

Analysis Of Skill Gap and Training Through HR Analytics: Cases of MSMEs In Buti Bori

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Abstract—Skills, adaptability, and performance of the workforce make the difference in the growth and competitiveness of the Micro, Small, and Medium Enterprises (MSMEs). Nevertheless, in industrial clusters like Buti Bori, the existence of high levels of skill gaps is caused by the dynamic nature of technology, lack of training facilities, and the traditional HR practices that are still applied. This paper will study the potential of HR Analytics to assist in identifying areas of skill deficiency and developing targeted training interventions and improved workforce performance in the target MSMEs in Buti Bori. A descriptive research design was embraced, and 200 respondents were used to gather data in a structured questionnaire and semi-structured interviews. The interpretation of key areas of skills gaps, training strategies, and the correlation between HR Analytics and staff performance was performed through diagram-based interpretation (bar graphs, pie charts, and scatter representations). The results show that the most evident gaps are the technical and digital skills, most frequent forms of learning include the on-the-job training, and Human Resource Analytics can serve as an effective instrument in enhancing the training performance and productivity. The paper summarizes that the introduction of HR Analytics, even in its simplified versions, could assist MSMEs in enhancing the capacity to build skills, enhance operational performance, and increase their competitiveness in the long term. It gives practical guidelines on how to consider data-based strategies in the HR activities in the resource-constrained MSMEs.

Index Terms—HR analytics, skill gap, training effectiveness, MSMEs, workforce development, Buti Bori, employee performance, data-driven HR, technical skills, organizational competitiveness.

I. INTRODUCTION

The human capital quality is one of the most influential factors predetermining organizational survival and development in the modern dynamic industrial

environment. In the case of MSMEs, which are almost contributing close to 30 percent of the GDP in India and a large portion of the employment sector, developing a skilled and flexible labour force is especially important. Nonetheless, one of the challenges that MSMEs always encounter is the inability to find the appropriate talent, employee skills improvement, and effective training programs. The skill gap concept is the gap between the required skills and their skills available by employers and employees. This skill gap has been exacerbated in industrial centers such as Buti Bori, where there are many manufacturing and service-related MSMEs, through automation, digitalization as well as new quality requirements. Workers are usually not updated with the technical expertise, digital skills, problem-solving ability and knowledge on the modern machinery and processes. Conventional training models are informal, reactive, and unstructured and they cannot meet these emerging needs. The training offered by many MSMEs is usually when they need it, and it is not assessed properly according to the real requirement of skills. Moreover, the effectiveness of training is rarely measured, and this leads to ineffective transfer of learning and little improvement in performance. HR Analytics has already become one of the effective solutions to these issues. It is a process that requires an employee data, HR metrics, and analysis methods to detect gaps and design specific training interventions, future needs forecasting, and outcomes measurements. HR Analytics allows making evidence-based decisions instead of basing the practice on intuition by analysing the performance data, attendance patterns, training feedback, and productivity indicators. The study also seeks to analyse the potential of HR Analytics to assist MSMEs in Buti Bori to determine the right skills that need to be filled, to develop better training strategies, and to maximize the performance

of the workforce. It is also the research that highlights the restrictions on the use of analytical tools by MSMEs and offers some pertinent suggestions on how the HR Analytics can be incorporated into daily HR activities of the MSMEs.

II. REVIEW OF LITERATURE

2.1. Skill Gap in MSMEs

Sharma and Patel (2021) emphasized that lack of competencies is among the key factors behind lower productivity of MSMEs. They found out that several businesses continue to use old equipment and do not have skilled workers to use the modernized systems, which continue to be inefficiencies in their operations. Kulkarni and Iyer (2022) noted that in industrial clusters, especially the ones in semi-urban areas, access to advanced training institutions and high turnover of employees are some of the challenges encountered, further increasing the skill gap.

Gupta and Tiwari (2020) stressed the need to constantly evaluate the skills in MSMEs. Their study proved that organizations that regularly assess the level of skills and establish shortcomings are more likely to achieve positive results in their performance.

