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## TQM in KMF- Special reference to Total Employee Involvement in TQM at BAMUL

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### Abstract

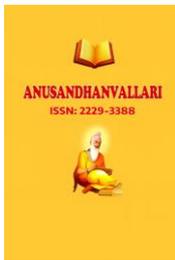
Total Quality Management (TQM) plays an important role in improving productivity and product quality and employee development in the dairy industry. This paper seeks to learn about the applications of TQM at BAMUL and conducts research to evaluate the characteristics of Total employee involvement at BAMUL. A comprehensive literature review suggests that there are some important aspects of TQM such as quality culture, employee focus, performance focus which includes continuous development, customer focus, strategic competitiveness management, performance safety management, food safety management system, improved productivity. Therefore, the Total employee involvement in the organization can develop with maintaining Quality in the products and services, for this purpose of the research took into account the factors mentioned above, how BAMUL inculcated the Total employee involvement in the dairy. The dairy industry itself focuses on high-quality milk – high quality as indicated by a low somatic cell count – to ensure highly productive, healthy storage products are developed. In this article again we have taken some of the important aspects of employee involvement i.e here we are having 5 sub-factors of the main factor of **TOTAL EMPLOYEE INVOLVEMENT**, the survey was conducted from the employees of the organization. The questionnaire was designed in a five-point Likert scale for evaluating the Comprehensive Total employee involvement is properly inculcated in BAMUL.

**Key Words:** Total Quality Management, Total Quality Management factors, Employee involvement, Quality Management.

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### Introduction

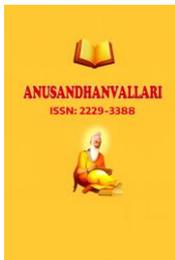
In today's competitive environment, the survival of organizations depends on their ability to continuously meet customer expectations (Sun, 2000). Gitlow and Gitlow (1987) define quality as exceeding customer needs and expectations throughout the life of a product. Quality is defined as conformity to requirements (Crosby, 1992), suitability for use (Juran, 1988a), conformance to and/or customer expectations (Parasuraman et.al., 1985), avoidance of invalidity (Crosby, 1984), etc. In various theories surrounding the word "quality", all authors agree that quality is one of the "fundamental elements of success" for achieving competitiveness in organizations.



Quality has gone beyond the concept of "customer satisfaction with products and services" to the idea of "creating value for all stakeholders" (Karapetrovic and Willborn, 2002). In this context, business efficiency as a whole supersedes the small goal of meeting customer specifications to improve overall system performance. Customer expectations for quality products and services have led organizations to adopt a comprehensive quality management (TQM) system. Proponents of total quality management argue that TQM can be applied to any organization and can lead to improved products and services, reduced costs, more satisfied customers and employees, and improved financial performance (Easton and Jarrel, 1998). Strong research shows that TQM improves organizational performance (Powell, 1995). As a result of this relationship, many companies acquired total quality management and became more interested in TQM-related processes. In fact, TQM has been adopted in various fields including manufacturing, services, healthcare, government and general administration. The success of TQM depends to a large extent on achieving internal and external customer satisfaction. Internal customer satisfaction is a prerequisite for achieving external customer satisfaction (Oakland, 1989). Therefore, TQM can be easily defined as "the management of the entire organization so that it is successful in all kinds of products and services that are important to customers" (Sharma, 1997). It can be said that the participation of the whole organization in the planning and implementation of continuous quality improvement (Shortell et al., 1995). Manufacturing organizations are more likely to experience better employee relations, customer satisfaction, business efficiency and effectiveness through TQM (Terziovski and Samson, 1999). In many Indian organizations, quality has become an important strategic issue due to the challenges posed by globalization and freedom. Many organizations have taken the TQM route to solve these problems. Many organizations have obtained ISO 9000 and QS 9000 certification to improve the quality of their products and services. The combination of these certifications and the implementation of TQM has become a major management movement. Through the process of liberation, India has embarked on a wide range of policy initiatives to provide an ideal environment for industrial investment and growth.

