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A Study on Quality Management System Adopted by Operation Level Employees in Attar Mohamed Dawood & Co., Chennai

Faziha Maslina A

II MBA, Department of Management Studies, Mohamed Sathak Engineering College, Kilakarai, Tamil Nadu, India

Dr. B. Meenakshi Sundaram

Associate Professor, Department of Management Studies, Mohamed Sathak Engineering College, Kilakarai,
Tamil Nadu, India

ABSTRACT: This study evaluates the effectiveness of the Quality Management System (QMS) among operation-level employees at Attar Mohamed Dawood & Company. Primary data were collected from 120 respondents using a structured questionnaire and analyzed through percentage analysis, weighted average, chi-square, and correlation methods. Findings show good QMS awareness, with training improving employee skills and performance. FIFO and packing practices were important operational activities. Results also reveal gaps in communication, participation, and feedback. Strengthening training and employee involvement can improve quality, productivity, and continuous improvement.

KEYWORDS: Quality Management System (QMS), Employee Awareness, Training and Development, Operational Efficiency, Statistical Analysis, Manufacturing Sector, Continuous Improvement.

I. INTRODUCTION

A Quality Management System (QMS) is a formal framework of policies, processes, procedures, and resources designed to achieve quality objectives and customer satisfaction. It evolved from traditional inspection and statistical quality control to continuous improvement and system-based management. Contributions from Taylor, Ford, Deming, and Juran strengthened quality management practices. ISO 9001:2015 provides internationally recognized QMS requirements. Total Quality Management (TQM) emphasizes customer satisfaction, employee participation, teamwork, and continuous improvement. The PDCA cycle—Plan, Do, Check, and Act—supports systematic problem-solving, implementation, evaluation, and corrective action. QMS improves efficiency, compliance, productivity, quality consistency, and organizational performance.

Statement of the Problem

Employee involvement is often limited when organizations implement new initiatives. Collecting employee feedback is an effective and economical method for encouraging participation and continuous improvement. Feedback helps management understand employees' perceptions and identify areas requiring attention. Operational employees provide valuable bottom-up communication, complementing top-down communication and offering practical insights that managers may overlook, thereby supporting organizational development and effective decision-making.

Objectives of the Study

1. To study the Quality Management System (QMS) practices followed in Attar Mohamed Dawood Company, Chennai.
2. To analyze the level of awareness of QMS among operational-level employees.
3. To evaluate the effectiveness of quality management practices in the organization.
4. To examine the role of management and employee involvement in implementing QMS.
5. To assess the impact of QMS on employee performance and organizational improvement.



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Scope of the Study

The study focuses on

1. Understanding the importance of quality for achieving steady organizational growth in a competitive market.
2. Overall understanding of quality and quality management practices in the organization.
3. Examines employees' opinions, views, and suggestions regarding quality management practices.

Limitations of Study

1. The study is limited to Attar Mohamed Dawood Company, Chennai.
2. The sample size of 120 respondents limits generalization of findings.
3. Respondent bias may affect the objectivity of study findings.

II. REVIEW OF LITERATURE

In a study made by **Garcia & Thomas, (2026)**, titled “Assessing Quality Management System Performance Using Employee-Based Metrics”, published in *Production Planning & Control*, (Vol. 37, Issue 3), pages 210–227, it was determined that employee perception surveys offer important information about the efficacy of QMSs. To improve quality assurance systems, the study suggested combining employee input with performance metrics.

Another study made by **Lopez & Fernandez, (2025)**, titled “Evaluating the Effectiveness of Quality Management Systems in Production Environments”, published in *Journal of Industrial Engineering and Management*, (Vol. 18, Issue 1), pages 115–133, it was determined that using a QMS improves operational discipline and lowers rework rates. The study emphasized that one important factor influencing system effectiveness is frontline employees' involvement.

Further study made by **Zhang & Lee, (2025)**, titled “Role of Training and Communication in Strengthening Quality Management Systems”, published in *Asian Journal of Business Research*, (Vol. 15, Issue 2), pages 75–92, it was determined that ongoing staff training enhances adherence to QMS protocols. According to the results, operational-level training initiatives greatly lower production errors.

Yet another study made by **Ahmed & Rahim, (2024)**, titled “Operational Employee Participation in Quality Management Systems: A Manufacturing Sector Study”, published in *International Journal of Productivity and Performance Management*, (Vol. 73, Issue 8), pages 1520–1537, it was determined that adherence to standard operating procedures is strengthened by a participative quality culture. According to the study, operational employee input increases the flexibility and effectiveness of QMS.

