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Socio-economic & psychological dynamics and quality of work life: A study of sugar co-operative employees in South Gujarat

[1]Tejas N Patel and [2]Dr. Mehul G Thakkar

[1]Ph.D. Research Scholar, Navsari Agricultural University (NAU), Navsari, Gujarat, India

[2]Major Research Guide, Professor in HRM and University Placement & Counselling Head, Certified National, Trainer, Master Trainer & Lead, Assessor of Govt. of India, International Certified Career Coach from Mindler-India & CDA-USA, Startup MAARG Mentor of Govt. of India in 5 Sectors, Navsari Agricultural University (NAU), Navsari Gujarat, India

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Corresponding Author: Tejas N Patel

Abstract

This empirical research study attempts to explore the socio-economic profiles of employees working in South Gujarat's sugar cooperatives, looking into the association between workforce characteristics and their perceptions of Quality of Work Life (QWL). Data were gathered from 300 randomly selected employees across three cooperatives of varying sizes, utilizing a descriptive cross-sectional design. Key findings indicate that the workforce was dominated by male only, and most were within the age group of 31-50 years, with a permanent job position in sugar cooperatives. The majority of the workforce was from rural background with considerable experience within the cooperative sector. Job security, closeness to home, and familiarity with the work environment were the major factors for working in the sugar co-operatives. The educational qualifications ranged from secondary education to postgraduate qualifications, which reflects diversity in skills. Many employees relied on supplementary livelihoods, including farming and animal husbandry, which reflects the economic dependence of employees. QWL perceptions varied by demographic and occupational factors, with most employees reporting high satisfaction levels. These results underscore the significance of socio-economic factors in shaping workforce engagement and indicate the potential of QWL initiatives to address some of the major challenges. The study offers practical recommendations to policymakers and industry leaders to improve employee wellbeing and ensure sustainable organizational growth.

Keywords: Socio-economic dynamics, psychological dynamics, Quality of work life (QWL)

Introduction

One critical challenge that the sugar industry, perhaps one of the few main drivers of agricultural economies, currently faces is the inefficiency of its workforce, high turnover, job dissatisfaction, and workplace stress issues that are potentially disastrous for productivity and sustainability. QWL programs have emerged as a transformative approach to these issues, focusing on employees' well-being, engagement, and development. The empirical evidence shows the positive impact of QWL measures, such as reduced absenteeism, increased employee engagement, and improved operational outcomes. The sugar industry can then address labour challenges, enhance competitiveness, and contribute to sustainable development through the adoption of QWL practices, emphasizing the importance of worker-centric policies for the long-term success of the sector.

Literature Review

Elina Laaksonen *et al.* (2009) [5] studied that past and present economic difficulties were independently associated with physical functioning. The conventional socio-economic indicators showed less consistent associations which were partly mediated through other indicators and modified by the national context. The associations that varied according to the indicators and between the cohorts highlight the importance of considering the multiplicity of socio-economic circumstances and comparing different cultural contexts in further studies.

Bolhari *et al.* (2011) [3] investigated the relationship between the quality of work life and demographic characteristics among the Employees. With a sample of 292 IT staff, the relation among gender, age, income and work experience with QWL were investigated. The results revealed that there is no significant relation between gender and quality of work life, but relationships between quality of work life and age, work experience and income were found.

Thakkar (2013) [7] while analysing the QWL of sugar mills employees, including 150 operative/non-managerial employees, found that the highest number of respondents (36%) belonged to the age group of <25 years and the least number of respondents (14%) belonged to the age group of 36-45 years. In educational qualifications segment, Post Graduation was the highest qualification possessed by least number of the respondents (7.33%), while highest numbers of respondents (30.67%) were Graduates. In terms of working experience in the Sugar Industry, 20.00% of them had just started in Sugar Industry having experience of less than 2 years, 30.67% respondents had 2-5 years' experience,

28.00% had experience of 6-10 years and 21.33% employees had more than 10 years' experience. In and all, the sugar mills seemed to have a good mix of young, energetic and aged experienced workforce.

Ahmad (2017) [1] evaluated the degree of QWL of University employees and explored the association between QWL and some demographic characteristics among them. The sample was made up of both males and females, from all the race groups within the University. The study suggested statistically significant correlation between the demographic variables namely age, period of service, income and education of employees of University and QWL. T test concluded that employees' gender has no specific relation regarding the degree of their QWL.

Mousa & Al-Zu'bi (2020) [6] found that employees from diverse socio-economic backgrounds often experience different workplace dynamics, with lower socio-economic status employees potentially facing more challenges in terms of social mobility within organizations. However, organizations with inclusive policies and training programs have shown improvements in integrating employees from different socio-economic strata.

