

# International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452  
Maths 2023; SP-8(6): 750-752  
© 2023 Stats & Maths  
<https://www.mathsjournal.com>  
Received: 01-09-2023  
Accepted: 27-09-2023

**C Saranya**  
Department of Agricultural and  
Rural Management, CARDS,  
Tamil Nadu Agricultural  
University, Tamil Nadu, India

**K Uma**  
Department of Agricultural and  
Rural Management, CARDS,  
Tamil Nadu Agricultural  
University, Tamil Nadu, India

**M Malarkodi**  
Directorate of Agribusiness  
Development, CARDS, Tamil  
Nadu Agricultural University,  
Tamil Nadu, India

**KM Shivakumar**  
Department of Agricultural  
Economics, CARDS, Tamil Nadu  
Agricultural University, Tamil  
Nadu, India

**S Sridevy**  
Department of Physical Sciences  
& Information Technology,  
Tamil Nadu Agricultural  
University, Tamil Nadu, India

**Corresponding Author:**  
**C Saranya**  
Department of Agricultural and  
Rural Management, CARDS,  
Tamil Nadu Agricultural  
University, Tamil Nadu, India

## Effective relation of HR policies and service agreement in HRM - study on Agro-based micro-enterprises in Tamil Nadu

**C Saranya, K Uma, M Malarkodi, KM Shivakumar and S Sridevy**

DOI: <https://doi.org/10.22271/math.2023.v8.i6Sj.1461>

### Abstract

HRM is to ensure production, employee assignment, and commitment to the enterprise's success by attracting, developing, and motivating better talent. Micro-enterprises (agro-based) that comprise a major share of MSMEs are considered in this study to explore the importance of HRM for better performance of the enterprise, by proving the relative impact of HR Policies and Collective Labor Agreements that influence the HRM Practices adopted in the micro-enterprise eventually. The employer-employee relationship is secured with these two components. HR policies and service agreements help set clear expectations and ensure a harmonious and fair working environment for everyone involved. HR policies complement the service agreement by providing broader organizational guidelines and rules that apply to all employees within the company by establishing a framework for a productive and respectful working relationship between employees and employers which is essential for successful HRM to achieve better performance. Thus their relationship will play a vital role in effective HRMP that can be instigated under the best HRM in Micro-enterprises for better performance.

**Keywords:** HRM (Human Resource Management), HR policy, collective labor agreement, agro-based micro-enterprises

### Introduction

Agriculture is the part of the economy concerning farming. Thereby developing the agro-industry we can promote the welfare of the agricultural sectors as well as conquer inclusive economic progress. Therefore in this study, the micro-enterprises that comprise a major share of MSMEs are considered. This study explores the importance of HRM in micro-enterprises through the relative impact of HR Policies and Collective Labor Agreements. These are both crucial components of the employer-employee relationship. These documents outline the terms and conditions under which an employee works for an employer.

The specifics of these policies and agreements may vary depending on the company's size, industry, and location. It is important for both employers and employees to thoroughly review and understand these policies and agreements before entering into an employment relationship. HR policies and service agreements help set clear expectations and ensure a harmonious and fair working environment for everyone involved. The policies identified in the study are Compensation Policy, Career path Policy, Internship Policy, Leave Encashment Policy, Leave Attendance Policy, Selection Policy, Security, Safety and health policy, Human Resource Information Data, Performance Appraisal System, Mission and objectives of the organization. as such their relationship for affective HRM can be investigated.

### Research Instrument: Structured Interview Schedule

A structured interview schedule is a list of questions designed to gather information related to a specific fact or problem. In the present research work, a structured interview schedule is formulated in a systematic, scientific, and methodical manner to collect data from human resource managers/owners who are well-prepared to give data for the research problem and objectives of the research.

**Sample Size**

According to the 2020-21 Annual Report of MSME – Development Institute census micro-enterprises in Tamil Nadu were 491, 242, and these micro enterprises spread over all the districts. So the researchers chose the non-probability sampling method to select convenience sampling. The snowball technique was adopted to identify other agro micro-enterprises in the area for collecting primary data. Under this, the sampling method is deliberately used to select different types of agro micro-enterprises in Tamil Nadu. As the sample size is too large, the sample will be selected using the Krejcie-Morgan method. A sample of 200 agro micro-enterprises will be taken by random selection of districts of Tamil Nadu with eligible micro-enterprises that can meet the objective are taken.

