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## Constraints in adoption of HRM practices in agro-based micro-enterprises in Tamil Nadu, India: Explicit SEM model

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### Abstract

HRM Practices are a multifaceted process influenced by various constraints. Recognizing and addressing these constraints is essential therefore systematically identifying and mitigating these constraints micro-enterprises can improve the position of HRM practices with their strategic objectives, reduce the struggle for transformation, allocate resources more effectively, address cultural and organizational barriers, invest in employee development, steer legal requirements, and augment management and communication practices. To attain, a holistic approach that considers these constraints can lead to the successful adoption and integration of HRM practices, promoting organizational growth and sustainability, this study explores the intricate constraints affecting the adoption of Human Resource Management (HRM) practices in agricultural micro-enterprises in Tamil Nadu, India, Developing explicit model through SEM. This research delves into a model that influences the performance of micro-enterprises including limited access to financial issues, market scenarios, regulatory issues, problems, nature of employment, and cultural norms. The findings from this research shed light on the complex challenges facing HRM adoption in this sector and offer valuable insights for policymakers and practitioners seeking to develop strategies that can foster the integration of HRM practices and enhance the productivity, sustainability, and overall well-being of the workforce in Tamil Nadu's agro-based micro-enterprises.

**Keywords:** HRM practices, constraints, rural development, HRM adoption strategies, micro-enterprises

### Introduction

Human Resource Management (HRM) practices are pivotal for enhancing the productivity, efficiency, and overall well-being of the workforce in these enterprises. However, despite the growing importance of HRM, agricultural micro-enterprises in Tamil Nadu face a multitude of constraints when it comes to adopting and implementing effective HRM practices. These enterprises often operate with limited resources and face unique challenges that hinder their ability to adopt modern HRM practices (Hamouche S, 2021; Oladimeji Samuel Olasoji, 2019)<sup>[2, 3]</sup>, though it has a vast expanse of an agricultural homeland for a better resource for micro-enterprises to operate but better HRM practices for sustained employee performance which in turn roots the better performance of the concerned enterprises is under greyscale due to various constraints. This study seeks to shed light on the numerous constraints that impede the effective integration of HRM practices within the context of Tamil Nadu's agricultural micro-enterprises with precise SEM model.

This study aims to identify and analyze the specific constraints faced by agricultural micro-enterprises in Tamil Nadu regarding HRM adoption which is affected by specific constraints like lack of access to formal education and training limits their ability to understand and embrace contemporary HRM concepts and techniques in these micro-enterprises. The informal nature of employment prevalent in these enterprises creates challenges in establishing clear job roles, performance evaluation, and employee development programs to sustain their performance. The engrained norms governing labor relationships can often clash with the policies of HRM, making it difficult to introduce practices. Thus these constraints collectively signify a considerable barrier to the progression of HRM practices in agricultural micro-enterprises in Tamil Nadu, challenging a comprehensive investigation and the development of performance-oriented solutions. It primes to policymakers, business owners, and other stakeholders to propose approaches and interventions that can foster the incorporation of HRM practices in this dynamic sector.

## Literature Review

Azizi, Atlasi, Ziapour, Abbas, and Naemi (2021) <sup>[16]</sup> A study on the link between organizational success and human resource management and to Classify the advantageous link between HRM practices and organizational performance

Gomes, Sabino, and Antunes (2023) <sup>[17]</sup> The researcher examined the various aspects of HRM practice in terms of human capital management and organization development in Portugal hotels. HRM is the key element of the competitiveness of a hotel unit, not only to respond to increasing customer challenges but also to ensure keenness in the face of large-scale competition.

Mousa and Othman (2020) <sup>[18]</sup> HR procedures have a beneficial impact on business performance. The research was conducted in Kenya and limited Geographical location. It investigated how the human resource management process moves the productivity of manufacturing SMEs specific to the country.