### **TQM in Indian Dairy Industry**

India is the largest dairy country in the last decade. This is the time when milk is considered as a staple food for everyone. Quality plays an important role in the Indian dairy industry in terms of food safety. After 1992, an agreement between the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT) made the world an open market for all products. However, in order to regulate global quality standards for each product, the International Organization for Standardization (ISO) has acquired various standards such as ISO: 9001 quality management, ISO-22000 food safety management, etc.; which have a direct impact on the Indian dairy industry. And all these values are updated from time to time keeping in mind the growing consumer demand and food safety. India's dairy industry, under the pressure of trade stability and growth in open markets around the world, automatically accepted this challenge and today India is not only the world's largest producer of milk but also, for many, the largest exporter of dairy products. countries. Today Gujarat Co-Operative Milk Marketing Federation Ltd. (GCMMF), the well-known brand of Amul, has reached the 15th position in the global dairy industry in terms of milk solids. However, the question on everyone's mind is how this and that can happen in such a short time? Similarly, credit goes to the various management tools used in the Indian dairy industry where TQM plays a very important role. TQM itself combines three main characteristics. Total Quality Control (TQC), Total Employee Involvement (TEI) and Complete Waste Disposal (TWE). The combination of these three has helped to achieve quality assurance in the Indian dairy industry. The name itself justifies ensuring the quality of milk and milk products from the consumer's point of view. At the same time that strict human safety laws are being introduced, quality assurance is mandatory throughout the food industry and the dairy industry is an integral



part. Thus, quality assurance is key to the success of the Indian dairy industry in sustainable business growth. This can be achieved and maintained through TQM processes.

### **Introduction to BAMUL**

In 1958, on January 1, 1958, a pilot program to supply the Bangalore Milk Market, Dept of Animal Husbandry, State of Mysore, started operation of a milk processing facility and a veterinary hospital at the National Dairy Research Institute (NDRI). independent body in 1962, With great efforts of the then Hon'ble Minister of Revenue and Dairying, Hon'ble of Mysore Sri M V Krishnappa, a joint venture of UNICEF, Govt. of India and Govt. of Mysore dedicated Bangalore Dairy to the people of Karnataka State on 23rd January 1965 by the then Hon'ble Prime Minister Late Sri Lal Bahadur Shastri. Spread over 52 acres of land, Bangalore Dairy had an initial capacity to process 50,000 liters of milk per day. In 1975, Bangalore Dairy underwent a structural change and was handed over to the Karnataka Dairy Development Corporation (KDDC). The Rural Milk Program in Mysore, Hassan and Kudige districts was started under Operation Flood-II and then transferred to the Karnataka Milk Federation (KMF) in May 1984 as the successor to the KDDC. To meet the growing demand of milk from consumers in Bangalore city, the capacity was increased to 1.5 million liters per day during Operation Flood-II during 1981 and later increased to 3.5 million liters per day during Operation Flood-III during 1994. Now Meg has built a dairy with a capacity to process 6 million liters of milk per day, which can be expanded to 10 million liters of milk per day.

On 1 January 1958, the Bangalore Dairy Market Experiment Scheme, Department of Animal Husbandry, State of Mysore, established milk processing centers and veterinary hospitals at the National Dairy Research Institute (NDRI). independent body in 1962, through the joint efforts of the then Revenue and Milk Minister, Govt. by Mysore Sri M V Krishnappa, UNICEF Joint Venture, Govt. of India and Govt. of Mysore gifted Bangalore Dairy to the people of Karnataka Province on 23 January 1965 by the then Prime Minister Late Sri Lal Bahadur Shastri. With Bangalore Dairy spread over 52 hectares, The Dairy had an initial capacity to process 50,000 liters of milk per day. In December 1975, Bangalore Dairy underwent a structural change and was acquired by the Karnataka Dairy Development Corporation (KDDC). The Rural Milk Program for Mysore, Hassan and Kudige regions was started under Operation Flood-II and transferred to Karnataka Milk Federation (KMF) in May 1984 as a promoter of KDDC. To meet the growing demand for milk from the consumers of Bangalore city, the volume was increased to 1.5 million liters per day under Operation Flood-II during 1981 and later increased to 3.5 million liters per day under Operation Flood- III to 1994. Meg was now built with a capacity to process 6 liters of milk per day which can be expanded up to 10 liters of milk per day.

### **Vision**

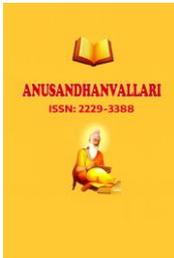
Model Co-Operative Milk Dairy in India

### **Mission**

Ushering Rural prosperity in the lives of Member milk producers.