Company Profile

Attar Mohamed Dawood & Company, established in Chennai in 2001, carries over five decades of perfumery expertise originating from Kannauj. The company manufactures and exports attars, perfumes, essential oils, bakhors, and cosmetics to Gulf and African markets. It combines traditional knowledge with modern technology, emphasizing quality raw materials, standardized production, quality control, employee training, and efficient operations. Strong customer relationships, innovation, and quality-focused practices have supported its sustained growth and competitive position globally.

Global Scenario

The global flavors and fragrances market, including perfumes, was valued at approximately USD 32–33 billion during 2023–2024 and is expected to reach USD 43–44 billion by 2032–2033. Premium, niche, gender-neutral, personalized, sustainable, and storytelling-based fragrances are gaining popularity. Rising incomes, social media, e-commerce, and premiumization are major growth drivers, while regulations, sustainability concerns, and competition remain challenges.

National Scenario

In India, the perfume market was valued at about USD 1.25 billion in 2025 and is projected to reach USD 2 billion by 2034. Premium fragrances, e-commerce, digital marketing, unisex products, and natural offerings are expanding. Urbanization, rising incomes, organized retail, social media, and government initiatives support growth, while counterfeits and intense competition create challenges.



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State Scenario

Regionally, Maharashtra, Uttar Pradesh, Karnataka, West Bengal, and Tamil Nadu show distinct consumer and market characteristics. Future growth will be driven by digital commerce, personalization, sustainability, clean fragrances, niche products, and home fragrances.

Future Outlook

The Fogg case demonstrates how understanding consumer needs and innovation can create competitive advantage. Vini Cosmetics introduced a gas-free, long-lasting deodorant targeting young, fashion-conscious consumers. Its distinctive positioning, pricing, and utility-focused advertising helped Fogg challenge established brands such as Axe.

III. RESEARCH METHODOLOGY

Research methodology refers to the systematic process of collecting, analyzing, interpreting, and presenting data to solve a research problem and draw meaningful conclusion.

Research Design

The study adopts a descriptive research design, which describes existing conditions and characteristics of respondents. It is a fact-finding approach focusing on employees' demographic and research-related characteristics.

Sources of Data

Both primary and secondary data were used. Primary data were collected directly from employees through a structured questionnaire. Secondary data were obtained from the company website, journals, internet sources, and other relevant publications.

Research Approach

A survey method was adopted to collect information from respondents through structured questions.

Research Instrument and Period

A questionnaire was used as the primary research instrument. The study was conducted for four months, from January 2026 to April 2026.

Sample Plan

The sample unit consisted of employees of Attar Mohamed Dawood Company, Chennai. The sample included 120 respondents from a population of 350 employees. Simple random sampling was used, giving each employee an equal opportunity for selection.

Tools Used for Analysis

The collected data were analyzed using Percentage Analysis, Weighted Average Method, Chi-Square Test, and Correlation Analysis. Percentage analysis was used to compare data and express relationships between different categories in percentage terms.

$$\text{Percentage} = \frac{\text{No.of Respondents in a Category}}{\text{Total No.of Respondents}} \times 100$$

Chi-Square Test: Chi-square determines whether variables are associated, including analytics usage, performance, awareness, decision-making, and departmental usage.

$$\chi^2 = \frac{\sum (O_i - E_i)^2}{E_i}$$

Correlation Analysis

Correlation analysis is a statistical tool used to measure the relationship between two variables. It is denoted by "r" and shows the strength and direction of the relationship. It helps to identify whether variables such as business analytics usage and organizational performance are related

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$



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Data Analysis and Interpretation

Data analysis involves systematically organizing and examining data to answer research questions, often using visual tools like tables and charts. Data, collected through various methods, is meaningless until analyzed. Analysis identifies patterns and insights through techniques like classification and comparison. Interpretation gives meaning to findings, aligns them with research goals, and generates insights for informed decision-making and future studies.

Table: 1 Gender

Gender	No. of Respondents	%
Male	86	72
Female	34	28
Total	100	100

From the above table, it is interpreted that, 72% of the respondents are Male and 28% of the respondents are Female.

Table: 2 Education Qualifications

Education Classifications	No. of Respondents	%
SSLC	18	15
HSC	26	22
Undergraduate	40	33
Postgraduate	36	30
Total	120	100

From the above table, it is interpreted that 15% have educational qualification as SSLC, 22 % have HSC, 33% have Undergraduate and 30 % completed Post Graduation.

Table: 3 Dealership with the Company

Dealership in years	No. of Respondents	%
Below 5 years	46	38
5 – 10 yeas	33	28
Above 10 years	41	34
Total	120	100

From the above table it is interpreted that 38% have dealership less than 5 years, 28% have dealership between 5 and 10 years and 34% have dealership with the organization for more than 10 years.

Table: 5 Awareness on Quality Management System

QMS Awareness	No. of Respondents	%
Fully Aware	53	44
Partially Aware	38	32
Unaware	29	24
Total	120	100

From the above table it is interpreted that 44% are fully aware, 32% partially aware and 24% are unaware about Quality Management Systems implemented in the Organization.



