

A STUDY ON KNOWLEDGE MANAGEMENT PRACTICES AND EMPLOYEE EFFICIENCY WITH SPECIAL REFERENCE TO SASTHA ENTERPRISES, COIMBATORE

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Abstract — Knowledge management practices incorporate structured architectures focused on the seamless identification, acquisition, sharing, and application of human capital skills to advance downstream employee efficiency parameters. Constructive knowledge circulation stabilizes operational targets and updates workforce capabilities inside specialized manufacturing settings. This research paper empirically analyzes the direct influence of knowledge optimization frameworks on task execution and employee well-being parameters at Sastha Enterprises, Coimbatore, a prominent manufacturer specializing in rat sticky pad traps. Operating under a descriptive survey framework, first-hand data parameters were captured from a sample baseline of 120 personnel utilizing convenience sampling methods. Primary records were gathered through comprehensive questionnaires structured on five-point Likert scales, while secondary material was compiled from corporate manuals and indexed management literature. Bivariate statistical checks applied include percentage method distributions, Pearson Chi-Square testing, and product- moment correlation tracking models. The empirical evaluations establish that while 31.7% of respondents express high satisfaction with burnout control frameworks, significant execution bottlenecks exist regarding

leadership communication. Specifically, 23.3% of workers explicitly disagree that immediate supervisors exhibit proactive care when teams handle high stress or mental health hurdles. Bivariate inferential calculations verify that there is no statistically significant relationship ($\chi^2 = 160.104$, $p = .000$) between formal educational levels and work-life flexibility initiatives across the manufacturing plant floor. Concurrently, a significant positive linear correlation ($r = .565$, $p = .000$) demonstrates that emotional resilience perspectives scale upward systematically with age, proving that mature workers bring essential adaptive capabilities to stressful processing operations. Strategic suggestions prioritize standardizing fluid scheduling configurations, balanced task allocations, and specialized management sensitivity training paths to bolster institutional cohesion and retain long-term human assets.

Index Terms — *Knowledge Management, Employee Efficiency, Workspace Well-Being, Emotional Resilience, Descriptive Research Frameworks.*

I. INTRODUCTION

Knowledge management practices encompass the

continuous organizational strategies, corporate protocols, and structured workflows deployed by an enterprise to systematically identify, capture, share, and utilize internal cognitive capital to maximize team performance parameters. In contemporary fast-paced industrial ecosystems, human capital assets operate as the foundational backbone driving mechanical workflows, cost controls, and processing innovation. When an institution develops reliable knowledge networks, it successfully bridges operational gaps, helps employees understand their direct roles, and transforms raw processing data into actionable institutional expertise.

In parallel, tracking employee efficiency and holistic workspace well-being has emerged as an essential metric for modern manufacturing management. The World Health Organization (WHO) break down well-being as a complete positive state of mental, social, and physiological safety, moving beyond the baseline absence of active clinical illness. Professional well-being incorporates fluid work-life balance frameworks, predictable task distribution structures, and supportive supervisor communication media. When personnel navigate an environment that values ideas, provides autonomy, and actively supports emotional resilience, downstream work output quality expands linearly, reducing voluntary worker turnover fields.

The operational interaction connecting knowledge management, leadership empathy, and worker satisfaction remains highly important within labor-intensive processing environments, such as the hot-melt adhesive sector. This research paper provides an extensive imperial Look at these variables with special reference to Sastha Enterprises, Coimbatore, exploring how specific internal practices interact with worker capabilities and wellness parameters.

II. INDUSTRY AND COMPANY PROFILE

2.1 The Rat Sticky Pad and Adhesive Manufacturing Vertical

The manufacturing of specialized mechanical pest-control devices, specifically rat sticky boards and glue traps, represents a highly focused domain within the global industrial adhesive and consumer

hygiene vertical. Modern glue board traps—such as the premium Trubble Gum book-style rat traps—are highly favored by commercial warehouses, food processing systems, and residential properties because they provide low-cost, easy-to-deploy, and non-toxic rodent management options without requiring hazardous poisons. Historically rooted in ancient birdlime adhesive practices, contemporary production utilizes highly sticky hot-melt adhesives formulated from synthetic polymers (such as polyisobutylene and butyl rubber), petroleum resins (tackifiers), and mineral plasticizing oils.

To preserve high surface tack and protect long-term structural stability against environmental debris, the processing adhesive must be heated inside closed mixers under high-temperature lines ranging between 140°C and 200°C. Once melted uniformly, specialized automated machinery applies the adhesive as a thin layer onto cardboard sheets or plastic trays. Given the rapid scaling of consumer hygiene awareness across rural-urban clusters, adhesive manufacturing firms face rigorous timelines, demanding optimized manpower allocation models and consistent labor productivity to survive competitive market pressures.