### **III. Review of Literature**

1. Mamta Patel et.al (2015) discussed the advantages and disadvantages faced by the Indian dairy industry such as low quality, milk safety and energy efficiency. The purpose of this study is to assess the causes affecting the production and quality of the dairy industry using the PDCA (Plan-Do-Check-Act) method. After reviewing the



literature, they discovered TQM functions such as leadership involvement, provider quality management, customer focus, and employee partnership for quality assessment in the dairy industry. They identified management inefficiencies and poor technology as the biggest problems of the Indian dairy industry and recommended that if all aspects of TQM were systematically aligned, Deming's TQM and PDCA concept would give the Indian dairy industry a competitive advantage and the result would be. to achieve high productivity and profitability.

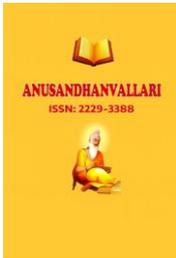
2. Dar Schniederjans and Marc Schniederjans (2015) seek to investigate the relationship between TQM social and technological quality management materials by collecting data from 58 respondents from high-level manufacturing organizations. Identify various aspects of community management such as quality training, integrated collaboration and long-term supplier relationships; Technical functions such as JustIn - Time Management and design design and structural functions such as organizational size, organizational work evaluation and management behavior to manage the quality of learning and details of the new structural framework. They concluded that aspects of public quality management are closely related to innovation and that there is a balanced relationship between public quality management and professional quality management. In addition, their research shows that the positive relationship between quality management and rebranding is moderated by the results of organizational size, functions, and management ethics.

3. Neha Kalra and Anoop Pant (2013) reviewed key achievements for total quality management in the Indian automobile industry. Data was collected from manufacturers, suppliers and subcontractors of automobile associations in the National Capital Region of India. Identify 8 key success keys such as policy and strategic planning, process management and control, customer focus and satisfaction, employee focus, knowledge management, quality leadership, provider focus and organizational satisfaction and business outcome. Among the three CSFs CSFs such as policy and strategic plan, quality leadership and customer focus and satisfaction are identified as the most important factors in the automotive industry for creating high value and profitability.

4. Fuzi Abusa (2011) investigated the impact of TQM implementation on organizational performance in developing countries such as Libya by selecting six different industry groups such as: food, minerals, electronics and engineering, chemical, textile and furniture, and cement and building materials. The extent of TQM application for selected industry groups was assessed using TQM elements such as top management commitment, customer focus, supplier quality management, people management, process management and continuous improvement. The research questions were formulated based on these six elements of TQM. Among the six elements of TQM examined, top management commitment is critical to the success of TQM implementation and concluded that overall competitive position, improved manufacturing performance, customer focus, people management, process management and financial improvement including sales growth and profit growth were achieved. only based on the commitment of top management.

5. Faisal Talib et al. (2010) performed a Pareto analysis by identifying a list of critical success factors for the service industry. An examination of 39 TQM studies on CSFs resulted in a list of 60 CSFs from various service industry researchers and practitioners. On these 60 CSFs, a Pareto analysis was performed to sort out several vital CSFs for the service industry according to their frequency of occurrence, and 21 CSFs were extracted from TQM, among these 21, the CSF top management commitment was ranked first, followed by customer focus. These few vital CSFs have been found as key factors in almost all research works and are repeatedly used by various researchers and concluded that managers and practitioners should focus on these 21 vital CSFs to gain competitive advantage in the service sector.

6. Mujbil Al-Mrsumi (2009) investigated the TQM practices adopted by five milk processing units in Jordan. The survey was conducted on a five-point Likert scale for TQM factors such as instilling a quality culture, employee



focus, operations focus including continuous improvement, customer focus and strategic competitive advantage. The TQM factors for each company were considered as independent variables and the amount in tons of milk was considered as the dependent variable and the correlation coefficient was used to measure the relationship between the TQM factor and the amount in tons of milk and it was found that the most modern dairy processing units scored the highest, while the oldest and least modern reached a minimum and concluded that the correlation coefficient has a direct and consistent linear relationship between the amount of milk in tons and the TQM factors.

#### **STATEMENT OF THE PROBLEM:**

TQM refers to the management methods used to enhance quality and productivity in business organisations especially dairy industry i.e BAMUL and how it is an important tool to improve the overall quality and production of the product in BAMUL. This study aims to understand the TQM practices adapted and how it improved the overall in BAMUL. In order to examine TQM in selected unit, I have identified nine TQM factors to enhance quality in BAMUL and also I had selected one principle among nine i.e Employees involvement, how employees are involved in the BAMUL for maintaining Product Quality, Service Quality and overall development of the organisation. The following are nine main principles of the TQM.

