Factors Analysis With Reference To Training of Line Staff In Jaipur Dairy, Rajasthan

*Shraddha Banga

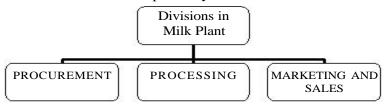
INTRODUCTION

Milk is one of the most perishable fast moving consumer goods and its quality is always a matter of concern. Diverse activities are involved in procuring, production and marketing of this product. Not only this, the increasing population and expanding product line of milk products have led to increase in demand of milk. Bulk production necessitates the use of capital along with labor. Indian economy has seen remarkable changes in milk procurement and processing techniques. The infusion of capital makes training of workers an essential component of dairy federation in emerging economies, as a major percentage of the laborers involved are less educated and need skill development and motivation.

Per capita consumption of milk has increased from 124 gm/day in 1950-51 to 245 gm/day in 2006-07 (Source: Integrated Sample Survey Report, All States). India's population growth is 2% per year but milk production has increased by 3.9% per year. Milk travels long distances before reaching the milk plant for final processing and after being tested on Automated Raw Milk Reception Dock (RMRD) in the Plant, it is be put through various processes before it reaches the market in different forms.

The plant involves rapid integration of labor input and capital input for which, training of manpower becomes essential.

The study has been conducted in Jaipur Dairy Plant, a constituent of Rajasthan Cooperative Dairy Federation Limited. There are three main functions undertaken in Jaipur Dairy Plant:



Our study focuses on the attitudes of workers towards trainings conducted in the processing division.

ECONOMICS OF TRAINING

India is a land of villages and villages are associated with underdevelopment. If Karl Marx's theory of alienation¹ of workers is applied here, it would justify the class struggle between Capital owners and laborers, but in our research, we have found that capital inducement backed by proper training increases the efficiency of laborers. Instead, the infusion of capital and proper training helped increase revenue generation due to product line expansion, longer shelf life of products and innovative work in the presence of division of labor and specialization. According to H.H.Boeke's *Dualistic Economy theory*², emerging economies are characterized by divided interests of two sections (modern and traditional) and thus can be stated as dual economies. Dualistic theories advocate chronic co-existence of modern and traditional methods of production which have inherent tendency to increase and there exists two societies. The two main characteristics of a dualistic economy: a. one policy for the whole country is not possible (only traditional or only western). b. what is beneficial for one section may be harmful to another: earlier, the top management had this view about training and education of blue collar workers, which led to enmity between the two, but as more capital is being infused, the training and efficiency of line staff has become more important: this justifies training and development of line staff workers.

^{*}Faculty Member, Economics, ICFAI National College, Jaipur, Rajasthan. Email: shradha.banga@gmail.com.

^{1.} http://en.wikipedia.org/wiki/Marx's_theory_of_alienation.

^{2.}http://books.google.co.in/books?id=gn-

XCVBhgJgC&pg=PA123&lpg=PA123&dq=Boeke+theory+of+dualism&source=web&ots=8aC9e_GJrR&sig=8ouTCeJklbFsKK3Ye99lHIcLeNk &hl=en&sa=X&oi=book_result&resnum=3&ct=result.

Learning Curve (used firstly by Herman Ebbinghaus in 1885)³ states "with time, cost of production per unit decreases" and proper training is an important component of this per unit cost reduction. The traditional methods of production of milk may not comply with this view but proper use of innovative techniques and machines have proved this to be true. Training to equip workers with these developments is very important.

This paper emphasizes on wishful learning of workers, by asking their views regarding various factors affecting training, and comes up with a handful of factors which must be considered before designing a training program in order to get good results.

REVIEW OF LITERATURE

Training has been a matter of interest for the researchers. Many works have been done on the ratings and feedback analysis especially in the field of HRM and Managerial Economics.

Alxander, Edwards and Smart (1994)⁴, in their paper "New managerial thinking: factors affecting training and development at work", have opined that prescriptive consultancy is most important for workers after conducting a research on problems relating to transfer of new models in developing economies.

Wong, Marshall, Alderman and Thwaites (1997)⁵ through their study have inspired many organizations to conduct training and development programmes by showing complex and indirect links between training and performance. Kontoghiorghes(2001)⁶ has brought forward the key factors within and outside the training context that affect training effectiveness in the form of associated environment and rewards.

