EFFECT OF TRAINING ON TECHNICAL SKILLS AMONG MID-LEVEL EMPLOYEES IN SMALL SCALE MSME ORGANIZATION

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Abstract

This research aims to assess the impact of a specialized training program on the enhancement of technical skills among mid-level employees within small-scale Micro, Small, and Medium Enterprises (MSMEs). The study focuses on a cohort of mid-level employees in MSMEs, aiming to understand how training interventions contribute to the development of technical skills crucial for their roles. The training program comprises targeted activities designed to address the specific technical demands faced by employees in these organizations. Following the training period, a comprehensive evaluation was conducted utilizing ANOVA's model, encompassing the levels of reaction, knowledge, and behaviour. Preliminary findings suggest positive responses at the reaction level, with participants expressing engagement and enthusiasm. The study delves into the nuanced changes in knowledge levels, and initial assessments indicate a positive impact on technical skill acquisition. Behavioural changes in terms of improved technical proficiency are explored, providing insights into the effectiveness of the training. Qualitative data obtained through discussions illuminate the participants' perspectives, shedding light on the practical implications and challenges faced in integrating the acquired technical skills within the small-scale MSME context. In conclusion, this research contributes to understanding how training initiatives can strategically enhance technical skills among mid-level employees in small-scale MSMEs, offering valuable insights for both practitioners and policymakers in optimizing skill development programs in similar organizational settings.

Keywords:

Micro, Small, and Medium Enterprise (MSME), Technical Skills, ANOVA

1. INTRODUCTION

In the dynamic landscape of Micro, Small, and Medium Enterprises (MSMEs), mid-level employees represent the operational backbone, crucial for driving productivity and innovation. Small-scale MSMEs often face unique challenges in nurturing and retaining a skilled workforce [1], particularly concerning technical expertise. Recognizing the significance of technical skills in these organizations, this research endeavors to investigate the effects of a specialized training program designed to enhance the technical skills of mid-level employees within small-scale MSMEs [2].

Micro, Small, and Medium Enterprises (MSMEs) serve as vital contributors to economic growth, employment, and innovation globally [3]. Within these enterprises, mid-level employees hold pivotal positions, navigating the complexities of day-to-day operations and bridging the gap between strategic vision and execution [4]. However, one recurrent challenge faced by small-scale MSMEs is the cultivation and maintenance of a technically proficient workforce [5]. As technology continues to evolve, the demand for up-to-date technical skills becomes imperative for organizational sustainability and competitiveness.

Small-scale MSMEs encounter distinct challenges in providing adequate technical training for mid-level employees. Limited resources, both financial and human, pose constraints on implementing comprehensive training programs. Additionally, the rapidly changing technological landscape requires a nimble approach to training that small-scale enterprises may find challenging to adopt. Balancing the need for technical expertise with the day-to-day operational demands creates a delicate equilibrium that, if disrupted, could hinder the overall performance and growth of these organizations [6].

The core problem addressed by this research is the adequacy of technical skills among mid-level employees in small-scale MSMEs. Insufficient technical proficiency can impede operational efficiency, hinder innovation, and limit the adaptability of the workforce to technological advancements. Identifying effective training interventions that align with the unique challenges of small-scale MSMEs is critical for addressing this problem and unlocking the full potential of mid-level employees in these organizations.

- To conduct an in-depth analysis of the existing technical skill levels among mid-level employees in small-scale MSMEs.
- To investigate the impact of a specialized training program on the enhancement of technical skills within the targeted demographic.
- To explore the challenges faced by mid-level employees in integrating newly acquired technical skills into their daily responsibilities within small-scale MSMEs.

This research introduces a novel approach by specifically focusing on mid-level employees within small-scale MSMEs, acknowledging their unique position and challenges. The study's emphasis on a tailored training program designed for the specific needs of small-scale enterprises contributes to the evolving discourse on skill development in diverse organizational contexts. The findings are expected to provide actionable insights for practitioners, policymakers, and educators involved in enhancing technical skills within the distinctive framework of small-scale MSMEs. By addressing the research objectives, this study aims to fill existing gaps in literature and serve as a foundation for future endeavors in optimizing skill development strategies for mid-level employees in similar organizational settings.

2. LITERATURE SURVEY: ENHANCING TECHNICAL SKILLS AMONG MID-LEVEL EMPLOYEES IN SMALL-SCALE MSMES

The MSMEs is characterized by its diversity, dynamism, and economic significance. Within this context, the role of mid-level employees is pivotal for translating organizational strategies into operational efficiency. A comprehensive literature survey

provides insights into the challenges faced by small-scale MSMEs in nurturing technical proficiency among mid-level employees and the potential avenues for addressing these challenges.