Rigdon, 2016 <sup>[19]</sup>, Sarstedt, Ringle, Henseler, & Hair, 2014 <sup>[20]</sup>, have explored that the HRM research striving to assess composite theories and integrated models with a descriptive and/or analytical focus should employ PLS-SEM SEM is a method used to represent, estimate, and test a network of relationships between variables (exogenous and endogenous variables) that determine the impact of HRM practices on attitudinal and interactive HR outcomes, as such on organizational performance.

C. M. Stein, N. J. Morris, and N. L. Nock (2012) <sup>[21]</sup>, "Structural equation modeling," to determine the actual factors contributing to the interminable digital disruption in organizations and institutions along with the correlation between the advancement of technology, user expectations, and competitive pressure.

Rigdon, 2016 <sup>[19]</sup>, Sarstedt, Ringle, Henseler, & Hair, 2014 <sup>[20]</sup>, have explored that the HRM research striving to assess composite theories and integrated models with a descriptive and/or analytical focus should employ PLS-SEM.

C. M. Ringle, M. Sarstedt, R. Mitchell, and S. P. Gudergan (2018) <sup>[22]</sup> studied improvisation on the Partial least squares structural equation modeling in HRM research which mostly have their crucial non-formal data.

## Materials and Methods

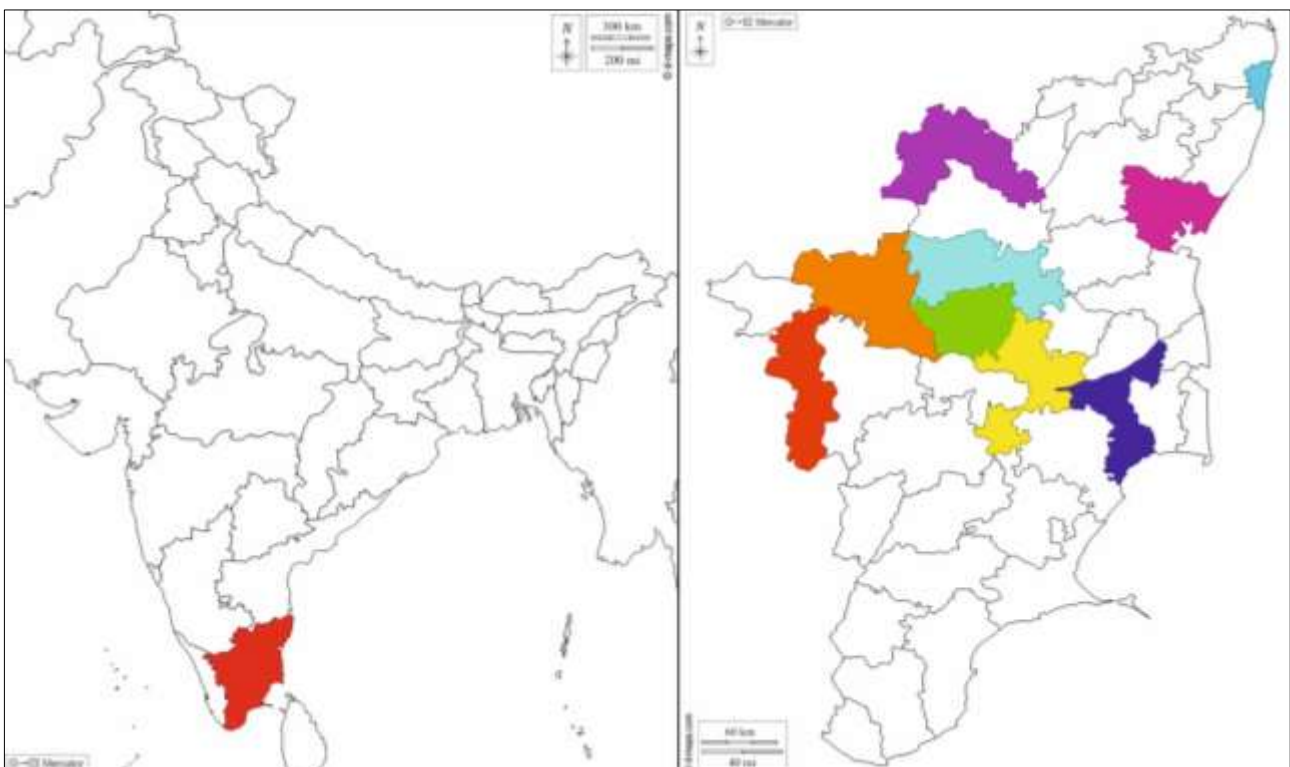
This study uses the hybrid method research design, which focuses on a combination of qualitative and quantitative approaches to data collection and analysis. The data is collected through the use of structured interview schedules, observation, and case studies. Both primary data and secondary data have been collected from the representing district of rural Tamil Nadu. With the nature of the study, it is obvious to use a structured interview schedule to collect sensitive data which is been prepared considering the specifically identified constraints on adopting HRM practices in agricultural micro-enterprises in Tamil Nadu, India.