The above studies have inspired me to come up with a few training factors considered important by workers. In order to proceed with the research, various meeting with top and middle level management of Jaipur Dairy Plant were conducted, on the basis of which a close ended questionnaire was developed and workers of the plant were asked to fill it.

OBJECTIVE

The aim of the paper is to identify the key trainings which should be included in the training module of the organization according to the attitude of line staff workers, towards various forms of trainings imparted by the management.

RESEARCH METHODOLOGY

Using convenience sampling method, respondents (line staff) were asked to fill a questionnaire (Table I) consisting of 19 questions to be measured on Likert Scale of 1 to 5(1= Very Important, 2= important, 3=neutral, 4= not very important, 5= not important at all), which will reflect their attitude towards different forms of trainings. The questionnaire was made in Hindi language for the respondents.

The study was conducted in Jaipur Dairy, Jaipur. 19 Variables were taken after consultation with personnel and MIS department Managers. Sample size of 160 respondents was taken earlier, however 5 non serious questionnaires were taken out and final analysis was done on 155 responses using factor analysis on SPSS.

DATA ANALYSIS AND INTERPRETATION

For the purpose of analyzing perception of the respondents of Jaipur Dairy plant, they were asked the level of importance they allocate to various training programs held in the plant on 5-point scale. For extraction of factors, SPSS 13 was used. Factor analysis was used to determine whether there were any common constructs that represented respondents' attitudes towards training. 19 variables were analyzed using principal component analysis method of factor reduction.

³. http://en.wikipedia.org/wiki/Learning_curve.

⁴. Alexander,S; Edwards,R; Smart,N.W.. New Managerial Thinking: Factors affecting training and development at work; Industrial & Commercial Training, 1994, Vol 26 Issue 1-3, p28-32.

⁵. Wong, Cecilia: Marshall, J Neil; Alderman, Neil; Thwaites, Alfreds. Management training in small and medium sized enterprises: methodological and conceptual issues. International Journal of Human Resources Management, Feb 97, Vol. 8. Issue 1, p44-65.

⁶. Kontoghiorghes, Constantine. Factors Affecting Training Effectiveness in the Context of the Introduction of New Technology- A US case study. International Journal of Training & Development, Dec 2001, Vol. 5, Issue 4, p248.

Table I: Questionnaire on Attitude of workers towards different forms of trainings imparted in Milk Plant

Label	Statements		Likert	Scale			
V1	Process/Technical Knowledge	1	2	3	4	5	
V2	Time management	1	2	3	4	5	
V3	Quality Control	1	2	3	4	5	
V4	Fuel efficiency	1	2	3	4	5	
V5	Awareness about new tech	1	2	3	4	5	
V6	Maintenance of Plant and machinery	1	2	3	4	5	
V7	Workers security	1	2	3	4	5	
V8	Stress management	1	2	3	4	5	
V9	Interaction b/w different level of employees	1	2	3	4	5	
V10	Facilitates team management	1	2	3	4	5	
V11	Facilitates independent decision making	1	2	3	4	5	
V12	Equips workers with various processes	1	2	3	4	5	
V13	Competition in market	1	2	3	4	5	
V14	Self-financial management	1	2	3	4	5	
V15	Family related issues	1	2	3	4	5	
V16	Legal regulations awareness	1	2	3	4	5	
V17	Political issues	1	2	3	4	5	
V18	Economic conditions in country	1	2	3	4	5	
V19	Social Reforms	1	2	3	4	5	
Note:	1= Very Important, 2= important, 3=neutral, 4= not very important, 5= not important at all						

Factor analysis was applied after testing the data on KMO and Barlett's test which showed satisfaction on data adequacy as KMO measure is>.6 at 0 level of significance (Table II)

Table II: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.65
Bartlett's Test of Sphericity	Approx. Chi-Square	870.15
	df	171
	Sig.	0

19 forms of trainings were identified in Jaipur Dairy and after applying factor analysis, they have been further clubbed into 7 factors. This can be inferred by retaining only the variables with Eigen values greater than 1 (Kaiser's criteria) (Table III), we can infer that 69.6% of variance is explained by these seven factors.

