0.05, this means that the variables of work discipline, motivation, job satisfaction and work environment have an effect on employee performance.

Keywords: Work Discipline; Motivation; Job Satisfaction; Work Environment; Employee Performance

Introduction

Every company always wants to have quality human resources to support the company's success in achieving its goals. Quality human resources will certainly be able to provide good performance output. Quality human resources can also be created by HR management, because one of the duties of HR management is to create employees who have the best performance for the company and employees.

Employees as human resources are an important asset for an organization, institution or company. Therefore, it must be managed effectively and efficiently. Every company that provides services in the form of goods or services must pay attention to the quality of service so that all employees are required to have competence in carrying out the duties and responsibilities that have been assigned to them.

The achievement of company goals or the success of the company is greatly influenced by the individual performance of its employees. Therefore, every organization must strive to improve employee performance.
The Influence of Work Discipline, Motivation, Job Satisfaction and the Work Environment on the Performance of Contract Employees

Performance in hopes of achieving company goals. Employee performance is what affects how much they contribute to the organization, including quantity of output, quality of output, duration of output at work attendance and cooperative attitudes (Mathis and Jackson, 2006). Thus, employee performance is an important thing for an organization or company. Therefore, employee performance will run effectively if it is supported by work discipline, motivation, job satisfaction and work environment.

Discipline is a procedure that corrects or punishes subordinates for violating a rule or procedure. Discipline is a form of employee self-control and regular implementation and shows the level of seriousness of the work team in an organization (Ambar and Rosidah, 2003) (Athar, 2020). The existence of work discipline is very necessary in a company because it is in an atmosphere of discipline that the company will be able to carry out its work programs to achieve predetermined goals. Employees who are disciplined and orderly obey all norms and regulations that apply in the company will be able to increase efficiency, effectiveness and productivity.

Motivation is a desire in someone that causes that person to act. People usually act for a reason to achieve goals. So motivation is an impulse that is set by a goal and rarely appears in a vacuum (Diansyah, 2020). The words need, want, desire, and impulse are all similar to the motive from which the word motivation comes (Mathis and Jackson, 2006). Motivation is very important for every employee, if employees have high motivation it will encourage these employees to work harder and more enthusiastically so that they can make a positive contribution to the company.

Therefore every company must be able to provide motivation to all its employees. Job satisfaction itself is defined as a positive attitude based on the results of evaluating what is expected to be obtained through the efforts made in carrying out a job with the results or rewards it receives (Suparyadi, 2015) (Athar, 2020). The needs or desires in these employees are then referred to as work motivation. By understanding the important role of people involved in the company and how to motivate them and how to improve their discipline appropriately the company can create more passionate and innovative employees.

A good work environment can support work implementation so that employees have enthusiasm for work and improve their performance. The work environment is everything that is around the workers and which can influence him in carrying out the tasks assigned to him. The work environment can create a binding work relationship between the people in the environment. Therefore, efforts should be made so that the work environment must be good and conducive because a good and conducive work environment makes employees feel at home in the room and feel happy and excited to carry out their duties so that job satisfaction will be formed and from the employee's job satisfaction, employee performance will also increase.

PT. Bank Rakyat Indonesia (BRI) is one of the largest state-owned banks in Indonesia. PT Bank BRI is also the first bank established in Indonesia, and has spread throughout Indonesia. Therefore, researchers are interested in researching at the BRI Branch Office Mataram. BRI Bank employees consist of 3 types, namely permanent employees, contract employees and outsourcing employees. Researchers are interested in examining existing contract employees at BRI Bank. BRI Bank contract employees are employees with non-permanent status or in other words, employees who work for a certain time based on an agreement between the employee and the company.

Based on the results of observations on contract employees at BRI Bank Offices, which are spread across 5 units, these contract employees have almost the same responsibilities as permanent employees, but what distinguishes them is the salary and bonuses received. Based on the results of observations, the researcher found that there was a decrease in the work effectiveness of employees, this was indicated by the presence of several employees who did not comply with existing work regulations
such as hours of work or leaving the office in accordance with agency regulations and employees who were lazy in doing their jobs. There is still jealousy among employees regarding the division of tasks. In addition, the performance of contract employees is still not in accordance with the expectations of the leadership, it can be seen when contract employees cannot meet the target of completing tasks that should be according to deadlines, and it takes a long time to handle customers.

It should be realized that the influence of work discipline, motivation, job satisfaction and work environment on employee performance is closely related to the process of achieving company goals. In other words, work discipline, motivation, job satisfaction and work environment can affect employee performance. Employees will work productively or not depending on work discipline, motivation, job satisfaction and the work environment that affects employee performance.