## Sampling Methods

The convenient sampling method is used for human resources managers and entrepreneurs/owners of agricultural micro-enterprises in Tamil Nadu.

## Study Area

When selecting a sample for research, the study area refers to the specific geographic or spatial scope of your investigation. It defines the boundaries within which you will gather data and conduct your analysis. The choice of study area depends on the research objectives and the nature of the phenomenon you are studying. By carefully considering these factors, you can identify a study area that aligns with your research objectives and facilitates the selection of an appropriate sample for your research. In this study, selected the districts were Coimbatore, Erode, Salem, Namakkal, Tiruchirappalli, Thanjavur, Krishnagiri, Villupuram, and Chennai which have considerable prevalence of agro-based micro-enterprises.



**Fig 1:** Study Area Map

### 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. The researcher has decided to conduct this study across Tamil Nadu. As the sample size is too large, the sample will be selected using the Krejcie-Morgan method sample of 250 agro micro-enterprises will be taken by random selection of 38 districts of Tamil Nadu covering all districts.

$$n = \frac{z^2 * \hat{p} * (1 - \hat{p})}{\varepsilon^2}$$

Where,

n = Sample size; z = z score for specified confidence level at 1 degree of freedom;  $\hat{p}$  = Population portion;  $\varepsilon$  = Desired margin error

N = 491242; z = 1.96; P = 0.5;  $\varepsilon$  = 7;

$$= \frac{1.96^2 * 0.6 * (1 - 0.6)}{0.0607^2}$$

n = 196

By calculation, a minimum of 196 human resources managers and entrepreneurs should be studied in the research for the results to be statistically significant. So the research took 200 sample respondents in the study.

### Data Processing

The data collected from the respondents were scored and tabulated using Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS 26.0). To estimate the parameters in the model, statistical software Amos is used. The software will estimate relationships between latent variables and outcome variables and test whether the model fits the data well

### Methodology

Structural Equation Modeling (SEM) is a statistical technique that allows researchers to evaluate and test complex relationships among variables. HRM practices can be evaluated using SEM by constructing a model that includes various HRM practices as latent variables and their impact on outcome variables. The first step in building an SEM model for HRM practices is to identify the latent variables that represent HRM practices. These variables may include recruitment and selection, training and development, performance appraisal, compensation and benefits, and employee relations. Each of these variables can be represented by several indicators, such as the number of employees trained, employee turnover, employee satisfaction, etc.

The second step is to identify the outcome variables that are impacted by HRM practices. These may include employee performance, employee engagement, turnover, and job satisfaction. Again, each outcome variable can be represented by several indicators, such as sales growth, customer

satisfaction, absenteeism, etc. Once the latent variables and outcome variables are identified, researchers can develop a path diagram that illustrates the relationships among them. For example, the diagram might show that recruitment and selection practices impact employee performance, which in turn impacts customer satisfaction.