**Data Collection**

Primary and secondary sources are the main sources of data collection. Primary sources of data collection are the first sources of information generated by the researcher. Interview schedules, field surveys, and observation are the primary sources of data collection. In the present research study, the primary source of data collection is a structured interview schedule obtained through a survey filed in agro-based micro-enterprises in Tamil Nadu.

**Methodology**

**Binary Logistic Regression Analysis for HR Policies and Collective Labor Agreement**

For each of these variables, assumptions are made about the HR policies. The dependent variable in this study is the Collective Labor Agreement, with 10 independent variables of various HR policies followed by the organization. The binary logistic regression analysis model of this study is expressed as follows, taking into account the 1 dependent variable and 10 independent variables that are provided. The research has adopted the updated Collective labor agreement in your organization as the dependent variable. Also, among the set of independent variables is the adoption of HR policies in your organization.

In binary logistic regression, a logistic transformation of the odds serves as the depending variable.

$$\log(\text{odds}) = \text{logit}(P) = \ln\left(\frac{P}{1 - P}\right)$$

If we take the above dependent variable and add a regression equation for the independent variables, we get a binary logistic regression.

$$\text{logit}(p) = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n$$

As in least-squares regression, the relationship between the logit(P) and X is assumed to be linear.

$$P = \frac{\exp(\alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n)}{1 + \exp(\alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n)}$$

**In the equation above:** P can be calculated with the following formula

Where,

P = the probability that a case is in a particular category,

exp = the exponential function (approx. 2.72),

α = the constant (or intercept) of the equation, and,

β = the coefficient (or slope) of the predictor variables.

**Hypothesis**

The relationship between HR Policy and Collective Labor Agreement for an effective HRM in Agro-based Micro-enterprises is studied by setting up the below hypothesis for proving it to be an effective component of HRM thereby the implied HRM Practices will give a better outcome for enterprise performance.

**Null Hypothesis**

**H<sub>0</sub>:** There is no relationship between the various HR policies and service agreements between the employee and the employer.

**Alternative Hypothesis**

**H<sub>a</sub>:** There is a relationship between the HR policies and service agreements between the employee and the employer.

**Results and Discussion**

The majority of the hypothesized ten independent variables positively influence the various HR policies and service agreements between the employee and the employer; so the independent variables positively influence it. Of the 200 micro-enterprises HR managers surveyed, more than 80.0 percent of the respondents knew the HR policies and service agreement between the employee and the employer compensation policy, leave encashment policy, leave attendance policy, selection policy, security, safety & health policy, human resource information data, performance appraisal system, mission and objectives of the organization. Other HR policies like career path policy and internship Policies less than 50.0 percent of the HR managers are aware of these policies. This can be seen in Table 1

**Table 1:** Independent variables considered in the logistic regression modeling in the various hr policies and collective labor agreements between the employee and the employer

Variables	Interpretation		
	Schemes Availing Status	Binary Response = 1 (%)	Binary Response = 0 (%)
HRP_1	Compensation policy	200 (100.0)	0 (0.0)
HRP_2	Career path policy	28 (14.0)	172 (86.0)
HRP_3	Internship Policy	94 (47.0)	106 (53.0)
HRP_4	Leave Encashment Policy	160 (80.0)	40 (20.0)
HRP_5	Leave Attendance Policy	163 (81.5)	37 (18.5)
HRP_6	Selection Policy	162 (81.0)	38 (19.0)
HRP_7	Security, Safety & Health Policy	173 (86.5)	27 (13.5)
HRP_8	Human Resource Information Data	175 (87.5)	25 (12.5)
HRP_9	Performance Appraisal System	174 (87.0)	26 (13.0)
HRP_10	Mission and objectives of the organization.	180 (90.0)	20 (10.0)

The econometric results in Table 2 were checked for model adequacy and fit. The econometric model is statistically not significant with a likelihood ratio chi-square equal to 4.494 with  $p < 0.05$ . The log-likelihood ratio 148.352 shows that the model as a whole fits significantly better than a model with no predictors. This suggests that the model has adequately explained the awareness of the Minimum Wage Act and awareness of various government schemes and schemes availing status. Moreover, a Cox & Snell R<sup>2</sup> of 0.049 and Nagelkerke R<sup>2</sup> = 0.089 with 87.0 percent of the responses predicted correctly suggests the model is well specified.