1. Employee motivation
2. Employee empowerment
3. Team and team work
4. Recognition and reward schemes
5. Performance appraisal

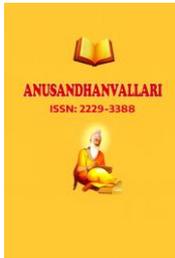
The above Five factors were considered, through which the extent of the application of TQM in each company is measured. In our survey only one principle is taken for the study i.e Employee involvement in the organisation Development and A questionnaire is designed based on how Employees are perceived at BAMUL.

#### **4. Need of the Study**

The Department of HRM and Operation management can play vital role in implementing and maintaining a TQM process. HR Managers are responsible for recruiting high quality employees, continual training for the development of those employees, and the creation and maintenance of the reward systems. Thus TQM controls processes, that are central to achieving the dramatic cultural changes, often required for TQM to succeed. Tailoring the TQM cultural development program to the firm's circumstances is essential in overcoming resistance to change and moving beyond simple compliances with total commitment to TQM. Hence a study was undertaken at BAMUL to obtain new insight into the effectiveness of TQM, how best employees involvement in the work place at BAMUL.

#### **OBJECTIVES OF THE STUDY:**

1. To study the employees involvement culture has been instilled properly or not in selected unit.



2. To analyse and interpret the TQM practices towards employee involvement are followed in the selected unit to improve the quality and productivity of the product.

#### **FORMULATION OF HYPOTHESIS:**

**Null hypothesis (H0):** Employees are not involved in maintaining Quality at BAMUL.

**Alternative hypothesis (H1):** Employees are involved in maintaining Quality at BAMUL.

**RESEARCH DESIGN: SAMPLE AND SAMPLING TECHNIQUE:**

#### **RESEARCH DESIGN: SAMPLE AND SAMPLING TECHNIQUE:**

The study was conducted by selecting BAMUL milk processing unit and 100 respondents from quality control department of dairy were selected to examine the employee involvement in the Organisation work place. In order to collect data from respondent's simple random sampling technique was used.

#### **DATA COLLECTION:**

The data is collected through primary and secondary sources. Primary data is collected by using questionnaire consisting of statements on certain factors like:

1. Employee motivation
2. Employee empowerment
3. Team and team work
4. Recognition and reward schemes
5. Performance appraisal

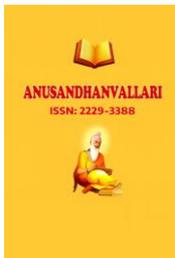
Secondary data is collected through Journals, magazines and from the website of National Dairy Development Board.

**STATISTICAL TOOL:** To analyse Quality Culture factors coefficient of variation is used for the purpose of the study. Chi Square Test  $(\chi^2) = (O-E)^2 / E$ .

Chi Square Test is the test that the variance of a normally distributed population has given value based on sample based on a surveyed sample variance. In comparison, the coefficient of variation with observed value and expected value. Expected value smaller value is said to be more efficient and vice versa. Therefore, the variation with greater percentile implies that the total employees involved in quality culture at BAMUL.

#### **SCOPE & LIMITATIONS OF THE STUDY:**

1. The study focuses on nine factors of TQM namely Instilling quality culture, total Employee involvement, continuous improvement, Customer focus, Strategic and systematic approach, process



centred, integrated System, fact based Decision Making, Communication. Main focus on total employees involved in quality culture at BAMUL.

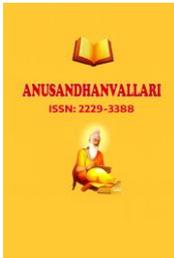
2. The study was confined to BAMUL of KMF only.
3. The data was collected from the members of quality control department of select milk processing units.
4. The sample size used for the study is one whole unit of dairy.

TQM can be summarised as a management system for a customer-focused organisation that involves all employees in continual improvement. It uses strategy, data and effective communications to integrate the quality discipline into the culture and activities of the organisation. Many of these concepts are present in modern quality management systems, the successor to TQM. Here are the 9 principles of total quality management.

1. **Instilling quality culture:** Here team members genuinely care about the quality of their work, and making decisions based on achieving that level of quality.