2.2 Corporate Snapshot: Sastha Enterprises

Sastha Enterprises was officially established in 2019 along Police Quarters Road in Ganapathy, Coimbatore, under the managing direction of the enterprising entrepreneur Mr. Surinder Mehta. The manufacturing facility specializes in producing premium Trubble Gum (Rat Catcher) sticky pads, utilizing high-surface tack hot-melt formulations to supply leading pest management networks across the region. Operating with a dedicated labor force of 180 skilled technicians and administrative personnel, the factory coordinates integrated machining, formulation mixing, and packaging workflows to generate an annualized turnover of Rs. 1 crore.

The organization's physical footprint incorporates state-of-the-art closed thermal blending mixers, roller coating lines, and automated folding frameworks designed to maximize daily output volume while enforcing tight cost controls and raw material efficiency. The firm maintains highly consistent distribution relationships with commercial distributors, positioning itself as a reliable value

variant provider. To sustain this high-volume operational model, Sastha Enterprises' human capital divisions place a strong emphasis on refining internal knowledge sharing and tracking employee well-being parameters across all production segments.

The strategic correlations tracking knowledge acquisition, workplace stressors, and employee job performance are heavily detailed across contemporary organizational behavior literature. Tripathi et al. (2018) completed extensive comparative analyses of different rodent-control trapping models across residential configurations, demonstrating that non-toxic adhesive traps achieve significantly superior capture rates than conventional multiple-catch boxes due to their high surface tack and placement versatility. Their study noted that maintaining high trap performance depends directly on careful placement along active rodent pathways, such as narrow corners and warehouse wall runs.

III. REVIEW OF LITERATURE

The Scottish Animal Welfare Commission (SAWC), alongside reports published by the RSPCA (2020), evaluated the ethical and animal welfare dimensions of adhesive boards, establishing that trapped rodents experience high stress and prolonged suffering when traps are left unmonitored. Their reviews highlighted the risk of non-selective trapping of non-target wildlife, urging pest-control operators to check glue boards regularly and utilize rapid-kill alternative snap systems where ecological parameters demand it. Similar regulatory developments have led several international municipalities to introduce tight legal restrictions, driving pest management fields toward holistic exclusion and sanitation frameworks.

In parallel, human resource studies completed by Beddington et al. (2008) verified that establishing employee well-being metrics functions as a primary priority for sustainable government and corporate policy planning. The researchers proved that professional well-being parameters allow workers to flourish, communicate openly, and operate productively, directly expanding national economic capacity. Furthermore, studies by Goldstein and Ford (2018) on manufacturing units established that when an organization coordinates structured

knowledge-sharing blocks with practical on-the-job training, employees experience less role ambiguity, significantly upgrading their downstream processing confidence and confidence metrics.

IV. RESEARCH METHODOLOGY

This empirical research investigation measures, analyzes, and explains the impact of knowledge management practices on employee efficiency and workplace well-being at Sastha Enterprises, Coimbatore. Utilizing a descriptive research design framework, first-hand data parameters were captured over a four-month tracking window extending from January 2026 to April 2026. A sample base consisting of 120 active personnel across production and administrative units was selected using a non-probability convenience sampling approach. Data collection utilized a printed questionnaire consisting of closed-ended questions formatted on five-point Likert scales, while secondary data points were sourced from corporate manuals, accounting books, and indexed management publications.

Statistical computations were completed using computer-assisted analytics, deploying Simple Percentage Analysis to model basic worker demographics, Pearson Chi-Square distribution methods to analyze cross-tabulated dependencies, and bivariate Pearson Product-Moment Correlation models to measure linear relationships. Statistical significance was verified at a 5% alpha tier ($p < 0.05$) to test the following null hypotheses: (H_{01}) there is no significant relationship between an employee's formal educational qualification tier and their satisfaction with work-life balance initiatives; (H_{02}) there is no significant relationship between monthly salary brackets and satisfaction with continuous training programs; and (H_{03}) there is no significant linear correlation between respondent age and their measured perspective on emotional resilience fields.

5.1 Demographic Profile Analysis

The univariate data distribution demonstrates that 57.5% of the participating workforce is male and 42.5% is female. Age tracking indicates that 31.7% are between 25 and 35 years old, 24.2%

fall between 45 and 55 years, 20.0% are below 25 years, 15.0% exceed 55 years, and 9.2% sit between 35 and 45 years of age. Educational metrics establish that graduate degree holders comprise 30.0% of the target sample, followed by diploma holders (24.2%), other specific certificates (19.2%), postgraduates (14.2%), and higher secondary school levels (12.5%). Monthly income tracking reveals that 36.7% earn between Rs. 10,000 and Rs. 20,000, 28.3% fall between Rs. 20,001 and Rs. 30,000, 17.5% earn below Rs. 10,000, and 17.5% exceed Rs. 30,000.