Chen, Liu & Wang (2021) [4] investigated how socio-economic status impacts employees' preferences for flexible work arrangements. Their study indicated that employees from lower socio-economic backgrounds are more likely to seek flexible work options to balance their financial needs and family responsibilities. This trend was especially notable in the context of the COVID-19 pandemic, where remote work became more prevalent.

Funmilola & Osainika (2022) [2] investigated the impact of employees' educational qualification and income on commitment in a selected Organization in Ibadan. The study adopted descriptive design with multi-stage sampling techniques. About 250 employees were selected into the study, their ages ranged between 20 and 59 years, with mean of 41.7 while standard deviation of 8.27. Structured questionnaire was used for data collection. The result showed that educational qualification significantly influenced employee's commitment.

Methodology

Research locale

This present study was conducted in the South Gujarat region, where three sugar cooperatives were chosen randomly according to their crushing capacities: Bardoli Sugar Co-operative (10,000 MT/day), Gandevi Sugar Co-operative (5,000 MT/day), and Mahuva Sugar Co-operative (3,500 MT/day).

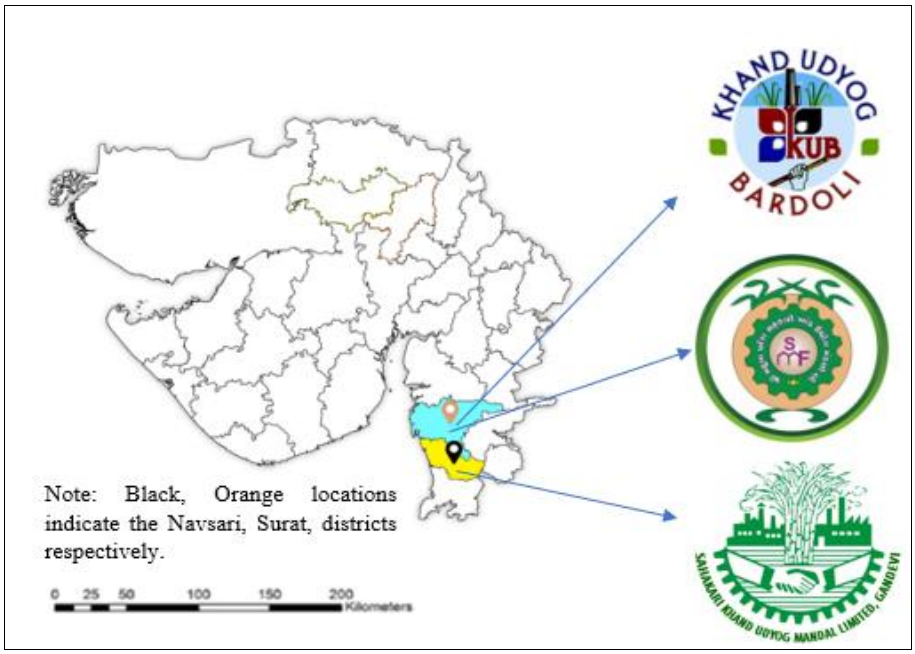

Fig 1: Research Locale

Research Design

A descriptive cross-sectional research design was adopted, which identifies characteristics, frequencies, trends, correlations and categories within a population by observing and describing behaviour without any external influence. This design was used to study the Quality of Work Life (QWL) of employees in sugar cooperatives of South Gujarat during a particular period. All primary data were collected from the employees of the selected cooperatives in one round, which goes in line with the cross-sectional approach. The exploratory stage involved a detailed review of the literature and conducting in-depth interviews with key informants to understand the topic in greater depth.

Sampling procedure

Considering that it was important to ensure all the objectives of the study, data requirements, size of population, precision of the results, cost and time constraints, a simple random sampling technique was selected. This ensures that there are equal chances of an individual being selected from the given population. Thus, 300 employees were randomly selected from the organization as the sample for the study.

a) **For the choice of Sugar Co-operatives:** The research was carried out in the South Gujarat region, which covers around 23.81 lakh hectares of land and comprises seven districts: Valsad, Dang, Navsari, Surat, Tapi, Bharuch, and Narmada. From the 12 operational

sugar cooperatives in this region, three were randomly selected; one large, one medium, and one small sugar cooperative based on their crushing capacity.

b) Selection of Respondents: A simple random sampling of respondents from each of the three sugar cooperatives was employed. A total of 100 respondents were proportionally and randomly chosen from each cooperative. Hence, a final sample size of 300 employees was established. The full sampling plan is given in Table 1.

Table 1: Sampling Plan of Study Area

Selected Sugar Co-operatives	No. of respondents selected
S-1	100
S-2	100
S-3	100
Total	300

Frequency: Frequency is a statistical measure that indicates the number of respondents within a specific category.

