Costs, Operational Performance and Yarn Quality: Inter-mill Study of Key Factors

36th CPQ Study Report

(October - December 2021)

THE SOUTH INDIA TEXTILE RESEARCH ASSOCIATION
COIMBATORE – 641 014

Contents

C o n t e n t s (contd...)

Two groups had submitted their data pertaining to 10 units each, while another one group had provided data relating to 6 units (Figure 1). One group had furnished their data for 4 units. Six groups had participated with 3 units each. Another 11 groups had submitted the data for 2 units each. The groups with multiple units have been utilising the CPQ study results for comparing the performance of their units not only among themselves but also with other competing mills and initiate necessary measures to improve their performance. A consolidated report (for groups having 3 units and above) have been sent to various groups along with a hard copy of the report.

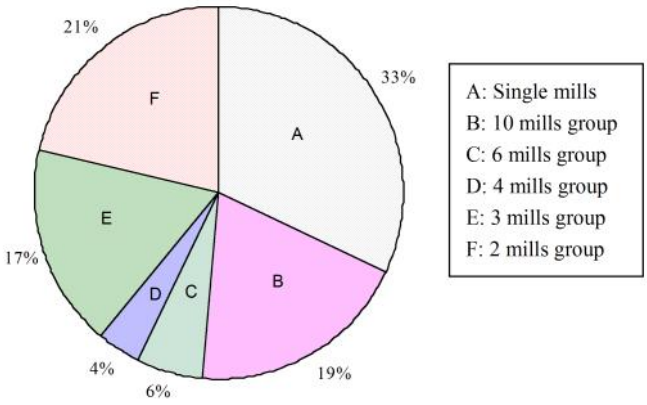


Figure 1 Pattern of participation in the 36th CPQ study
(As a % of the total mills)

2. Method of study

Data relating to various costs and operational parameters which affect the profitability like salaries and wages, power and raw material costs, yarn selling price, power consumption, productivity and product-mix were obtained from the mills for the fourth quarter of 2021 (October - December). Requisite data were collected from the mills through a well-designed questionnaire in MS Excel format.

Around 300 different counts and varieties of yarns have been covered in this report . The overall ratings with respect to raw material cost, yarn selling price and techno-commercial index (TCI) are based on up to 6 major counts spun in each mill. Count-wise figures for each mill are also tabulated to enable them to make detailed comparisons. All other data relating to contribution, labour and machine productivity, power consumption, power cost, salaries and wages cost and product diversification cover the entire production of the mills.

Necessary care has been taken to ensure that the figures obtained from the mills are reliable and accurate. Salaries and wages cost figures were verified against those expected for HOK, wage rate and production pattern of the mills. In the case of other items, in addition to giving clear guidelines to avoid ambiguity, wherever the individual figures deviated widely, clarifications were obtained from the mills.

3. Method of comparison

3.1. Ranking of mills

The mills have been ranked based on **contribution**, i.e. yarn sale value less the sum of clean raw material cost, salaries and wages cost and power cost, which ultimately decides the profitability (contribution minus overheads and stores costs = operating profit). Tables 2, 3 and 16 give the mill-wise contribution, sale value and cost particulars.

3.2. Raw material cost, yarn selling price, net out-put value and production rate

Rating of a mill's performance is based on the average values that prevailed in the participant mills. In each mill, data for up to six major counts have been considered. As these counts account, on an average, for about three-fourths of the total yarn production, the rating is expected to reflect more or less a mill's entire production. The overall cost for each mill, summing up all the six counts, is computed as follows:

Yarn selling price index (YSPI) has been arrived at by expressing the overall price realised by a mill in the six counts (sum of yarn selling price/kg multiplied by the corresponding yarn production of the 6 counts) as a percentage of the survey average yarn selling price (sum of average yarn selling price/kg multiplied by the corresponding yarn production of the 6 counts). A similar procedure has been followed to compute the raw material cost index (RMCI), commercial performance index (CI), technical performance index (TI), speed index (SI), TPI index (TPII) and machine efficiency index (EI).