Based on the results of research that has been done, there are results that are not in accordance with existing theories. Bryan, et al., (2019), and Arianto (2013) found that work discipline has no significant effect on employee performance, this is not in accordance with Hasibuan's (2006) theory that good discipline reflects a great sense of responsibility. answer someone to the tasks assigned to him. Winarno and Hadi (2017) found that employee work motivation has no effect on performance. This result is not in accordance with the theory of Robbins (2006), motivation is one of the driving tools that makes employees work according to the wishes of the institution or organization voluntarily and with full sincerity.

Based on theory, empirical facts and the results of previous researchers, a deeper study is needed to analyze the effect of work discipline, motivation, job satisfaction and work environment on the performance of contract employees at Bank Rakyat Indonesia Mataram Branch Office.

**Method**

This research uses quantitative research, which is a type of research that uses a research design based on statistical procedures or by other means of qualification to measure the research variables. This study uses a questionnaire to obtain research data. The population used in this study were all contract employees at the BRI Mataram Branch Unit, totaling 35 people. All members of the population are used as respondents.

The data collection technique is done by interview (interview), questionnaire (questionnaire), observation (observation), and a combination of the three. The data used are qualitative and quantitative. The data source is primary data, namely data that is directly collected by researchers from the first source. As for the primary data source in this study were 35 employees of the PT Bank BRI Kanca Mataram contract and secondary data, namely data that was directly collected by the researcher as a support from the first source.

The data analysis used was quantitative data analysis. The classical assumption test is used to test whether the regression model really shows a significant and representative relationship. In the assumption test, there are three forms of testing, namely: multicollinearity test, normality test, and heteroscedasticity test. Multiple linear regression analysis is used to determine the relationship between the independent variables and the dependent variable, namely the variables of Work Discipline (X1), Motivation (X2), Satisfaction (X3), and Work Environment (X4) on employee performance variables (Y). By using the following formula (Arikunto, 2007):

\[
Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon
\]
\[ Y = a + X_1 + X_2 + X_3 + X_4 + e \]

Information:

\( Y \) = Employee performance  
\( a \) = Constant  
\( X_1 \) = Work Discipline  
\( X_2 \) = Motivation  
\( X_3 \) = Satisfaction  
\( X_4 \) = Work environment  
\( e \) = error

The F test is carried out to see whether the model being analyzed has a high level of model feasibility, namely the variables used by the model are able to explain the phenomenon being analyzed (Ferdinand, 2014). The criterion for conducting the f test is to see the results of the SPSs in the ANOVA table. Namely by comparing the value of F count with Ftable. Ftable is obtained from the calculation formula \( F_{table} = F \left( k; n-k \right) \) with a probability of 0.05. If Fcount > Ftable, it can be concluded that the variable Work Discipline (X1), Motivation (X2), Job Satisfaction (X3), and Work Environment (X4) is appropriate to explain the Employee Performance variable (Y).

The t statistical test is used to determine how far the influence of one independent variable individually in explaining the variation in the dependent variable. The level of significance in this study is 5%. Where if the significance probability value > 5% then H0 is rejected, if the significance probability value <5% then H0 is accepted (Ghozali, 2011).

The R2 test is used to measure how far the model's ability to explain variations in the independent variable (Ghozali, 2011). The coefficient of determination is between zero and one. The small value of R2 means that the ability of the independent variables to explain the variation in the dependent variable is very limited. The R² value is also between 0-1. If the value is close to 1, the model's ability to explain the variation in the dependent variable is getting better

**Result and Discussion**

**Multicolonierity Test Results**

This test aims to test whether the regression model found a correlation between independent variables. A good regression model should not have a correlation between the independent variables. To detect multicollinearity, it can be done by looking for the amount of the Variance Infaction Factor (VIF) and its tolerance value. If the VIF value is less than 10 and the tolerance value is more than 0.1, the regression is free of multicollinearity.

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Discipline</td>
<td>0.161</td>
<td>6.225</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.106</td>
<td>9.416</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.107</td>
<td>9.350</td>
</tr>
<tr>
<td>Work environment</td>
<td>0.139</td>
<td>7.180</td>
</tr>
</tbody>
</table>

Table 1 shows that the multiconaryity test results show that the VIF value of all independent variables in this study is smaller than 10, and the Tolerance value of all independent variables is more than 0.10, meaning there is no multicollinearity.
The Influence of Work Discipline, Motivation, Job Satisfaction and the Work Environment on the Performance of Contract Employees

**Normality Test Results**

The normality test aims to test whether the model in the confounding regression or residuals has a normal distribution. The way to detect whether the residuals are normally distributed or not is by analyzing a histogram graphic or a normal probability plot graph, but if you use this graph, carefulness is needed in analyzing the graph. Basic in decision making. We can see it from the normal plot comparing the cumulative distribution with the normal probability distribution. Normal distribution forms a straight diagonal line, if the data distribution is normal, then the line describing the actual data will follow the normal line of Ghozali (2011).