Small-scale MSMEs encounter multifaceted challenges in fostering technical expertise among mid-level employees. Limited financial resources often restrict the implementation of comprehensive training programs [7]. Furthermore, the rapidly evolving technological landscape poses challenges in ensuring that employees possess up-to-date skills to the industry [8].

Mid-level employees serve as linchpins in small-scale MSMEs, bridging the gap between strategic decision-making and day-to-day operations [9]. Their technical proficiency is crucial for operational efficiency, innovation, and adaptability to technological advancements. Recognizing the significance of mid-level employees in these enterprises is fundamental for designing effective skill development strategies.

The literature reveals various approaches to training interventions tailored for small-scale MSMEs. Tailored programs that consider the specific needs and constraints of these enterprises have shown promise in enhancing technical skills [10]. Integrating technology-based training solutions, such as online platforms and virtual simulations, has also been explored as a cost-effective means for skill development.

The assessment of training effectiveness in small-scale MSMEs involves diverse methodologies. ANOVA's model, encompassing reaction, knowledge, behaviour, and results, offers a comprehensive framework for evaluating the impact of training programs. Understanding the nuances of this evaluation model is essential for gauging the success of interventions in enhancing technical skills among mid-level employees.

Integration of newly acquired technical skills into daily operations is a critical aspect often overlooked in the literature. Mid-level employees may face challenges in applying theoretical knowledge to practical scenarios, necessitating a holistic approach to skill development that goes beyond traditional training models [11].

The organizational culture of small-scale MSMEs plays a significant role in shaping the effectiveness of technical skill development initiatives [12]. A supportive culture that encourages continuous learning and knowledge sharing fosters an environment conducive to skill enhancement among mid-level employees.

This survey provides an understanding of the challenges and opportunities in enhancing technical skills among mid-level employees in small-scale MSMEs. By addressing the gaps identified in the existing literature, the subsequent research aims to contribute valuable insights to the development of effective training strategies that align with the unique dynamics of these enterprises. The survey lays the foundation for a nuanced exploration of the dimensions of skill development within the context of small-scale MSMEs.

3. METHODOLOGY

3.1 OBJECTIVE

The objective is to assess the impact of outing activities, specifically focused on Team Building, on the development of technical skills among participants at the end of the second semester. The targeted technical skills were aligned with job specifications, emphasizing effective collaboration, active contribution to team goals, leadership, communication, conflict resolution, and ethical conduct.

3.2 PARTICIPANT SELECTION

The study included a total of 190 participants, with an even gender distribution of 95 men and 95 women. Participants were selected based on their availability and willingness to engage in the outing activities, ensuring a diverse and representative sample to capture a range of perspectives and experiences.

3.3 ACTIVITY DESIGN

Outing activities were strategically organized at the conclusion of the second semester, providing participants with an opportunity to reflect on their academic experiences and enhance their skills in a practical setting. The primary approach was to utilize outdoor spaces, creating a dynamic environment conducive to experiential learning.

3.4 TRAINING PROGRAM STRUCTURE

The training program is designed to address each specified technical skill:

- **Effective Collaboration:** Activities were curated to encourage teamwork, fostering collaboration, and emphasizing the importance of joint efforts in achieving common goals.
- **Active Contribution to Team Goals:** Participants engaged in tasks requiring active involvement, highlighting the significance of individual contributions to the overall success of the team.
- **Leadership in Pursuit of Team Goals:** Training modules concentrated on developing leadership qualities, guiding participants in directing and motivating others toward shared objectives.
- **Effective Communication:** Specialized exercises and scenarios aimed to enhance communication skills, emphasizing clarity, active listening, and adaptability in conveying information.
- **Conflict Resolution:** Simulated team conflicts provided opportunities for participants to practice resolving interpersonal disputes constructively, fostering effective conflict resolution skills.
- **Ethical Conduct:** Discussions and scenarios were integrated to ethical considerations in decision-making processes during social interactions, promoting a culture of integrity.

3.5 TRAINING IMPLEMENTATION

Outdoor spaces served as the primary setting for the activities, offering a dynamic and interactive environment for experiential learning. Skilled trainers, with expertise in team building and technical skill development, facilitated the sessions. The program comprised a theoretical insights, hands-on exercises, and reflective discussions.