An SEM model can be developed according to the theory or information obtained during the exploratory phase through exploratory factor analysis (EFA). Once a model is designed, parameter estimates must be obtained before model estimation. We discuss the main method used in this section, the normal distribution-based maximum likelihood (NML) related method to yield more stable/efficient. The most widely used method for parameter estimation in structural equation modeling is NML, which is equivalent to minimizing the inconsistency function as follows:

$$F_{ml}(\theta) = \text{tr}(\Sigma^{-1}(\theta)) - \log |\Sigma^{-1}(\theta)| - p$$

ere,  $\Sigma^{-1}(\theta)$  = Structural Model  $F_{ml}(\theta)$  = Procedure to minimize

### Goodness-of-fit indices

Goodness-of-fit indices are essential tools in Structural Equation Modeling (SEM) for assessing how well a hypothesized model fits the observed data. They help researchers evaluate whether the model adequately explains the relationships among variables. There are several goodness-of-fit indices available in SEM, and each serves a slightly different purpose. It's essential to use a combination of these goodness-of-fit indices when evaluating SEM models since they provide different perspectives on model fit. When conducting a structural equation modeling (SEM) analysis of human resource management (HRM) practices in micro-enterprises, these goodness-of-fit indices are used to assess how well the collected model fits the observed data.

The chi-square test assesses the difference between the model-implied covariance matrix and the observed covariance matrix. A non-significant chi-square value ( $p > 0.05$ ) indicates a good fit.

The Comparative Fit Index (CFI) measures how well the hypothesized model fits compared to a null model (i.e., a model with no relationships among variables). A CFI value close to 1 (typically  $\geq 0.95$ ) indicates a good fit.

Tucker-Lewis Index (TLI) or Non-Normed Fit Index (NNFI) Like CFI, TLI/NNFI compares the fit of your model to a null model. A TLI/NNFI value close to 1 (typically  $\geq 0.95$ ) suggests a good fit.

Root Mean Square Error of Approximation (RMSEA) assesses the discrepancy between the model-implied covariance matrix and the observed covariance matrix, considering the complexity of the model. A lower RMSEA value (typically  $\leq 0.05$ ) indicates a better fit. RMSEA also provides a 90% confidence interval, which can help assess the precision of the estimate.

Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) GFI and AGFI assess the proportion of variance and covariance in the observed data that is explained by the model. Values close to 1 indicate a better fit.