Illustration:- *Calculation of YSPI :*

Mill ref. no.: 18

Count	Yarn selling price (Rs/kg)		Yarn production during the quarter (kg)
	Mill figure	Survey average	
40s C-Comp.	340.4	348.6	76,298
50s C-Comp.	429.7	445.9	72,337
60s C-Comp.	595.4	459.0	1,00,182
100s C-Comp.	761.9	714.1	1,98,441
40s CH-Comp.	343.2	329.4	2,22,165
	Total		6,69,423

Total yarn sale value (Rs) :

Mill $= (340.4 \times 76,298)+(429.7 \times 72,337)+(595.4 \times 1,00,182)+(761.9 \times 1,98,441)+(343.2 \times 2,22,165)$

$= 34,41,42,637$

Survey $= (348.6 \times 76,298)+(445.9 \times 72,337)+(459.9 \times 1,00,182)+(714.1 \times 1,98,441)+(329.4 \times 2,22,165)$

$= 31,97,23,958$

Overall yarn selling price (Rs/kg) :

$$\textit{Mill average} = \frac{34,41,42,637}{6,69,423} = 514.1$$

$$\textit{Survey average} = \frac{31,97,23,958}{6,69,423} = 477.6$$

$$\textit{Yarn selling price index} = \frac{514.1}{477.6} \times 100 = 107.6$$

Overall yarn selling price of the mill, based on the 5 major counts, is 8% higher than the survey average.

Yarn selling price is one of the most important parameters that decides a mill's overall performance in terms of profitability. However, as yarn selling price and yarn quality are to a large extent influenced by the cost and quality of cotton, while judging yarn selling price, a mill's rating of the raw material cost should also be taken into consideration.

3.3. Techno-commercial Index (TCI)

TCI is a combined measure of YSP, RMC and production rate in relation to survey average. It is an useful tool for mills to quickly assess the techno-commercial performance of various counts, either individually or along with the comparison with the survey average. This information would also be helpful for mills to prioritise corrective actions either in the commercial parameters or in the operational parameters.

$$TCI = \frac{NOV_M \times PR_M}{NOV_S \times PR_S} \times 100 \quad (or) \quad \frac{CI \times TI}{100}$$

Where,

NOV = Net out-put value (Rs/kg of yarn).

PR = Production per spindle (rotor) per 8 hours in grams.

CI = Commercial performance index, i.e. $\frac{NOV_M}{NOV_S} \times 100$

TI = Technical performance index, i.e. $\frac{PR_M}{PR_S} \times 100$ or $\frac{SI \times EI}{TPII}$

M and S = Mill average and Survey average.

Calculation of techno-commercial index (TCI)

Illustration

Mill ref. no.: 18

Count	NOV_M (Rs/kg of yarn)	NOV_S (Rs/kg of yarn)	PR_M (g)	PR_S (g)	Yarn prodn. during the quarter (kg)
40s C-Comp.	132.6	128.9	146.6	140.2	76,298
50s C-Comp.	239.6	209.3	104.1	95.9	72,337
60s C-Comp.	298.1	213.7	78.4	73.1	1,00,182
100s C-Comp.	464.6	420.3	35.6	34.6	1,98,441
40s CH-Comp.	124.8	106.5	170.6	147.7	2,22,165
Weighted avg.	264.8	229.2	106.9	96.6	-
Index	CI = 115.5		TI = 110.7		TCI = 127.9

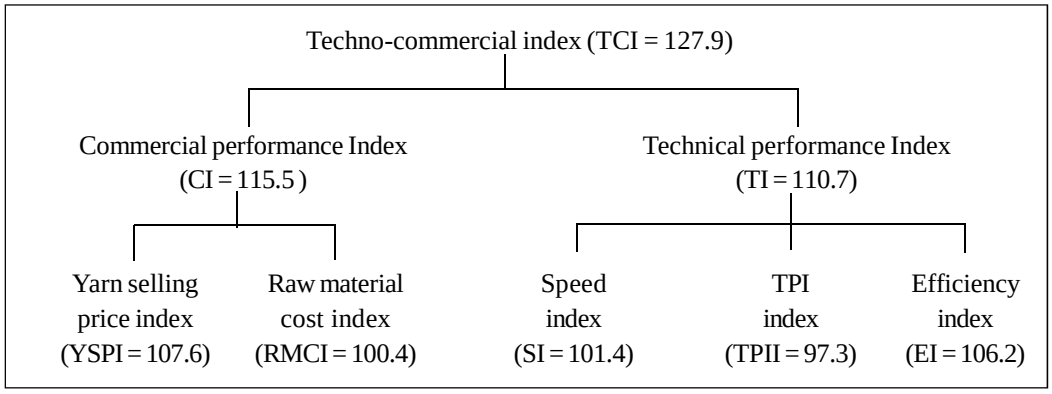
$$TCI = \frac{NOV_M \times PR_M}{NOV_S \times PR_S} \times 100 \quad (or) \quad \frac{CI \times TI}{100}$$