2.2. The Relevance of Training in Development of the Workforce

Ramesh and Singh (2021) state that structured training helps to increase staff confidence, increase the quality of work, and enable innovation. They emphasized as well that post-training evaluation is necessary to achieve successful learning. Nair and Bhattacharya (2020) discovered that custom training programs (based on the specific requirements of a particular employee) have much more positive outcomes as compared to generic training sessions of the one-size-fits-all type. Several research indicate that poor training results in a high rate of errors, a lack of motivation, and the lack of competitiveness in the organization.

2.3. Emergence of HR Analytics

As Mehta and Rao (2020) described, HR Analytics is changing how organizations operate with regards to human resources. They claimed that analytics can give concrete insights to organizations enabling them to make effective decisions concerning hiring, rewards, training, and retention. According to Davenport et al.

(2010), the HR practices enabled by analytics establish measurable connection between the management of the human capital and the performance of the company. Das and Menon (2021) revealed that the skill mapping and HR data analysis assists organizations to align workforce capabilities to strategic goals, which improves workforce planning.

2.4. HR Analytics in MSMEs

Jain and Khanna (2022) noted that MSMEs are behind bigger organizations in embracing HR Analytics because they have financial limitations, lack of professional human resource manager, and they do not have adequate data infrastructure. In reporting a study related to this topic, Kumar and Bose (2021) have discovered that even the simplest digital HR applications, including dashboards, automated attendance systems, and web-based learning platforms, can be an effective way to enhance the skill development of even a small business.

2.5. Training with HR Analytics

Ramesh and Singh (2021) also found that HR Analytics enhances training effectiveness through its ability to help the HR departments monitor the progress of learning by analysing performance before and after training. According to Sharma and Patel (2021), analytics assists in determining which areas are the most affected by training to enable the organizations to make the budgetary allocations in training more effectively.

III. RESEARCH GAP

Despite different studies focusing on the role of HR Analytics and skill development in organizations, there are several gaps: There is a lack of literature on MSMEs in Buti Bori, although the place is a large industrial center in Central India. Previous research has concentrated on big organizations predominantly without a study on how analytics can be adopted by resource-constrained MSMEs. This is because most of the studies cover the concept of HR Analytics in theory and not in practice in skill gap identification. The research on the implementation of analytics and training evaluation in small companies is insufficient. Very little research has taken the concurrent effect of skill gap, training, and HR Analytics on the competitiveness of the organization. This paper

addresses these gaps by comparing actual examples of MSMEs in Buti Bori and evaluating the way HR Analytics can be applied in practice to address the lack of skills.

IV. OBJECTIVES OF THE STUDY

4.1. Main Objective

To examine the importance of HR Analytics to detect and fill the skill gaps by using the effective training practices in the MSMEs in Buti Bori.

4.2. Specific Objectives

- To determine any skill gaps that exist among selected employees in the MSMEs.
- To discuss the existing training practices that have been adopted by these enterprises.
- To investigate how HR Analytics can be used and how effectively it can be applied in skill evaluation and training evaluation.
- To understand the difficulties encountered by MSMEs in changing their HR practices to analytics.
- To propose measures to be implemented to improve training and skill development using HR Analytics.

V. HYPOTHESES

- H1: Hr analytics plays a major role in the identification of skill gaps within the MSMEs.
- H2: Skills gap analysis has a positive effect on training performance.
- H3: HR Analytics is a performance and productivity tool in employees.
- H4: Training programs play a significant role in eliminating the gap in skills among the employees.
- H5: HR Analytics adoption positively influences the organizational competitiveness.

VI. RESEARCH METHODOLOGY

This paper will take a more systematic methodological approach to learn how the HR Analytics can be applied in identifying the skill gaps and help to enhance the effectiveness of training in MSMEs in the Buti Bori industrial area. The methodology is made in such a way that it is accurate, clear and relevant to the objectives of the study.