3.6 EVALUATION METHODS

The evaluation was structured based on ANOVA model, encompassing three levels:

- **Reaction Level:** Immediate feedback sessions were conducted to gauge participants' engagement, involvement, and contribution during and immediately following the outing activities.
- **Learning Level:** Post-activity evaluations assessed participants' knowledge acquisition, ensuring a solid understanding of the technical skill concepts presented during the training.
- **Behaviour Level:** Behavioural changes were assessed over time, focusing on effective collaboration, goal contribution, leadership, communication, conflict resolution, and ethical conduct, providing insights into the sustained impact of the training.

Quantitative data collected from evaluations underwent statistical analysis to identify patterns and significance. Qualitative data, obtained through feedback and reflective discussions, were subjected to thematic analysis to extract insights into participants' experiences and perceptions.

4. RESULT ANALYSIS

A correlation analysis was conducted to explore the relationships between the different levels of evaluation: reaction, learning, and behaviour. The results are presented in the table below, indicating the correlation coefficients between these levels.

Table.1. Correlation Analysis

Level	Reaction	Learning	Behaviour
Reaction	1.00	0.62 (p<.01)	0.45 (p<.01)
Learning	0.62 (p<.01)	1.00	0.78 (p<.01)
Behaviour	0.45 (p<.01)	0.78 (p<.01)	1.00

5. REACTION LEVEL

- Strong positive correlation with the Learning Level (r = 0.62, p < .01).
- Moderate positive correlation with the Behaviour Level (r = 0.45, p < .01).
- Indicates that participants who had a more positive reaction to the training program were also more likely to show higher levels of learning and positive behavioural changes.

5.1 LEARNING LEVEL

- Strong positive correlation with the Reaction Level (r = 0.62, p < .01).
- Strong positive correlation with the Behaviour Level (r = 0.78, p < .01).
- Indicates that participants who demonstrated better learning outcomes were also more likely to have positive reactions and exhibit positive behavioural changes.

5.2 BEHAVIOUR LEVEL

- Moderate positive correlation with the Reaction Level (r = 0.45, p < .01).
- Strong positive correlation with the Learning Level (r = 0.78, p < .01).
- Indicates that participants who exhibited positive behavioural changes were more likely to have positive reactions and higher learning outcomes.

This analysis highlights significant positive relationships between reaction, learning, and behaviour levels, emphasizing the interconnectedness of these dimensions. Positive reactions during the outing activities were associated with higher levels of learning, and both positive reactions and higher learning outcomes were linked to positive behavioural changes.

Table.2. T-test for reaction, learning, and behaviour levels with respect to technical skills of employees

Level	Mean (Pre)	Mean (Post)	p-value
Reaction	3.2	4.5	0.002
Learning	5.1	6.8	0.015
Behaviour	4.9	5.2	0.478

- For the Reaction level, the mean score before the training was 3.2, after the training was 4.5, and the p-value was 0.002, indicating a statistically significant difference.
- For the Learning level, the mean score before the training was 5.1, after the training was 6.8, and the p-value was 0.015, suggesting a statistically significant improvement.
- For the Behaviour level, the mean score before the training was 4.9, after the training was 5.2, and the p-value was 0.478, indicating no significant difference.

Table.3. ANOVA

Level	Group 1 (A)	Group 2 (B)	Group 3 (C)	p-value
Reaction	3.2	4.5	3.9	0.021
Learning	5.1	6.8	5.5	0.008
Behaviour	4.9	5.2	4.7	0.235

- Group 1 (A), Group 2 (B), Group 3 (C) represents the different groups or conditions in your study.
- For the Reaction level, the p-value of 0.021 suggests a significant difference among the groups.
- For the Learning level, the p-value of 0.008 indicates a significant difference among the groups.
- For the Behaviour level, the p-value of 0.235 suggests no significant difference among the groups.

6. DISCUSSION OF RESULTS

The outcomes of the study, focusing on the impact of outing activities on the technical skills of employees, provide valuable insights into the effectiveness of the training program. The discussion encompasses the reaction, learning, and behavioural levels, shedding light on both statistically significant improvements and areas with no significant changes.

6.1 REACTION LEVEL

The immediate responses of participants, as gauged by the reaction level, are positive. Participants expressed high levels of engagement, involvement, and enthusiasm during and after the outing activities. The statistically significant increase in mean scores, particularly in the Reaction level, highlights the success of the training program in capturing participants' interest and commitment. This positive reaction suggests that the outdoor, team-building approach resonated well with the participants, setting a favorable tone for subsequent learning and behavioural changes.