5.2 Inferential Analytics 1: Chi-Square Test for Educational Qualification vs. Work-Life Balance Perceptions

To verify if an employee's formal educational background tier significantly alters their satisfaction with organizational work-life balance initiatives, a primary Chi-Square check was evaluated against the cross-tabulated dataset.

V. DATA ANALYSIS AND STATISTICAL INTERPRETATION

Table 5.1: Chi-Square Test Matrix for Education vs. Work-Life Initiatives

Statistical Testing Parameter Metric	Calculated Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square Tracker	160.104 ^a	52	.000
Likelihood Ratio Matrix	149.923	52	.000
Linear-by-Linear Association Model	17.224	1	.000
Number of Valid Cases Included	120		

a. 68 cells (97.1%) have expected count less than 5. The minimum expected count is 0.13.

The statistical calculations reveal a Pearson Chi-Square score of 160.104 with 52 degrees of freedom, producing an asymptotic significance value of .000. Because this probability score is substantially below the standard threshold of 0.05, the null hypothesis (H_{01}) is structurally rejected. This demonstrates a statistically significant relationship, proving that educational tiers shape how employees perceive and experience work-life balance initiatives within the firm.

5.3 Inferential Analytics 2: Chi-Square Test for Monthly Salary Tier vs. Training Program Satisfaction

A secondary dependency evaluation was completed to determine if monthly compensation brackets generate a differential experience regarding structured continuous training programs.

Table 5.2: Chi-Square Test Matrix for Monthly Salary vs. Training Programs

Statistical Testing Parameter Tracker	Calculated Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square Matrix	79.684 ^a	36	.000
Likelihood Ratio Tracker	94.649	36	.000
Statistical Testing Parameter Tracker	Calculated Value	df	Asymp. Sig. (2-sided)

Linear-by-Linear Association Model	7.089	1	.008
Number of Valid Cases Maintained	120		

a. 47 cells (90.4%) have expected count less than 5. The minimum expected count is 0.18.

With an asymptotic significance score of .000 ($p < 0.05$), the null hypothesis (H_0) is soundly rejected. This calculation establishes that corporate salary classifications significantly influence employee satisfaction, access, and perceived utility regarding continuous training and development initiatives.

5.4 Inferential Analytics 3: Pearson Correlation for Employee Age vs. Emotional Resilience Perspective

To verify if psychological coping mechanisms and adaptive capabilities change linearly with generational age shifts, a two-tailed Pearson correlation matrix was developed.

Table 5.3: Pearson Product-Moment Correlation Matrix for Age vs. Emotional Resilience

Evaluated Statistical Variables	Age of the Respondents	Subjective Opinion on Emotional Resilience
Age of the Respondents Pearson Correlation Coefficient (r) Sig. (2-tailed probability value)	1.000	.565** .000
Subjective Opinion on Emotional Resilience Pearson Correlation Coefficient (r) Sig. (2-tailed probability value)	.565** .000	1.000

**. Correlation is statistically significant at the 0.01 level (2-tailed); N = 120 respondents.

The correlation analysis yields a positive correlation coefficient ($r = .565$) with a two-tailed significance value of .000 ($p < 0.01$). This confirms a significant positive correlation, leading to the rejection of the null hypothesis (H_0). The statistical evidence suggests that psychological resilience metrics expand systematically with age, demonstrating that mature employees provide steadying adaptive performance when production lines experience intense operational demands.

VI. CONCLUSION AND SUGGESTIONS

The descriptive metrics reveal notable execution gaps within the organization. While 70.0% of respondents report high satisfaction with resource allocations for work-life balance, 37.5% remain neutral regarding actual schedule flexibility, indicating an implementation bottleneck on the factory floor. Crucially, 23.3% of the workforce disagree that line managers demonstrate proactive support when staff handle intense operational stress or psychological challenges, and 35.8% rate the impact of training models on daily work efficiency as poor. To resolve these friction areas, Sastha Enterprises should implement structured flexible

working windows, balance task delegations to prevent burnout, and mandate empathy coaching for mid-level supervisors. Customizing training sessions to focus on practical hot-melt adhesive machinery steps will boost worker confidence, elevate employee efficiency, and secure a sustainable, high-performing corporate culture.

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