A normal probability plot image can be seen as follows:

![Normal P-P Plot of Regression Standardized Residual](image)

Dependent Variable: Kinerja(Y)

**Figure 1. Normality Test**

The results of the normality test show that all data are normally distributed, the data distribution is around the diagonal line or axis, so that the regression model meets the assumption of normality.

**Heteroscedasticity Test Results**

Heteroscedasticity tests the difference in residual variance from one observation period to another. How to predict the presence or absence of heteroscedasticity in a model can be seen using the Scatterplot image, a regression that does not occur heteroscedasticity if the data points spread above and below or around the number 0, the data points do not collect only above or below, the spread data points should not form a wavy pattern that widened then narrowed and widened again, the distribution of data points is not patterned (Ghozali, 2005).
The results of the heteroscedasticity test show that the points spread randomly, do not form a clear pattern, and are spread either above or below the number 0 (zero) on the Y axis, this means that there is no deviation from the classic assumption of heteroscedasticity in the regression model which are made.

**Multiple Linear Regression**

Multiple linear regression analysis is used to determine the relationship between the independent variables and the dependent variable, namely the variables of Work Discipline (X1), Motivation (X2), Satisfaction (X3), and Work Environment (X4) on employee performance variables (Y). By using the following formula (Arikunto, 2007). The results of multiple linear regression analysis are as follows:

**Table 2. Multiple Linear Regression Test Results**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>5.278</td>
<td>0.487</td>
<td></td>
<td>10.84</td>
</tr>
<tr>
<td>Work Discipline (X1)</td>
<td>0.228</td>
<td>0.096</td>
<td>0.184</td>
<td>2.386</td>
</tr>
<tr>
<td>Motivation (X2)</td>
<td>0.155</td>
<td>0.067</td>
<td>0.220</td>
<td>2.322</td>
</tr>
<tr>
<td>Satisfaction (X3)</td>
<td>0.155</td>
<td>0.060</td>
<td>0.245</td>
<td>2.588</td>
</tr>
<tr>
<td>Work environment (X4)</td>
<td>0.189</td>
<td>0.041</td>
<td>0.382</td>
<td>4.607</td>
</tr>
</tbody>
</table>

Table 2 shows that the results of the calculation of the independent variables can be arranged in a model as follows:

\[ Y = 5.278 + 0.228X_1 + 0.155X_2 + 0.155X_3 + 0.189X_4 + e \]

The results of the multiple linear regression analysis can be interpreted as follows:

1) \( \alpha = 5.278 \), which means Work Discipline (X1), Motivation (X2), Job Satisfaction (X3), and Work Environment (X4) the value is 0, then Employee Performance (Y) is fixed at 5.278.
2) \( b_1 = 0.228 \), meaning that if the regression coefficient of Work Discipline (X1) increases by 1 unit, then the employee performance (Y) increases by 0.228.
3) \( b_2 = 0.155 \), meaning that if the regression coefficient of Motivation (X2) increases by 1 unit, then the employee performance (Y) increases by 0.155.

4) \( b_3 = 0.155 \), meaning that if the regression coefficient of Job Satisfaction (X3) increases by 1 unit, then the employee performance (Y) increases by 0.155.

5) \( b_4 = 0.189 \), meaning that if the regression coefficient of the Work Environment (X4) increases by 1 unit, then the employee performance (Y) increases by 0.228.

Hypothesis testing

The F statistical test is basically used to find out whether all the independent variables included in the model have a joint influence on the dependent variable by looking at its F value. The level of significance in this study was 5%. Where if the significance value \( F < 0.05 \) (Ghozali, 2011). That is, all independent variables are simultaneously significant explanations of the dependent variable. The results of the F test can be seen in Table 3:

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12.153</td>
<td>4</td>
<td>3.038</td>
<td>255.431</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>0.357</td>
<td>30</td>
<td>0.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12.510</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the F test or the ANOVA test in Table 4.9 show that the Fcount value is 255.431. The value of Ftable is 2.68 which is obtained from the calculation formula \( F_{table} = F (k; n-k) \) where \( n \) is the number of questionnaires distributed and \( k \) is the number of independent variables. In this study, \( n = 35 \) and \( k = 4 \) in order to obtain \( F_{table} = F (4; 31) \). Fcount of 255.431 indicates a value greater than the Ftable value of 2.68 and a significance value below 0.05, so it can be stated that the variables of Work Discipline (X1), Motivation (X2), Job Satisfaction (X3), and Work Environment (X4) are feasible to explain the Employee Performance variable (Y). Thus it can be concluded that the three variables between Discipline, Motivation, Satisfaction, and Work Environment together have an effect on employee performance.