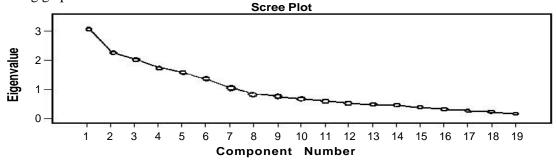
Table III: Total Variance Explained

Compo-		Initial Eigenvalues Extraction Sums of Squared Loadings			ared Loadings	Rotation Sums of Squared Loadings			
nent	Total		Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.1	16.4	16.4	3.1	16.4	16.4	2.5	13.2	13.2
2	2.3	12.0	28.4	2.3	12.0	28.4	2.3	11.9	25.1
3	2.0	10.8	39.2	2.0	10.8	39.2	2.2	11.8	36.9
4	1.8	9.2	48.5	1.8	9.2	48.4	1.8	9.2	46.1
5	1.6	8.3	56.8	1.6	8.3	56.8	1.7	9.1	55.2
6	1.4	7.2	64	1.4	7.2	64	1.6	8.4	63.7
7	1.1	5.6	70	1.1	5.6	69.6	1.1	5.9	69.6
8	0.8	4.4	74						
9	0.8	4.0	78						
10	0.7	3.5	81.5						
11	0.6	3.2	84.8						
12	0.5	2.8	87.5						
13	0.5	2.6	90.1						
14	0.5	2.5	92.6						
15	0.4	2.0	94.7						
16	0.3	1.8	96.4					·	
17	0.3	1.5	97.9						
18	0.2	1.2	99.1						
19	0.2	0.9	100						

Extraction Method: Principal Component Analysis.

From the above table, we can conclude that 7 factors can be extracted which have more than one Eigen Value and these are the factors which explain 69.5% of the variance. However, the rest 30.4% is explained by other factors.

The following graph would make the distinction clear.



APPLICATION OF FACTOR ANALYSIS

Factor Analysis using Principal Component Analysis has been done on the basis of similarity between various training components. Table IV represents the result of the same. In order to have more clarity on factors extracted through Principal component analysis, Varimax rotation method was applied on data extracted and factors were finally extracted on the basis

Table IV: Component Matrix(a): Principal Component Analysis: 7 factors extracted

	` '	<u> </u>					
Variables	1.0	2.0	3.0	4.0	5.0	6.0	7.0
Process/Technical Knowledge	0.7	-0.2	-0.3	0.3	0.0	0.3	0.0
Time management	0.8	-0.1	-0.2	0.3	0.1	0.2	0.0
Quality Control	0.8	-0.1	-0.3	0.3	0.1	0.3	0.1
Fuel efficiency	0.3	0.7	0.0	-0.3	0.1	0.1	-0.1
Awareness about new tech	0.0	0.0	0.2	-0.3	0.2	0.3	0.6
Maintenance of Plant and machinery	0.3	0.8	0.0	-0.3	0.1	0.1	-0.2
Workers security	0.3	0.7	0.1	-0.3	0.1	0.0	0.0
Stress management	0.1	-0.1	0.4	0.1	0.0	0.1	-0.7
Interaction b/w different level of employees	0.5	-0.3	0.6	-0.2	-0.1	-0.1	0.1
Facilitates team management	0.5	-0.2	0.6	-0.1	0.1	-0.2	-0.1
Facilitates independent decision making	0.4	-0.3	0.6	-0.2	0.1	-0.1	0.2
Equips workers with various processes	0.2	0.4	0.1	0.5	0.1	-0.5	0.1
Competition in market	0.1	0.1	0.1	0.6	0.4	-0.5	0.1
Self-financial management	-0.4	0.1	0.2	0.2	0.5	0.3	-0.1
Family related issues	-0.3	0.1	0.0	0.1	0.5	0.3	-0.1
Legal regulations awareness	-0.4	-0.1	0.4	0.1	0.4	0.4	0.0
Political issues	-0.1	0.4	0.3	0.4	-0.5	0.2	0.1
Economic conditions in country	-0.1	0.1	0.3	0.3	-0.5	0.4	0.0
Social Reforms	-0.1	0.3	0.4	0.5	-0.2	0.0	0.2

To get a clearer grouping of important factors of training, Rotated Component Matrix was applied and the final interpretation was made on the basis of finding from it (Table V).