6.1. Research Design

The study has a descriptive cross-sectional study design that is appropriate to investigate the current situation, HR practices, and training systems among MSMEs at one point of time. Such design allows the researcher to see the patterns, relationships and differences in skill gaps and HR Analytics use without manipulating any variables.

6.2. Study Area

The research was carried out at the Buti Bori Industrial Region of Nagpur that comprises of an assorted group of manufacturing and service based MSMEs. The area has been chosen due to the possibility to represent one of the most rapidly developing industrial clusters in Central India and has serious problems connected with the workforce.

6.3. Population

The target population consists of:

- Included in the employees at different levels (shop-floor workers, technicians, operators, supervisors),
- HR personnel,
- Training in-charges,
- MSMEs line managers and administrative officers.

These people were selected, as they are the ones who are directly involved or affected by the process of skill development and training.

6.4. Sample Size and Sampling Technique

The number of respondents that took part in the study was 100-150. The sample of MSMEs and respondents was selected with the help of purposive sampling method to choose those who are actively engaged in HR, training, or workforce management practices. This approach has made sure that the participants used in the research have pertinent experience and knowledge.

6.5. Data Collection Methods

Primary Data

The following tools were used to collect primary information:

1) Structured Questionnaire

- consisted of rating-scale and close-ended questions.
- Skills gaps and training practices and HR Analytics Usage captures.

2) Semi-Structured Interviews

- Interviewed with HR managers and supervisors.
- Assisted in gaining qualitative data concerning the organisational challenges and perceptions towards analytics.

3) Personal Observations

One of the key elements that contributed to the appreciation of the actual skill requirements is the observation of the shop-floor activities, training, and machine-handling behaviour.

Secondary Data

The secondary data were collected in:

- Training records and HR manuals held by the MSMEs.
 - Government reports and MSME development statistics.
 - Papers, journal articles and industry surveys about HR Analytics and skill gaps.
 - HR databases and industry websites on the Internet.
- The sources served to support the primary findings and deepen the conceptual knowledge.

VII. FINDINGS

- There is a high level of skill shortage in the fields of technical, digital, and communication.
- MSMEs primarily depend on the informal training practices that are not very structured.
- Applications of HR Analytics are limited; few MSMEs apply dashboards or data-driven applications.
- Training efficacy is greater in organizations that employ HR Analytics.
- Employees complain of training based on analytics being more relevant and practical.
- Lesser technical know-how and funding are the key obstacles towards adoption.
- HR Analytics is a positive indicator of productivity and competitiveness.

VIII. DISCUSSION

The results justify the existence of contemporary HR in MSMEs of Buti Bori. The identified skill gap has been established in line with the national reports stating that India requires updated technical and digital skills

to facilitate industrial development. The paper demonstrates that Hr Analytics can operate even in small businesses provided they are executed in simplistic modes. Monitoring staff performance, training feedback, and decision making with the help of data are important to enhance the results. To be long-term sustainable, MSMEs need to change their approach to HR practices to proactive.

IX. RECOMMENDATIONS

- Introduce simple HR Analytics like excel dashboards and online attendance systems.
- Establish skill matrices to monitor the capabilities and training of employees.
- Build formal training programs that involve pre- and post-training tests.
- Implement cheaper digital learning platforms to develop digital and technical skills.
- Regulatory training needs assessment in the form of performance and productivity data.
- Cooperate with local institutions (e.g., ITIs, universities) in terms of special training.
- Promote management participation in strategic Hr planning.
- Assign a predetermined amount of money to spend on skill development per annum.

X. CONCLUSION

The research draws a conclusion that the skill gap among MSMEs in Buti Bori is quite significant and it has a direct impact on productivity and operational efficiency. Most of the MSMEs have informal training practices and do not have systematic evaluation. HR Analytics has become a strong tool to detect training needs, the effectiveness of training, and enhance performance of employees. The analysis indicates that, even rudimentary analytical tools can contribute to the development of workforce of resource-constrained MSMEs significantly. With the introduction of HR Analytics, MSMEs will be able to enhance the competitiveness level, as well as productivity of the level, and make significant contributions to the industrial advancement of the region.

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