**Table 2:** HR policies and collective labor agreement between the employee and the employer

Variables	$\beta$ Co-efficient	S.E.	Wald	Sig.
HRP_1	-	-	-	-
HRP_2	-0.459	0.696	0.435	0.510
HRP_3	-0.269	0.437	0.379	0.538
HRP_4	0.402	0.568	0.500	0.480
HRP_5	-1.079	0.486	4.920	0.027*
HRP_6	-0.835	0.485	2.962	0.045*
HRP_7	-0.490	0.571	0.736	0.391
HRP_8	-0.317	0.640	0.244	0.621
HRP_9	0.903	0.819	1.217	0.270
HRP_10	-0.205	0.754	0.074	0.786
Constant	-0.482	1.270	0.144	0.705

Number of Observation = 200

$\chi^2(8) = 4.494$

p Value = 0.810

Log-likelihood = 148.352

Cox & Snell R Square = 0.049

Nagelkerke R Square = 0.089

Model Accuracy = 87.0 per cent

Therefore the null hypothesis is rejected; there is a relationship between the HR policies and service agreement between the employee and the employer. There are two significant variables, leave attendance policy and selection policy which are positively correlated with the various HR policies and service agreements between the employee and the employer. From this research, we can know that all HR managers know about compensation policy.

### Summary

In summary, HR policies and the service agreement are interconnected elements that form the foundation of the employment relationship with an 87 percent model accuracy. They work together to establish a structured and transparent working environment, protect the interests of both parties and ensure compliance with relevant laws and regulations. By aligning HR policies with the service agreement, micro-enterprises can effectively manage their workforce, foster a positive work culture, and build a strong and productive team. This in turn will reflect in the implementation of operative HRM practices under a effective HRM

### Conclusion

In conclusion, HR policies and the service agreement between the employee and the employer are essential components of a well-functioning and productive employment relationship. These documents establish clear guidelines, expectations, and responsibilities for both parties, fostering a transparent and harmonious work environment. The relationship between HR policies and the service agreement is integral, as the policies are often integrated into the employment contract to ensure employees' compliance and understanding. By adhering to

these policies and agreements, micro-enterprises can foster a positive work culture, retain talent, and ensure legal compliance, ultimately contributing to the success and growth of the organization.

### References

1. Bacaër N. Verhulst and the Logistic Equation. In: A Short History of Mathematical Population Dynamics. London: Springer; c2011. p. 35-39. [https://doi.org/10.1007/978-0-85729-115-8\\_6](https://doi.org/10.1007/978-0-85729-115-8_6).
2. Burns RP, Burns R. Cluster Analysis. In: Business Research Methods and Statistics Using SPSS. London: Sage; c2008. p. 178-211.
3. Boateng EY, Oduro FT. Predicting Microfinance Credit Default: A Study of Nsoatreman Rural Bank Ghana. J Adv Math Comput Sci. 2018;26:1-9. <https://doi.org/10.9734/JAMCS/2018/33569>.
4. Hosmer DW, Lemeshow S, Sturdivant RX. Applied Logistic Regression. New York: Wiley; c2000.
5. Namik FN. Using the two-response logistic regression technique and the multiple linear regression techniques to diagnose the factors affecting the high repetition rates in higher education, a case study in one of the colleges of higher education. Baghdad Univ J Econ Sci. 2015, (43).
6. Glantz SA, Slinker BK. Primer of Applied Regression and Analysis of Variance; c1990. <https://pdfs.semanticscholar.org/112d/1cdf27a5e3ac74971b7197a1007d00da8271.pdf>.
7. Jiang X, El-Kareh R, Ohno-Machado L. Improving Predictions in Imbalanced Data Using Pairwise Expanded Logistic Regression. AMIA Annu Symp Proc. 2011;2011:625-634. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243279/>.
8. Karp S. The Problem of Media Economics: Value Equations Have Radically Changed. The (r) Evolution of Media, Publishing 2.0; c2009. <https://publishing2.com/2009/01/07/>.
9. King G, Tomz M, Wittenberg J. Making the Most of Statistical Analyses: Improving Interpretation and Presentation. Am J Polit Sci. 2000;44:341-355.
10. Reed P, Wu Y. Logistic Regression for Risk Factor Modeling in Stuttering Research. J Fluency Disord. 2013;38:88-101.
11. Srivastava N. A Logistic Regression Model for Predicting the Occurrence of Intense Geomagnetic Storms. Ann Geophys. 2005;23:2969-2974. <https://doi.org/10.5194/angeo-23-2969-2005>.
12. Park H. An introduction to logistic regression: from basic concepts to interpretation with particular attention to the nursing domain. J Korean Acad. Nurs. 2013;43(2):154-164.
13. Qasim BAR. Analyzing the impact of some variables of gingivitis by using logistic regression. Econ Sci. 2011, 7(27).