Percentage: Percentage is a simple tool for comparisons. To calculate percentages, the frequency of a particular cell is divided by the total number of respondents in that category and then multiplied by 100.

$$\text{Percentage (P)} = \frac{\text{Frequency}}{\text{Total number of respondents}} \times 100$$

Range

Range is the statistical measurement to represent the minimum and maximum score of a category. The same can be represented as the minimum-maximum.

Mean

Measure of central tendency (or statistical averages) tells us the point about which items have a tendency to cluster. Such a measure is considered as the most representative figure for the entire mass of data. Measure of central tendency is also known as statistical average. Mean, median and mode are the most popular averages. Mean, also known as arithmetic average, is the most common measure of central tendency and may be defined as the value, which we get by dividing the total of the values of various given items in a series by the total number of items. We can work it out as under:

$$\text{Mean or } (\overline{X}) = \frac{\sum X_i}{n} = \frac{X_1 + X_2 + \ldots\ldots + X_n}{n}$$

Where, X = The symbol we use for mean (pronounced as X bar)

$\sum$ = Symbol for summation

X_i = Value of the i^{th} item X, i = 1,2, …., n

n = total number of items

Mean is the simplest measurement of central tendency and is a widely used measure. Its chief use consists in summarizing the essential features of a series and in enabling data to be compared. It is amenable to algebraic treatment and is used in further statistical calculations. It is a relatively stable measure of central tendency. But it suffers from some limitations *viz*., it is unduly affected by extreme; it may not coincide with the actual value of an item in a series, and it may lead to strong impressions, particularly when the item values are not given with the average. However, mean is better than other averages, especially in economic and social studies where direct quantitative measurements are possible.

Standard deviation (SD)

Standard deviation is the most widely used measure of dispersion of a series and is commonly denoted by the symbol 'σ' (pronounced as sigma). Standard deviation is defined as the square root of the average of squares of deviations, when such deviations for the values of individual items in a series are obtained from the arithmetic average. It is worked out as under.

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma(X_i - \overline{X})^2}{N}}$$

Coefficient of variation (CV)

When we divide the standard deviation by the arithmetic average of the series, the resulting quantity is known as coefficient of standard deviation, which happens to be a relative measure, and is often used for comparing with similar measure of other series. When this coefficient of standard deviation is multiplied by 100, the resulting figure is known as coefficient of variation. Sometimes, we work out the square of standard deviation, known as variance, which is frequently used in the context of analysis of variation.

The standard deviation (along with several related measures like variance, coefficient of variation, etc.) is used mostly in research studies and is regarded as a very satisfactory measure of dispersion in a series. It is amenable to mathematical manipulation because the algebraic signs are not ignored in its calculation (as we ignore in case of mean deviation). It is less affected by fluctuations of sampling. These advantages make standard deviation and its coefficient a very popular measure of the scatteredness of a series. It is popularly used in the context of estimation and testing of hypotheses.