### Result

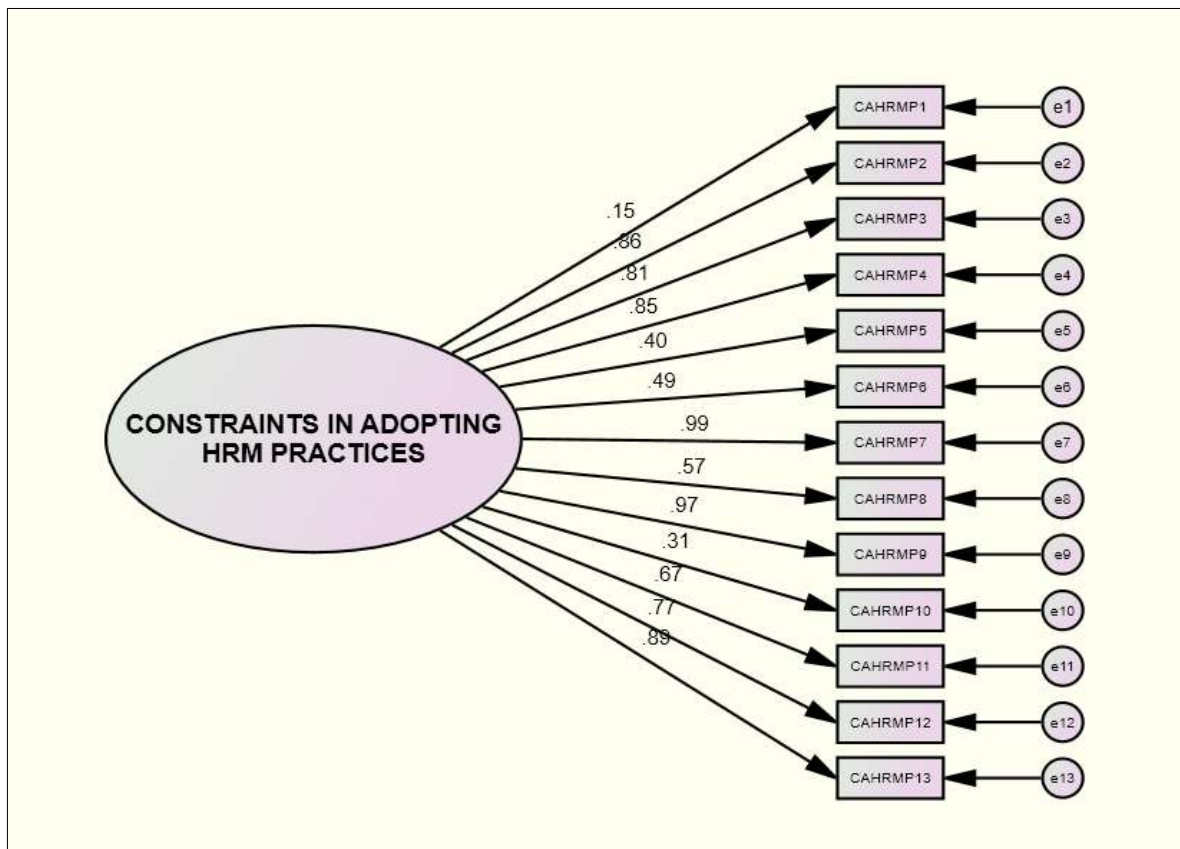
Using the SEM Model HR professionals and researchers understand the varying perceptions of constraints in adopting HRM practices, which can inform decision-making and

strategy development for HR management. In conclusion, the adoption of HRM practices in micro-enterprises faces several significant constraints that must be carefully addressed to enhance their effectiveness and sustainability (Triwahyono, B., *et al.* 2023) <sup>[12]</sup>. These constraints include limited financial

resources, lack of expertise, size-related limitations, and resistance to change. However, despite these challenges, micro-enterprises need to recognize the value of HRM practices in improving employee satisfaction, productivity, and overall business performance (Kyal, H., *et al.* 2022) <sup>[13]</sup>.

**Table 1:** Confirmatory factor analysis of the proposed model: constraints in adopting HRM practices

Code	Observed Variables	Factor Loadings
EHRMPFP_1	Financial issues	0.15
EHRMPFP_2	Uncertainty of Market scenario	0.86
EHRMPFP_3	Regulatory issues	0.81
EHRMPFP_4	Problems of surplus/shortage of employee	0.85
EHRMPFP_5	Lack of professionalism	0.40
EHRMPFP_6	Time-consuming	0.49
EHRMPFP_7	Recruitment fairness	0.99
EHRMPFP_8	Infrastructure:	0.57
EHRMPFP_9	Pandemic issues	0.97
EHRMPFP_10	Conflict resolution	0.31
EHRMPFP_11	Technical changes	0.67
EHRMPFP_12	Lack of standardized policies	0.77
EHRMPFP_13	Lack of innovation	0.89



**Fig 2:** Confirmatory factor analysis of the proposed model: constraints in adopting HRM practices

**Table 2:** Chi-square result and goodness of fit indices of the proposed model: constraints in adopting HRM practices

Fit Indices	Obtained Value	Accepted Thresholds Levels
$\chi^2$	256.8	NA
Degrees of Freedom	65	NA
p-value	0.000	<0.05
Goodness of Fit Index (GFI)	0.969	Value Greater than 0.95
Adjusted Goodness of Fit Index (AGFI)	0.991	Value Greater than 0.95
Tucker-Lewis Index (TLI)	0.994	Value Greater than 0.95
Comparative Fit Index (CFI)	0.962	Value Greater than 0.95
Normed Fit Index (NFI)	0.986	Value Greater than 0.95
Incremental Fit Index (IFI)	0.912	0=Poor Fit, 1=Good Fit
Root Mean Square Approximation Method (RMSEA)	0.022	Value less than 0.07