**The BAMUL has maintained quality culture by applying these 7 Aspects.**

- a. Define and outline company values-** Encouraging the employees to adopt a mindset that every product they working on, regardless of which stage they touch it, eventually will be used on a family member. This approach establishes a holistic nature to quality culture that will impact all the aspects of the business-from product development all the way to commercialization practices. In this aspect Th BAMUL is Defining and outlining the company values to their employees. So they can establish a holistic nature to quality culture that will impact all the aspects of the business-from product to all the way to commercialisation practices.
- b. Train Employees in quality culture-Training is** worthwhile investment that pays dividends over the course of company development. BAMUL had adept teams are formed through taking part in various aspects of training, including activities that reinforce the values of quality culture within the BAMUL.BAMUL had giving training for teams to develop new skills that can be used to improve upon products and processes.
- c. Pursue Quality instead of chasing compliance-** People want to feel like they're doing something that matters, and if team is responsible for developing and producing dairy products, everyone involved is doing something that matters. BAMUL had maintaining quality of products instead of going for compliance. BAMUL main agenda is to maintain the quality in the production..
- d. Implement document control early on-** Document control refers to the policies and procedures that should be in place to ensure that there is organisational accountability for records and other data. Early document can often catch errors and faults that can then be corrected while still in the early stages, making it easier to keep track of things. BAMUL had implemented documentation control at the early stage of the process.
- e. Communicate clearly with regulators-** Planning and building system according to quality standards, risk of noncompliance is high and will eventually be uncovered at some point in the process. So BAMUL communicate clearly with regulators with employees.
- f. Seek end user feedback-** A great way to enhance quality culture, while also ensuring product meets quality standards, is by soliciting end-user feedback. This feedback is valuable to process and it can help to catch design flaws that even most critical engineers may have missed.
- g. Use a right -sized QMS-** QMS that is far too light to cover every one of their procedures. In these instances, BAMUL had an idea for a device to use regulatory requirements involved.



## 2. Total Employee involvement

All the employees are participating in working toward common goals. Total employee commitment be obtained after fear has been driven from the work place, when empowerment has occurred and BAMUL provided the proper environment. High performance work systems integrate continuous improvement efforts with normal business operations. BAMUL is having self-managed work teams are one of the forms of empowerment.

1. Employee motivation
2. Employee empowerment
3. Team and team work
4. Recognition and reward schemes
5. Performance appraisal

## 3. Continuous improvement

A main aspect of TQM is continual process improvement. Continual improvement drives an organisation to be both analytical and creative in finding ways to become more competitive and more effective at meeting stake holders expectations. BAMUL adapted TQM which focuses on continuous improvement of its processes resulting in high quality products and services and continuous improvement of principles like customer focus process improvement and total involvement.

## 4. Customer Focus

This Total Quality Management principle puts the focus back on the people buying the product or service. Customers determine the quality of product. If product fulfils a need and lasts as long or longer than expected customers know that they have spent their money on quality product. BAMUL had aligned it's objectives with customer needs, BAMUL communicate with customers, measure satisfaction, and use results to find ways to improve processes.

## 5. Strategic and systematic approach

The International Organisation for Standardisation (ISO) describes this principle as "Identifying, understanding and Managing interrelated processes as system contributes to the organisation 's effectiveness and efficiency in achieving its objective."

A critical part of the management of quality is the strategic and systematic approach to achieving an organization's vision, mission, and goals. This process called strategic planning or strategic management, includes the formulation of a strategic plan the integrates quality as a core component.

BAMUL providing people with the proper training and resources that will help them complete their individual steps in the process.

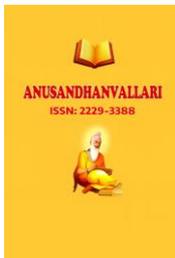
BAMUL continually improving processes and products, and upgrading equipment as necessary to reach the quality goals.

BAMUL recognizing, acknowledging and rewarding the innovations and process improvements.

## 6. Process Centred

A fundamental part of TQM is focus on process thinking. A process is a series of steps that take inputs from suppliers and transform into output that are delivered to customers. The steps required to carry out the process are defined, and performance measures are continuously monitored in order to detect unexpected variation.

BAMUL has process flowcharts to define and delineate clear roles and responsibilities so everybody knows who does what at certain times.



BAMUL is having visual action plan so everybody can easily see the specific activities that need to be completed to achieve the desired result.