Results and Discussion

Table 2: Socio-economics Profile of the Respondents

Sr. No.	Variables	Categories	Group/Score	*f*	Percentage (%)	Descriptive Statics		
						Range	Mean	S.D.
01.	Age	20-30	1	24	08.00	Range = 20 – 60 Mean= 2.8200 SD= 0.98870 CV= 0.35		
		31-40	2	106	35.33			
		41-50	3	70	23.33			
		51-60	4	100	33.33			
02.	Gender	Male	1	300	100.00	Range = 1 – 2 Mean= 1.0000 SD= 0.00000 CV= 0.0		
		Female	2	00	00.00			
03.	Belonging Area	Rural: Village	1	225	75.00	Range = 1 - 3 Mean= 1.3300 SD= 0.61836 CV= 0.46		
		Semi-Urban: Town	2	51	17.00			
		Urban: City	3	24	08.00			
04.	Designation	Managerial	1	38	12.66	Range = 1 - 3 Mean= 2.3500 SD= 0.69458 CV= 0.29		
		Highly Skilled	2	119	39.66			
		Skilled	3	143	47.66			
05.	Nature of Employment	Permanent	1	300	100.00	Range = 1 – 2 Mean= 1.0000 SD= 0.00000		
		Contractual	2	00	00.00			
06.	Experience in Present Job	01-10 years	1	54	18.00	Range = 01 – 40 Mean= 2.5700 SD= 1.01416 CV= 0.39		
		11-20 years	2	84	28.00			
		21-30 years	3	99	33.00			
		31-40 years	4	63	21.00			
07.	Experience in Cooperative Sector	01-10 years	1	69	23.00	Range = 01 – 40 Mean= 2.3500 SD= 1.01535 CV= 0.43		
		11-20 years	2	108	36.00			
		21-30 years	3	72	24.00			
		31-40 years	4	51	17.00			
08.	Reason for Working in Sugar Cooperative	Job Security	1	78	26.00	Range = 01 – 06 Mean= 3.1400 SD= 1.55836 CV= 0.49		
		Easy Entry	2	33	11.00			
		No Work Pressure	3	21	07.00			
		Near to my Home	4	120	40.00			
		Familiar environment	5	33	11.00			
		Sugarcane grower family	6	15	05.00			
09.	Educational Qualification	SSC- 10th Std.	1	29	09.66	Range = 01 – 05 Mean= 3.4100 SD= 1.16895 CV= 0.34		
		HSC- 12th Std.	2	21	07.00			
		Diploma	3	108	36.00			
		Graduate	4	82	27.33			
		Post Graduate	5	60	20.00			
10.	Marital Status	Single	3	33	11.00	Range = 1 - 3 Mean= 1.9100 SD= 0.34973 CV= 0.18		
		Married	2	261	87.00			
		Divorced/Separated/Widowed	1	06	02.00			
11.	A) Sole Earner in the Family	No	1	237	79.00	Range = 1 – 2 Mean= 1.2100 SD= 0.40799 CV= 0.33		
		Yes	2	63	21.00			
	B) Other Earning Family Members	01 (1-2)	1	03	04.76			
		02 (2-4)	2	15	23.80	Range = 1-4 Mean= 2.24 SD= 0.689 CV= 0.31		
		03 (4-6)	3	39	61.90			
		04 (6-8)	4	06	09.52			
12. a	Their Job is the Only Source of Livelihood	Yes	1	90	30.00	Range = 1 – 2 Mean= 1.7000 SD= 0.45902 CV= 0.27		
		No	2	210	70.00			
12. b	Other Sources of Livelihood	Farming	1	149	49.66			
		Animal Husbandry and Dairy Farming	2	81	27.00			
		Other Freelance Activities	3	06	02.00			
		Business	4	19	06.33			
		Other earning members of the family	5	45	15.00			
13.	Type of Family	Joint	1	90	30.00	Range = 1 – 2 Mean= 1.4100 SD= 0.49266 CV= 0.34		
		Nuclear	2	210	70.00			
14.	Number of Family Members	1-3	1	135	45.00	Range = 1- 12 Mean= 1.8000		
		4-6	2	117	39.00			

		7-9	3	21	07.00	SD= 0.91805 CV= 0.51
		10-12	4	27	09.00	
15.	Annual Family Income	1-3 lakh	1	66	22.00	Range = 1- 12 Mean= 2.2000 SD= 0.90705 CV= 0.41
		4-6 lakh	2	141	47.00	
		7-9 lakh	3	60	20.00	
		10-12 lakh	4	33	11.00	
16.	House Status	Own House	1	252	84.00	Range = 1 - 3 Mean= 1.2700 SD= 0.64691 CV= 0.50
		Rented House	2	15	05.00	
		Staff Quarters	3	33	11.00	
17.	Perception Regarding the Availability of QWL Attributes at the Workplace	Low perception	0-80	28	28.00	Range = 49 - 228 Mean= 168.29 SD= 46.77 CV= 0.27
		Medium perception	81-160	56	18.66	
		Highly perception	161-240	216	72.00	

Where, *f*= frequency, %= percentage, S.D.=standard deviation, and C.V.= coefficient of variation

Conclusion

This study emphasizes the importance of knowing the socio-economic dynamics of the employees in the sugar cooperatives of South Gujarat to build a productive and sustainable workforce. The diverse socio-economic profiles of the employees reveal varied needs and aspirations, which call for customized interventions. Despite challenges such as rural dependency, limited alternative livelihoods, and educational disparities, employees generally expressed positive perceptions of Quality of Work Life (QWL) attributes, reflecting the efficacy of current workplace practices. To maintain and enhance these positive perceptions, sugar cooperatives must adopt inclusive policies that cater to the diversity of their workforce and adapt to changing expectations. Some of the key strategies include flexible work arrangements, skill development programs, and comprehensive health and safety measures. In addition, using employees' agricultural expertise can help align workplace initiatives with broader community development objectives. By creating an environment that puts employee well-being and engagement first, sugar cooperatives can easily tackle labour challenges, reduce turnover, and improve productivity. This approach will not only make the sector more competitive but also enhance its contribution to regional socio-economic development. Finally, a worker-centric approach will enable sugar cooperatives to lead the way in sustainable and inclusive industrial practices and set a standard for other industries.

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