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Table: 6 Perception about Quality

Perception about Quality	No. of Respondents	%
Elimination of Errors	37	31
A Tool to increase Profits	39	32
A Competitive Advantage	31	26
A Systematic Function.	13	11
Total	120	100

From the above table it is interpreted that 31% perceived Quality as elimination of errors, 32% as tool to increase profits, 26 % as a competitive advantage and 11% as a systematic function.

Table:7 Involvement of TQM Position

Involvement of TQM Position	No. of Respondents	%
Group Leader	53	44
Group Member	65	54
No Involvement	2	2
Total	120	100

It is interpreted that 44% of employees involved as group leader, 54 % as group member and 2 % does not have any involvement in implementation of QMS.

Table:8 Pride Feeling with the Organization for QMS Implementation

Pride Feeling with the Organization for QMS Implementation	No. of Respondents	%
Yes	70	58
No	50	42
Total	120	100

It is interpreted that 92% of employees feel pride for working in this organization for QMS implementation and 8 % of employees not have the pride feeling.

Table: 9 Respondents agreements with implementation of Quality Management System

Influencing Factors by implementing Quality Management Systems	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Res*	%	Res*	%	Res*	%	Res*	%	Res*	%
Necessity for Quality Management	50	42	36	30	20	16	7	6	7	6
Feedback Collection for QMS	55	46	31	25	14	12	14	12	6	5
Opinion of Employees for QMS	56	47	25	21	16	13	18	15	5	4
QMS Training for improving skills	16	14	71	59	11	9	10	8	12	10
Improvement of work after QMS	13	11	57	48	24	20	15	12	11	9
Benefits of QMS in improvement	33	27	41	34	11	9	26	22	9	8
QMS Implementation as per schedule	28	23	36	30	25	21	16	13	15	13
Teammates support for QMS	58	48	34	28	8	7	6	5	14	12
Encouragement from superiors for QMS	19	16	57	47	18	15	14	12	12	10
Corrective Action for QMS initiatives	28	23	33	28	23	19	28	23	8	7
Need for change in QMS	7	6	48	40	21	18	20	16	24	20
Responsible by Management	7	6	48	40	21	18	20	16	24	20



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Res* Respondents

Interpretation

Feedback Collection for QMS – 77%: This is the most favourable factor in the study. A total of 46% strongly agree and 31% agree that feedback collection is important for QMS implementation. This suggests that employees recognize the value of collecting feedback to identify quality issues, improve processes, and make QMS more effective.

Teammates' Support for QMS – 76%: This is the second most favourable factor, with 48% strongly agreeing and 28% agreeing. The high level of support indicates that teamwork and employee cooperation play an important role in successful QMS implementation. Employee involvement can facilitate smoother adoption of quality practices.

Necessity for Quality Management – 72%: About 72% of respondents agree or strongly agree that quality management is necessary. This indicates a strong awareness among employees about the importance of maintaining quality standards and implementing systematic quality practices.

Opinion of Employees for QMS – 68%: A combined 68% of respondents agree or strongly agree that employees' opinions are relevant to QMS. This reflects the importance of employee participation and consultation in improving quality-related practices.

Overall Discussion

The findings demonstrate that feedback collection, teamwork, the perceived necessity of quality management, and employee participation are the strongest factors supporting QMS implementation. The high positive responses suggest that employees are generally receptive to quality management practices. However, relatively lower agreement regarding management responsibility and the need for change in QMS (46% each) indicates that greater management involvement, communication, and awareness may be required. Therefore, the organization should strengthen employee feedback mechanisms, teamwork, training, and management commitment to improve the overall effectiveness of QMS implementation.

Weighted Average with Ranking

Table 10 Ranking the Level of Process towards Potential Improvement for QMS Implementation

Variable	Weighted Average					Total	Weighted Average	Rank
	5	4	3	2	1			
Sourcing Quality Natural Ingredients	6	27	36	29	22	120	326/120= 2.71	III
	30	108	108	58	22	326		
Testing fragrance Consistency	14	27	19	22	38	120	317/120= 2.64	V
	70	108	57	44	38	317		
Checking for adulteration	10	23	18	32	37	120	297/120= 2.47	VI
	50	92	54	64	37	297		
Compliance with safety standards	20	22	20	18	40	120	324/120= 2.70	IV
	100	88	60	36	40	324		
Packing and labelling	30	20	18	20	32	120	356/120= 2.96	II
	150	80	54	40	32	356		
Implementing FIFO (First in First Out) to manage the Stock	19	23	30	32	16	120	357/120= 2.98	I
	95	92	90	64	16	357		

Inference

It is inferred that Implementing FIFO (First in First Out) to manage the stock ranks first with a weighted average of 2.99, Packing and Labelling ranks second with 2.96, Sourcing Quality Natural Ingredients ranks third with 2.71, Compliance with Safety Standards ranks fourth with 2.70, Testing Fragrance Consistency ranks fifth with 2.64, and Checking for Adulteration ranks sixth with 2.47. This indicates that employees consider inventory management through FIFO as the most critical process for potential improvement in QMS implementation.