Table V: Rotated Component Matrix(a)

1.0	2.0	3.0	4.0	5.0	6.0	7.0
0.9	0.0	0.0	0.0	-0.1	0.0	0.0
0.9	0.2	0.1	0.0	-0.1	0.1	0.0
0.9	0.1	0.0	-0.1	-0.1	0.1	0.0
0.0	0.0	0.8	0.0	0.0	0.0	0.0
0.0	0.3	0.1	0.0	0.2	-0.2	-0.7
0.0	-0.1	0.9	0.0	-0.1	0.0	0.0
0.0	0.1	0.8	0.0	0.0	0.1	-0.1
0.0	0.3	0.0	0.1	0.2	-0.1	0.8
0.1	0.8	0.0	0.0	-0.2	0.0	0.0
0.1	0.8	0.1	-0.1	-0.1	0.1	0.2
0.0	0.8	0.0	0.0	0.1	0.0	-0.1
0.0	0.0	0.2	0.1	-0.1	0.8	0.1
0.1	0.0	-0.1	0.0	0.2	0.9	0.0
-0.1	-0.1	0.0	0.0	0.7	0.1	0.1
0.0	-0.1	0.1	-0.1	0.7	0.0	0.0
-0.2	0.1	-0.1	0.1	0.7	-0.1	-0.1
-0.1	-0.1	0.1	0.8	-0.1	0.1	0.0
0.1	0.0	0.0	0.8	0.1	-0.2	0.1
-0.1	0.0	0.0	0.7	0.0	0.3	0.0
	0.9 0.9 0.0 0.0 0.0 0.0 0.0 0.0	0.9 0.0 0.9 0.2 0.9 0.1 0.0 0.0 0.0 0.3 0.0 0.1 0.0 0.3 0.1 0.8 0.0 0.8 0.0 0.8 0.0 0.0 0.1 0.0 -0.1 -0.1 -0.2 0.1 -0.1 -0.1 0.1 0.0	0.9 0.0 0.0 0.9 0.2 0.1 0.9 0.1 0.0 0.0 0.8 0.0 0.0 -0.1 0.9 0.0 0.1 0.8 0.0 0.3 0.0 0.1 0.8 0.0 0.1 0.8 0.1 0.0 0.8 0.0 0.0 0.2 0.2 0.1 0.0 -0.1 -0.1 -0.1 0.0 -0.2 0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1 0.1 -0.1 -0.1 0.1 -0.1 -0.1 0.1	0.9 0.0 0.0 0.0 0.9 0.2 0.1 0.0 0.9 0.1 0.0 -0.1 0.0 0.0 0.8 0.0 0.0 0.3 0.1 0.0 0.0 0.1 0.8 0.0 0.0 0.3 0.0 0.1 0.1 0.8 0.0 0.0 0.1 0.8 0.1 -0.1 0.0 0.8 0.0 0.0 0.0 0.0 0.2 0.1 0.1 0.0 -0.1 0.0 -0.1 -0.1 0.0 0.0 -0.1 -0.1 0.0 0.0 -0.2 0.1 -0.1 0.1 -0.1 -0.1 0.1 0.8 0.1 0.0 0.0 0.0	0.9 0.0 0.0 0.0 -0.1 0.9 0.2 0.1 0.0 -0.1 -0.1 0.9 0.1 0.0 -0.1 -0.1 -0.1 0.0 0.0 0.8 0.0 0.0 0.0 0.1 0.9 0.0 -0.1 0.0 0.1 0.8 0.0 0.0 0.1 0.8 0.0 0.0 -0.2 0.1 0.8 0.1 -0.1 -0.1 0.0 0.8 0.0 0.0 0.0 -0.2 0.1 0.8 0.0 0.0 0.0 0.1 0.0 0.8 0.0 0.0 0.0 0.1 0.0 0.8 0.0 0.0 0.1 0.2 0.1 0.0 0.0 0.1 0.1 0.1 0.1 0.0 0.0 0.2 0.1 0.1 0.0 0.1 0.1 0.7 0.1 0.7	0.9 0.0 0.0 0.0 -0.1 0.0 0.9 0.2 0.1 0.0 -0.1 0.1 0.9 0.1 0.0 -0.1 -0.1 0.1 0.0 0.0 0.8 0.0 0.0 0.0 0.0 0.3 0.1 0.0 0.2 -0.2 0.0 -0.1 0.9 0.0 -0.1 0.0 0.0 0.1 0.8 0.0 0.0 0.1 0.0 0.1 0.8 0.0 0.0 -0.2 -0.1 0.1 0.8 0.0 0.0 -0.2 0.0 0.1 0.8 0.0 0.0 -0.2 0.0 0.1 0.8 0.0 0.0 0.1 0.1 0.0 0.8 0.0 0.0 0.1 0.0 0.0 0.8 0.0 0.0 0.1 0.0 0.0 0.0 0.2 0.1 0.0

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The variables having factor loading more than .5 have been identified as part of a single factor. Table VI gives a clear understanding of 18 factors considered important by most of the workers.