**Note:** level of significance 5 percent

The CFA results are presented in Tables 1 & 2 and Figure 2. The fit indices indicate that the measure has a good fit overall. Based on these measurements, the result of the study shows that the proposed model has a reasonable data fit  $\chi^2 = 256.8$  ( $p = 0.000$ ), GFI = 0.969, AGFI = 0.991, TLI = 0.944, CFI = 0.962, NFI = 0.986, IFI = 0.912, RMSEA = 0.022. The resultant SEM model is been proven better with the good index for fit model allowing us to unravel the intricate relationships among various factors that influence HRM adoption, such as financial issues, the uncertainty of market scenarios, Infrastructure, issues, technical changes, lack of standardized policies, and resource constraints which are specific to concerned micro-enterprises. In conclusion, the Structural Equation Modeling (SEM) model has provided valuable insights into the constraints faced by micro-enterprises in adopting Human Resource Management (HRM) practices.

### Discussion

The discussion surrounding the constraints of adopting HRM practices in agricultural micro-enterprises in Tamil Nadu highlights, that these small-scale agricultural operations frequently grapple with limited financial resources, unpredictable income streams, and irregular cash flows. Overcoming these financial challenges is crucial to enable the integration of HRM practices that can enhance workforce productivity, well-being, and overall business sustainability in Tamil Nadu's agricultural micro-enterprises (Soosai, V., & Lalitha, N. 2019) [8]. The uncertainty can hinder the adoption of HRM practices, which are essential for improving workforce productivity and adapting to changing market conditions. Addressing this constraint requires innovative approaches that align HRM strategies with the variable market scenarios, helping agricultural micro-enterprises in Tamil Nadu remain competitive and resilient.

Adhering to numerous legal requirements, such as minimum wage regulations, working hour limitations, and employee benefits, poses administrative and financial challenges. Addressing these regulatory constraints is essential for creating a business environment in which HRM practices can thrive and contribute to the overall well-being and productivity of the workforce in Tamil Nadu's agricultural micro-enterprises.

The challenges surrounding the adoption of HRM practices in agricultural micro-enterprises in Tamil Nadu multipart the performance of them. The problems of surplus or shortage of employees can make HRM planning highly unpredictable, leading to inefficient labor allocation. Insufficient infrastructure, both physical and technological, can hinder the implementation of modern HRM tools and practices, limiting efficiency and communication. A dearth of innovation and a lack of employee handbooks can result in unclear expectations and a dearth of standardized policies, further muddying HRM efforts. Inadequate conflict resolution mechanisms can foster an unhealthy work environment, while slow adaptation to technical changes can render HRM practices outdated. The absence of professionalism and fairness in recruitment processes, combined with the time-consuming nature of HRM activities, highlights the multifaceted nature of the constraints facing agricultural micro-enterprises in Tamil Nadu. Addressing these diverse challenges requires tailored strategies that consider the unique characteristics and demands of this sector.

### Conclusion

In conclusion, the constraints to the adoption of Human Resource Management (HRM) practices in agricultural micro-enterprises of Tamil Nadu are a complex web of socio-economic, cultural, regulatory, and infrastructure-related challenges. These constraints encompass limited access to education and training, the informal nature of employment, deeply ingrained cultural norms, financial limitations, a lack of awareness, regulatory hurdles, and a host of other issues. While these constraints are substantial, they are not insurmountable. Addressing these challenges necessitates a multifaceted approach that includes tailored education and training programs, awareness campaigns, and the development of HRM solutions adapted to the unique needs and constraints of this sector. By surmounting these challenges, agricultural micro-enterprises in Tamil Nadu can enhance the well-being and productivity of their workforce, contributing to the growth and sustainability of the region's agricultural sector, and thereby fostering rural economic development and prosperity.

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