Through this technique BAMUL analysing and measuring current activities to see where improvements can be made or where steps in the process are creating bottlenecks.

#### 7. Integrated System

Although an organisation may consist of many different functional specialities often organised into vertically structured departments, it is the horizontal processes interconnecting these functions that are the focus of TQM.

1. Micro-processes add up to larger processes, and all processes aggregate into the business processes required for defining and implementing strategy. BAMUL has made Everyone must understand vision, mission, and guiding principle as well as the quality policies, objectives, and critical processes of the organisation. Business process must monitored and communicated continuously.
2. An integrated business system may be modelled after the Baldrige Award criteria and/or incorporate the ISO 9000 standards. Every organisation has a unique work culture, and it is virtually impossible to achieve excellence in its products and services unless a good quality culture has been fostered. Thus, BAMUL has made an integrated system connects business improvement elements in an attempt to continually improve and exceed the expectations of customers, employees, and other stakeholders.

#### 8. Fact Based Decision making

In order to know how well an organisation performing, data on performance measures are necessary. TQM requires that an organisation collect continuously collect and analyse data in order to improve decision making accuracy, achieve consensus, and allow prediction based on past history.

#### 9. Communication

Every body in the organisation needs to be aware of the plan, strategies, and methods will be used to achieve goals. If the organisation don't have a good communication plan there is greater risk of failure. BAMUL is using this aspect as.

- a. Established an official line communication from higher authority to lower employees, so that all employees know about the updates, new process and policy changes.
- b. BAMUL is involving employee's decision making where possible to improve the productivity.
- c. BAMUL making everybody in every department understand their roles.

**BAMUL had applied TQM principles to their organisation very well, So BAMUL has received various quality standard certificates.**

1. The Union is certifying for Food Safety Management System, ISO 22000:2005 by M/S standards Australia International Global, Mumbai.
2. BAMUL has been certifies for 22000:2005 and ISO 9001:2000 for Quality Management and Food Safety System.

**BAMUL has received the various AWARDS for productivity and quality of the production. The following awards were received by the BAMUL.**

1. Bureau of Energy efficiency, Government of India granted BAMUL has been awarded 2<sup>nd</sup> place for achievement in Energy conservation for the year 2005 in Dairy sector.
2. BAMUL has been awarded 1<sup>st</sup> place in best Safety Industrial Boiler award for Boiler maintenance in the year 2007 conferred by Karnataka safety Council, Government of Karnataka.

3. BAMUL has been awarded 2<sup>nd</sup> place for the achievement in Energy conservation for the year 2008-09 in Dairy Sector, conferred by Karnataka Renewable Energy Development Ltd (KREDL), Government of Karnataka.
4. The National Productivity Council (NPC) of Govt. of India has conferred “Best Productivity Award “For 5 TIMES.

### Quality and Food safety in BAMUL

#### Quality in Everything we make



product Bangalore Dairy is committed to being a trusted, delicious source of milk and milk products for family. BAMUL fortunate to server with the best products, and earn place by holding to the highest standards every day.

BAMUL committed to quality- the quality of procured milk, BAMUL products, BAMUL brands, BAMUL services and BAMUL way of doing business.

Food safety is one of the BAMUL’s top priorities in their milk processing facilities. To ensure BAMUL meeting the highest safety standards, BAMUL conducting employees training in plants, perform regular and ingredient testing and offer continuing education to formers about milk quality and clean milk production.

Favourite dairy milk and milk products remain healthy, safe and wholesome is are the consumers right to expect from favourite product. So, right at the heart of what we do is this principle, protecting consumer confidence in top notch products. That means working with regulators to develop some of the India’s most stringent food safety and quality standards. which is something from which BAMUL wins recognition in India, and proud of.



**Analysis of Total employees involvement towards Quality culture at BAMUL**

**Table-1: Employee motivation**

Sl. No	Opinion	No. Of Respondents	% of Respondents
1.	Yes	86	86%
2.	No	12	12%
3.	Cannot Say	2	2%
	<b>Total</b>	<b>100</b>	<b>100%</b>

Table-1 shows that 86% of the employees responded their opinion as Employee motivation is their in the BAMUL,12% of the employees not accepting BAMUL is having Employee motivation, and 2% of the employees not shred any.