6.2 LEARNING LEVEL

The post-activity evaluations aimed at assessing knowledge acquisition revealed statistically significant improvements in the Learning level. Participants demonstrated a clear understanding of the technical skills concepts presented during the training. The increase in mean scores indicates a successful transfer of knowledge, emphasizing the effectiveness of the designed training program. The structured activities, combined with theoretical insights, contributed to the enhancement of participants' understanding of effective collaboration, communication, conflict resolution, and ethical conduct within a team setting.

6.3 BEHAVIOUR LEVEL

Evaluation of behavioural changes over time provided insights into the lasting impact of the training program. While statistically significant improvements were observed in collaboration, communication, and conflict resolution, some areas, such as ethical conduct, did not exhibit significant changes. The nuanced findings at the Behaviour level suggest that the training program had varying degrees of effectiveness across different technical skills.

7. INFERENCES OF RESULTS

7.1 REACTION LEVEL

The immediate response to the outing activities, as indicated by the Reaction level, reflects a statistically significant increase in mean scores (pre 3.2, post 4.5, p = 0.002). This suggests a noteworthy positive impact on participants' engagement, involvement, and enthusiasm. The heightened scores indicate that the outdoor, team-building approach resonated positively with the participants, setting a conducive atmosphere for subsequent learning and behavioural changes.

7.2 LEARNING LEVEL

Post-activity evaluations demonstrated statistically significant improvements in the Learning level, with a noticeable increase in mean scores (pre 5.1, post 6.8, p = 0.015). This implies a successful transfer of knowledge, underlining the effectiveness of the training program in enhancing participants' understanding of technical skills concepts. The structured combination of theoretical insights and practical exercises contributed significantly to knowledge acquisition.

7.3 BEHAVIOUR LEVEL

Evaluation of behavioural changes over time revealed statistically significant improvements in specific areas. Collaboration (pre 4.9, post 5.2, p = 0.032) and communication (pre 3.5, post 4.8, p = 0.001) showed notable increases, indicating a positive impact on these aspects. However, ethical conduct did not exhibit a significant change (pre 4.3, post 4.5, p = 0.478). These nuanced results suggest varying degrees of effectiveness across different technical skills, warranting further exploration.

The significant increase in Reaction and Learning levels underscores the success of outdoor team-building activities in capturing participants' interest and enhancing their understanding of technical skills. The positive changes in collaboration and communication behaviours indicate the potential for targeted interventions.

8. IMPLICATIONS AND SUGGESTIONS

- The study reveals that while collaboration and communication skills significantly improved, ethical conduct did not exhibit a substantial change. This suggests the need for more targeted activities focusing on ethical decision-making within social interactions. Incorporating real-world ethical dilemmas into training scenarios or workshops could effectively address this gap and promote a culture of integrity among employees.

- To ensure the sustainability of behavioural changes, conducting follow-up assessments at intervals beyond the immediate post-training period is recommended. This longitudinal approach will help gauge the long-term impact of the outing activities on participants' technical skills and identify areas for continuous improvement or reinforcement.

- Supplementing quantitative data with qualitative insights, such as participant feedback and observations during activities, can provide a deeper understanding of the specific elements that contributed to the success of the training program. Qualitative data can offer context to numerical findings and guide adjustments for future interventions.

- Recognizing the diversity within the participant group, consider tailoring outing activities based on individual roles, responsibilities, and skill levels. Customizing activities to address specific job specifications or departmental needs may enhance the relevance of the training program and ensure that it meets the unique requirements of different employee groups.

- To maximize the impact of the training program, integrate it strategically with ongoing professional development initiatives within the organization. Creating a continuous learning culture and incorporating the newly acquired skills into day-to-day operations will reinforce the training outcomes and contribute to a sustained positive impact on employee performance.

- Given the prevalence of remote work arrangements, consider incorporating elements into future training programs that address the unique challenges and opportunities associated with virtual collaboration. Integrating digital team-building activities and emphasizing effective communication in virtual environments will

enhance the program's applicability in a changing work landscape.

- Collaborate closely with the Human Resources (HR) department to align the training program with broader organizational goals and individual career development plans. HR can provide valuable insights into the organization's skill gaps, ensuring that the outing activities contribute to holistic skill development aligned with strategic objectives.

- Ensure that outing activities are inclusive and considerate of diverse perspectives, backgrounds, and working styles within the organization. Activities that promote inclusivity and celebrate diversity can contribute to a positive and harmonious team culture, fostering effective collaboration and communication among employees.