Table VI: Grouping of Key Variables based on factor loadings

	Factor I	FΠ	FШ	F IV	F V	F VI	F VII
Variables	Core Job	Human Skills	Efficiency Training	General Awareness	Self management	Competitiveness Enhancing	Stress Management
	Training	Training		Training	Training	Training	Training
Process/Technical Knowledge	0.9						
Time management	0.9						
Quality Control	0.9						
Interaction b/w different level							
of employees		0.8	-				
Facilitates team management		0.8					
Facilitates independent decision							
making		0.8	-				•
Fuel efficiency			0.8	•		•	
Maintenance of Plant & machinery			0.9	•		•	·
Workers security			0.8				
Political issues			•	0.8			
Economic conditions in country				0.8			
Social Reforms				0.7		•	·
Self-financial management					0.7		
Family related issues					0.7		
Legal regulations awareness			-		0.7		
Equips workers with various processes						0.8	
Competition in market						0.9	
Stress management	•	•	•			•	0.8

Table VI categorizes 7 factors, under which 18 factors having positive correlation have been identified. On the basis of this criteria, the next and final step of naming the factors on the basis of commonality was undertaken (TableVII).

Table VII: Factors responsible for effective training of Line Staff

	<u> </u>	
No.	Factor	Components of the Factor
Factor I	Core Job Training	Process/Technical Knowledge
		Time management
		Quality Control
Factor II	Human Skills Training	Interaction b/w different level of employees
		Team management
		Independent decision making
Factor III	Efficiency Training	Fuel efficiency
		Maintenance of Plant and machinery
		Workers security
Factor IV	General Awareness Training	Political issues
		Economic Related Issues
		Social Reforms
Factor V	Self-management	Self-financial management
		Family related issues
		Legal regulations awareness
Factor VI	Competitiveness Enhancing Training	Equips workers with various processes
		Competition in market
Factor VII	Stress Management	Stress management

CONCLUSION AND MANAGERIAL IMPLICATIONS:

From the above analysis, it can be concluded that workers place more importance on core job related trainings and trainings related to development of human skills and efficiency. The other trainings related to general awareness, self and family management, training, enhancing competitiveness have also been given importance by the workers. However, the workers have shown less interest in trainings on new technology, they need to be motivated to understand the importance of such trainings in order to excel and widen their outlook.

(continued on page 28)

private and voluntary sectors. Employees of contractors, sub-contractors and agents of an organization; applicants for employment, former employees and overseas employees; attorneys and auditors should also be covered.

- The Official Secrets Act should be overridden to provide for a public interest defense and the 'gagging clauses' in employment or severance contract should be declared void in respect of public interest disclosures.
- It is a moot point whether the Act's protection should be extended to members of the armed forces, the secret services and the police.
- What constitute 'public interest disclosures' need to be clearly defined. The protection should apply to specific disclosures only involving an illegality, criminality, and breach of regulatory law, miscarriage of justice, danger to public health or safety and damage to environment, including attempts to cover up such malpractices.
- The whistleblower must reasonably believe that his information about a malpractice is substantially true, and must act in good faith. Those caught making anonymous or pseudonymous leaks should not be protected. The period of limitation for filing a complaint must be sufficiently long.
- The Act must encourage employees to raise the matter internally in the first instance and mandate organisations to establish suitable mechanisms for this purpose. Where it is not reasonable to raise the matter internally, or where attempts to remedy the matter from the inside have been unsuccessful, employees who make an external disclosure in a specified way should also be protected.

As things stand today in India, the chances of enacting such legislation may seem remote. But whistleblower protection measures are gathering a momentum of their own around the world, aided partly by spectacular government and corporate scandals. It is just a question of time before we shift from our present culture of zero tolerance of whistle blowing to a culture of zero tolerance of whistleblower retaliation.

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(continued from page 23)

LIMITATIONS

The study is restricted to processing division of the Jaipur Dairy Plant where in the line staff was surveyed on the basis of close-ended questionnaire.

SCOPE FOR FURTHER RESEARCH

The study can be extended to procurement and marketing divisions also. The study can also be extended across different regions of the country to understand geographical differences if any, in attitude of workers' towards training.

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