The t statistical test is used to determine how far the influence of one independent variable individually in explaining the variation in the dependent variable. The significant level in this study is 5%. Where if the significance probability value > 5% then H0 is rejected, if the significance probability value < 5% then H0 is accepted (Ghozali, 2011). The results of the t test calculation can be seen in Table 2:

Based on Table 2 it can be seen that the results of the partial test (t test) between the Work Discipline variable (X1) and the Employee Performance variable show a significant value of 0.024 which is smaller than 0.05, this means that Work Discipline has an effect on Employee Performance. So the hypothesis which states that work discipline affects the performance of contract employees at the Bank Rakyat Indonesia Unit Office in Mataram is accepted. The partial test results (t test) between the Motivation variable (X2) and the Employee Performance variable show a significant value of 0.027 which is smaller than 0.05, this means that motivation has an effect on employee performance. So the hypothesis which states that motivation affects the performance of contract employees at the Bank Rakyat Indonesia Unit Office in Mataram is accepted.

The partial test results (t test) between the Job Satisfaction variable (X3) and the Employee Performance variable show a significant value of 0.015 which is smaller than 0.05, this means that Job Satisfaction has an effect on Employee Performance. So the hypothesis which states that Job Satisfaction affects the performance of contract employees at the Bank Rakyat Indonesia Unit Office in Mataram is accepted.
accepted. The results of the partial test (t test) between the Work Environment variable (X4) and the Employee Performance variable show a significant value of 0.00 which is smaller than 0.05, this means that the work environment affects employee performance. So the hypothesis which states that the work environment affects the performance of contract employees at the Bank Rakyat Indonesia Unit Office in Mataram is accepted.

The R2 test is used to measure how far the model's ability to explain variations in the independent variable (Ghozali, 2011). The coefficient of determination is between zero and one. If the value of R2 is small, it means that the ability of the independent variables to explain the variation in the dependent variable is very limited. A value close to one means that the variables provide almost all the information needed to predict the dependent variable. The results of this R2 test can be seen in table 5:

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.986</td>
<td>0.971</td>
<td>0.967</td>
<td>0.54678</td>
</tr>
</tbody>
</table>

From the table above, the R correlation coefficient value is 0.86, so it can be stated that there is a positive relationship between Discipline, Motivation, Satisfaction, and Work Environment with employee performance variables which are categorized as strong. And it is known that the R2 value is 0.971. This explains that the independent variable contributes to the dependent variable by 97.1%, the remaining 2.9% is influenced by other variables outside the model.

The success of an organization is greatly influenced by the individual performance of its employees. Where the employee's performance is also influenced by work discipline. With a good employee discipline, the employee's performance will also be carried out well in order to increase productivity and achieve company goals. Because work discipline affects employee performance, in terms of timeliness according to predetermined targets. As explained in the theory of Hasibuan (2006), good discipline reflects a person's sense of responsibility for the tasks assigned to him. This encourages work passion, morale, and the realization of the goals of the company, employees and society.

From the results of the t test, a significant value of 0.024 is obtained which is smaller than 0.05, this means that work discipline affects employee performance. A positive value explains the unidirectional influence, namely if work discipline increases, the performance of contract employees will also increase. Work discipline is influenced by employee morale and the firm leadership of the company in applying discipline to its employees. When the level of work discipline of a company is high, it is expected that employees will work better, so that the company's productivity increases. In addition, good work discipline will increase work efficiency as much as possible, do not spend a lot of time for the company to just make improvements in this aspect of discipline and time can be used to achieve company goals.

To achieve optimal individual performance, one of which is by optimizing existing human resources by providing motivation or encouragement so that work performance is expected to be achieved. If employees have high motivation, of course this will have an impact on employee performance who will be more excited and better at doing their job. Thus, it will be able to help the company to achieve company goals.