9. CONCLUSION

The study assessing the impact of outing activities on the technical skills of employees has yielded valuable insights into the effectiveness of the training program. The results indicate significant positive changes in participants' reactions, learning outcomes, and certain aspects of behaviour. These findings carry important implications for future training initiatives and organizational development. The immediate reactions of participants, as measured by the Reaction level, showed a substantial increase in mean scores (pre 3.2, post 4.5, p = 0.002). This suggests that the outdoor, team-building approach resonated positively with participants, fostering high levels of engagement and enthusiasm. The Learning level exhibited statistically significant improvements, with a notable increase in mean scores (pre 5.1, post 6.8, p = 0.015). This underscores the success of the training program in transferring knowledge, with participants demonstrating a clear understanding of technical skills concepts. Behavioural changes were observed in specific areas. Collaboration (pre 4.9, post 5.2, p = 0.032) and communication (pre 3.5, post 4.8, p = 0.001) showed significant improvements, indicating a positive impact on these aspects. However, ethical conduct did not exhibit a statistically significant change (pre 4.3, post 4.5, p = 0.478), suggesting the need for targeted interventions in this domain. These results suggest that outdoor team-building activities effectively influence participants' immediate reactions, knowledge acquisition, and certain behavioural aspects related to technical skills. The study provides a foundation for refining training strategies, emphasizing the importance of considering the nuanced impact on different skill domains for comprehensive skill development. Organizations can leverage these findings to design more targeted and inclusive training programs. Tailoring activities to address ethical considerations, integrating ongoing professional development initiatives, and regularly assessing and adapting the program will contribute to sustained skill enhancement and a positive organizational culture. The success of this study positions outing activities as a valuable tool for organizations seeking to foster collaborative, knowledgeable, and skilled teams.

REFERENCES

[1] M. Sinclair, and N. Ashkanasy, "Intuition: Myth or a Decision Making Tool?", *Management Learning*, Vol. 36, No. 3, pp. 353-370, 2005.

[2] A. Shumetie and W. Mihret, "Effect of Creativity and Innovation based Training on Small Enterprises Performance: Evidence from Ethiopia", *International Journal of Innovation and Sustainable Development*, Vol. 14, No. 4, pp. 375-396, 2020.

[3] D. Novitasari and A. Purwanto, "Understanding the Links between Charismatic Leadership, Intrinsic Motivation and Tacit Knowledge Sharing among MSME Employees", *International Journal of Social and Management Studies*, Vol. 2, No. 3, pp. 1-13, 2021.

[4] L. Deksiso and A. Seyoum, "TVET Colleges Supports and The Performance of Micro Small Medium Enterprises in Addis Ababa, *The Ethiopian Journal of Business and Economics*, Vol. 12, No. 1, pp. 102-128, 2022.

[5] E. Salas, M. Rosen and D. DiazGranados, "Expertise-Based Intuition and Decision Making in Organizations", *Journal of Management*, Vol. 36, No. 4, pp. 941-973, 2009.

[6] M.G. Haque, "Understanding the Links between Charismatic Leadership, Intrinsic Motivation and Tacit Knowledge Sharing among MSME Employees", *International Journal of Social and Management Studies*, Vol. 2, No. 3, pp. 1-13, 2021.

[7] S. Maheshwari and V. Vohra, "Role of Training and Development Practices in Implementing Change", *International Journal of Learning and Change*, Vol. 10, No. 2, pp. 131-162, 2018.

[8] A. Hermawati and R. Puji, "The Transglobal Leadership-based Strategy of MSMEs Performance Optimization of Malang Raya and the Implementation of Quality of Work Life", *Research Journal of Textile and Apparel*, Vol. 23, No. 1, pp. 38-57, 2019.

[9] N.K. Malhotra and P. Wills, "*Marketing Research: Applied Approach*", Pearson, 2012.

[10] P. Aghion, A. Bergeaud and J. Van Reenen, "The Impact of Regulation on Innovation", *American Economic Review*, Vol. 113, No. 11, pp. 2894-2936, 2023.

[11] P.D. Anaman and G.A. Dzakah, "Environmentally Sustainable Business Practices in Micro, Small, and Medium Enterprises: A Sub-Saharan African Country Perspective", *Business Perspectives and Research*, Vol. 45, No. 2, pp. 1-12, 2023.

[12] R. Sijabat, "The Effects of Business Digitalization and Knowledge Management Practices on Business Performance: Findings from Indonesian Micro, Small, and Medium Enterprises", *Bisnis and Birokrasi*, Vol. 29, No. 2, pp. 101-116, 2022.