**Table-2: Employee empowerment**

Sl. No	Opinion	No. Of Respondents	% of Respondents
1.	Yes	76	76%
2.	No	20	20%
3.	Cannot Say	4	4%
	<b>Total</b>	<b>100</b>	<b>100%</b>

Table-2 shows that 76% of the employees responded their Employee empowerment in the BAMUL, 20% of the employees not accepting BAMUL is employees empowerment, and 4% of the employees not shared any.

**Table-3: Opinion about Team and team work**

Sl. No	Opinion	No. Of Respondents	% of Respondents
1.	Yes	90	90%
2.	No	5	5%
3.	Cannot Say	5	5%
	<b>Total</b>	<b>100</b>	<b>100%</b>

Table-3 shows that 90% of the employees Opinion about Team and team work is their in the BAMUL, 5% of the employees not accepting BAMUL is having Team and team work, and 5% of the employees not shared any.

**Table-4: Opinion about Recognition and reward schemes**

Sl. No	Opinion	No. Of Respondents	% of Respondents
1.	Yes	70	70%
2.	No	20	20%
3.	Cannot Say	10	10%
	<b>Total</b>	<b>100</b>	<b>100%</b>

Table-4 shows that 70% of the employees responded their opinion as Recognition and reward schemes is their in the BAMUL, 20% of the employees not accepting BAMUL is having Recognition and reward schemes, and 10% of the employees not shared any.

**Table-5: Opinion about Performance appraisal**

Sl. No	Opinion	No. Of Respondents	% of Respondents
1.	Yes	60	60%
2.	No	27	27%
3.	Cannot Say	13	13%
	<b>Total</b>	<b>100</b>	<b>100%</b>

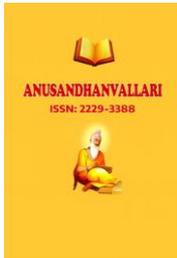


Table-5 shows that 60% of the employees responded their opinion as Performance appraisal is their in the BAMUL, 27% of the employees not accepting BAMUL is Performance appraisal, and 13% of the employees not shared any.

### Hypothesis testing

H0: BAMUL has not having Total employee involvement in Quality Management.

H1: BAMUL has Total employee involvement in Quality Management.

Variables	Yes	No	Cannot say
Defining and outlining company's values	86	12	2
Training employees in quality culture	76	20	4
Pursuing quality than compliance	90	5	5
Communication with regulators	70	20	10
Seek end user feedback	60	27	13
<b>Total</b>	<b>382</b>	<b>84</b>	<b>34</b>

Observed values (O)	Expected values(E)	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
76.4	33.33	1,855.02	55.65
16.8	33.33	273.24	8.19
6.8	33.33	703.84	21.11
<b>100</b>			<b>84.95</b>

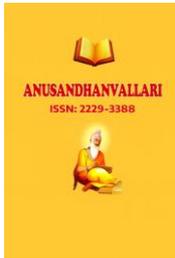
### Test statistics

Particulars	Frequency
Chi-square	84.95
Difference	4
Standard significance	0.05

**Interpretation:** From the data we can observe chi square value is positive 84.95. Therefore, null hypothesis is rejected and alternative hypothesis is accepted.

### Conclusion:

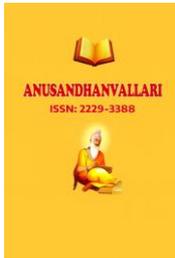
Total Quality Management (TQM) is a tool, used to implement organizational and sustainable development. The principle of TQM adopted by the BAMUL for their sustainable development outlined in our study. In this study Total Quality Management in Karnataka Milk Federation with special reference to BAMUL has instilled Quality Culture in their organisation well. In the above study we have taken Instilling Quality Culture in the Organisation



principle, which is having 7 aspects and we have taken only 5 aspects for the study. Opinion by employees on Defining and outlining company values, Opinion of employees about Training Employees in quality culture, Opinion about Pursuing Quality instead of chasing compliance, Opinion about Communicate clearly with regulators, Opinion about Seek end user feedback these five aspects are satisfied by the BAMUL. We sampled 100 employees, and evaluated whether the Total employees involved in Quality management ( $f=76.4$ ) was equal to the Total employees not involved in Quality management at BAMUL ( $f=16.8$ ) and not result( $f=6.8$ ). The data was analysed by using a Chi Square goodness of fit test. The Null hypothesis was Rejected  $\chi^2(1)=84.95, p \leq 0.05$ . More than half of the employees responded that Total employees involved in Quality management at BAMUL. Finally, we conclude that Total employees involved in Quality management at BAMUL.

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