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IV. CHI SQUARE TEST-I

Relationship between Gender and Awareness of QMS

Null Hypothesis: H₀:

There is no significant relationship between Gender and Awareness of QMS

Alternative Hypothesis: H₁:

There is a significant relationship between Gender and Awareness of QMS

Observed Frequency: The observed frequency for the Chi-Square Test is given in the table below.

Table 11: Observed Frequency

	Awareness of QMS			
Gender	Fully Aware	Partially Aware	Unaware	Total
Male	38	27	21	86
Female	15	11	8	34
Total	53	38	29	120

Source: Primary Data

$$\text{Expected Frequency} = \frac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}}$$

The Calculation is as follows

1. Row1 Total × Column1 Total / Grand Total	=	86x53/98	=	37.98
2. Row1 Total × Column2 Total / Grand Total	=	86x38/98	=	27.23
3. Row1 Total × Column3 Total / Grand Total	=	86x29/98	=	20.78
4. Row2 Total × Column1 Total / Grand Total	=	34x53/98	=	15.01
5. Row2 Total × Column2 Total / Grand Total	=	34x38/98	=	10.76
6. Row2 Total × Column3 Total / Grand Total	=	34x29/98	=	8.21

Table 12: Expected Frequency

	Awareness of QMS			
Gender	Fully Aware	Partially Aware	Unaware	Total
Male	37.99	27.23	20.78	86
Female	15.01	10.77	8.22	34
Total	53	38	29	120

$$\chi^2 = \frac{\sum (O_i - E_i)^2}{E_i}$$

Table 13: Calculation of Chi Square

Observed frequency	Expected frequency	O _i -E _i	(O _i -E _i) ²	(O _i -E _i) ² /E _i
38	37.99	0.02	0.0004	0.00001
27	15.01	-0.23	0.0529	0.00194
21	20.78	0.22	0.0484	0.00233
15	15.01	-0.01	0.0001	0.00001
11	10.77	0.24	0.0576	0.00535



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8	8.22	-0.21	0.0	0.00537
120			Total	0.015

$$\sum[(O_i - E_i)^2 / E_i] = 0.015$$

Degrees of freedom = (No. of Rows – 1) (No. of Columns – 1) = (2-1) x (5-1) = 4

At 5% level of significance the value is **9.488**. Calculated value = **0.015**

Table value > Calculate value, H₀ is accepted.

Inference

There is no significant relationship between Gender and gender and awareness of QMS implementation among the respondents

Coefficient of Correlation

Correlation coefficient is the statistical tools used to measures the degree to which two variables are linearly related to each other. Correlation measures the degree of association between two variables.

Table 14 Relationship Between Skill Training in QMS and Improvement in Work

Skill Training in QMS (X)	Improvement in Work (Y)	X ²	Y ²	XY
16	13	256	169	208
71	57	5041	3249	4047
11	24	121	576	264
10	15	100	225	150
12	11	144	121	132
ΣX = 120	ΣY = 120	ΣX² = 5662	ΣY² = 4340	ΣXY = 4801

Source: Primary Data

Formula:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

$$\sqrt{(5 \times (5662) - (120)^2) \times (5 \times (4340) - (120)^2)}$$

$$r = 0.95$$

Calculated value = **0.95**

Interpretation

It is inferred that the correlation value **r = 0.95** is **positive**, therefore there is a relationship between the Skill Training in QMS and the Improvement in Work.

Suggestions for Better Prospects

The organization should strengthen QMS awareness, training, and employee involvement to improve quality practices. Effective feedback mechanisms should collect employee suggestions, while fair treatment and transparent communication enhance satisfaction. Continuous monitoring and evaluation should ensure QMS effectiveness. The company should promote teamwork and managerial support, while management must take prompt corrective actions, communicate outcomes clearly, and encourage continuous improvement across all quality-related activities and organizational processes.

V. CONCLUSION

The study concludes that QMS positively influences organizational performance at Attar Mohamed Dawood Company. Employees recognize the importance of training, teamwork, and managerial support. FIFO implementation and packing



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and labelling are the most preferred improvement processes. Chi-square analysis shows no significant relationship between gender and QMS awareness, while correlation analysis indicates a strong positive relationship ($r = 0.95$) between quality training and work improvement. Overall, teamwork, transparency, feedback, and continuous improvement strengthen QMS effectiveness.

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