According to Robbins (2006), motivation is one of the driving tools that makes employees work according to the wishes of the institution or organization voluntarily and with full sincerity. Motivation is formed from the attitude of an employee in dealing with work situations. Motivation is a condition that moves employees who are directed to achieve maximum work performance so that organizational goals can be achieved.
From the t test results in table 4, it is obtained a significant value of 0.027 which is smaller than 0.05, this means that motivation has an effect on employee performance. A positive value explains the unidirectional influence, that is, if motivation increases, the performance of contract employees will also increase.

Motivation is a driving force that causes an employee to be willing and willing to move his/her abilities in the form of expertise or skills, energy and time for an activity/job that is their responsibility. Therefore, employees who have high intrinsic motivation usually have high performance as well. This shows that most employees have the motivation to perform well. In Kenya, research on the influence of motivation by Leonard et al (2016) has also been conducted, where the results of the study concluded that inspirational motivation has a positive and significant effect on the performance of commercial and strategic staff of Kenyan state-owned companies.

Job satisfaction is a positive attitude involving healthy adjustment of employees to work conditions and situations, including wages, social conditions, physical conditions and psychological conditions. A person's job satisfaction will arise if the factors related to his job are met, namely factors from within and factors from outside his work.


The t test results in table 2 obtained a significant value of 0.015 which is smaller than 0.05, this means that job satisfaction has an effect on employee performance. A positive value explains that there is a unidirectional influence, that is, if Job Satisfaction increases, the performance of contract employees will also increase.

The job satisfaction construct is formed by indicators, namely workload, compensation system, career development, superior attitudes, and coworker relationships. Based on data analysis, statistically proves that employee job satisfaction has a positive and significant effect on employee performance. This indicates that the higher the employee's job satisfaction, the employees will show their best performance. If the company always carries out career development and compensation properly, the existence of a good relationship between co-workers, the attitude of the boss who is always motivating, will make employees feel comfortable working. The impact is, employees will do their best and always try to give their best performance to the company. This shows that the employee's performance is high.

According to Siagian (2014) states that the work environment is an environment where employees do their daily work. If the work environment is conducive, employees can be safe, comfortable and if the work environment is not supportive, employees cannot be safe and comfortable. The work environment can be said to be good if employees can work optimally, are calm and have high productivity.

The results of the partial test (t test) between the Work Environment variable (X4) and the Employee Performance variable (Y) show a significant value of 0.00 which is smaller than 0.05, this means that the work environment affects employee performance. A positive value explains the unidirectional influence, namely if the work environment increases, the performance of contract employees will also increase.
The work environment shows the suitability of a person with the existing conditions around the employee. These conditions are conditions which can affect employee work. A pleasant work environment will make someone or employees feel at home working in the company and can work optimally. This research is supported by research conducted by Arianto (2013) which shows the results of the work environment have a positive effect on employee performance. The more safe the work environment is felt by employees, the higher the employee's performance.

Research conducted abroad by Khaled and Haneen on a case study at an engineering company in Jordan, the results show that the environment consists of several dimensions such as noise, office facilities, ventilation and lighting. This is a major physical condition that should receive more attention. Leaders must take the initiative to improve the work environment. A good work environment will motivate employees, so that their job performance will increase, and they will achieve the desired results and job goals.

**Conclusion**

Based on the results of the study it is concluded that: 1) Work Discipline Variable (X1) on employee performance (Y), can be explained from the results of the t test which shows a significant value of 0.024 which is less than 0.05, this means that work discipline has an effect on performance. Employees at the Mataram Branch of Bank Rakyat Indonesia. 2) Variable Motivation (X2) on Employee Performance (Y), can be explained from the results of the t test, which shows a significant value of 0.027 which is smaller than 0.05, this means that Motivasia affects the Performance of Contract Employees at Bank Rakyat Indonesia Branch Mataram. 3) Job Satisfaction Variable (X3) on Employee Performance, can be explained from the results of the t test, which shows a significant value of 0.015 which is smaller than 0.05, this means that Job Satisfaction affects the Performance of Contract Employees at Bank Rakyat Indonesia Mataram Branch. 4) Work Environment Variable (X4) on Employee Performance (Y), can be explained from the results of the t test, which shows a significant value of 0.015 which is smaller than 0.00, this means that the Work Environment affects the Performance of Contract Employees at Bank Rakyat Indonesia Branch Mataram. 5) From the regression results, it can be seen that among the variables of Work Discipline, Motivation, Work Environment, and Job Satisfaction, the most dominant influence on the performance of contract employees is the Work Discipline Variable. The independent variable (Work Discipline, Motivation, Work Environment and Job Satisfaction) contributes to affecting the dependent variable (Performance), amounting to 97.1%, the remaining 2.9% is influenced by other variables outside the model.

**References**


**Copyrights**

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).