$$= \frac{264.8 \times 106.9}{229.2 \times 96.6} \times 100 \quad (or) \quad \frac{115.5 \times 110.7}{100} \quad => 127.9$$

3.4. How to analyse the techno-commercial performance of a mill ?

Illustration

Mill ref. no.: 18



The TCI of the mill, based on the 5 major counts, is 28% more than its competitors manufacturing the same counts. The good performance of the mill is mainly due to its better commercial performance (CI = 116) and also due to higher technical performance (TI=111) when compared with its competitors.

From the above analysis, it can be deduced that the mill has been exercising a good control over both its commercial and technical performance when compared with its competitors' performance.

Mill-wise data with respect to YSPI , RMCI, CI, SI, TPII, EI, TI and TCI are presented in Table 1. Count-wise figures for each mill which form the basis for computing the overall rating are given in Tables 10 and 12. The major counts that were considered in each mill for estimating mill-wise indices are furnished in Table 17.

3.5. Salaries and wages cost (SWC)

Salaries and wages cost (SWC), expressed as a percentage of sale value, is generally independent of the counts spun by the mills. However, the type of yarn spun has an important bearing on the SWC. In mills manufacturing highly value added yarn, the SWC tends to be low. The wage levels prevailing in the mills also influence the SWC in direct proportion.

The SWC is thus primarily determined by three parameters, labour productivity, operative wage level and type of yarn. It will be lower in mills achieving higher levels of labour productivity, paying lower wages and producing high value yarns. The reduction in the SWC will be compounded, if more than one of these operating conditions are present in the same mill. For example, in a mill with 20% higher labour productivity, 30% lower wages and fetching 25% higher yarn sales realisation, the SWC will be lower by 53% [100 - (70 x 100^2 / 120 x 125)]. On the other hand, a high SWC largely stems from low labour productivity.

Higher SWC value should be viewed with concern and calls for both short-term and long-term planning focussed on increasing labour and machine productivity. Percentile rankings of the SWC based on 99 mills are given in Figure 2.

Table 1

Indices of yarn selling price, raw material cost, commercial performance, technical performance and techno-commercial performance

Sl. no.	Mill ref. no.	Yarn selling price index (YSPI)	Raw material cost index (RMCI)	Commercial performance index (CI)	Speed index (SI)	TPI index (TPII)	Efficiency index (EI)	Technical performance index (TI)	Techno-commercial index (TCI)
1	12	125.9	115.9	140.7	104.4	97.6	99.4	106.3	149.6
2	18	107.6	100.4	115.5	101.4	97.3	106.2	110.7	127.9
3	25	108.9	108.4	109.6	114.4	101.1	101.4	114.7	125.7
4	83	101.1	98.8	113.5	104.6	101.5	100.6	103.7	117.7
5	61	100.2	92.3	108.2	100.4	94.9	102.0	107.9	116.7
6	58	100.8	96.7	106.5	113.9	100.0	94.2	107.3	114.3
7	24	99.2	94.4	109.8	97.0	96.0	102.4	103.5	113.6
8	33	101.6	97.8	107.1	111.1	102.0	97.2	105.9	113.4
9	26	104.0	96.0	113.3	94.4	96.9	102.1	99.5	112.7
10	23	105.2	102.8	110.1	100.1	98.4	100.1	101.8	112.1
11	10	103.5	98.4	110.4	103.9	100.8	98.4	101.4	111.9
12	82	105.0	100.9	110.5	99.6	99.4	100.6	100.8	111.4
13	47	97.4	90.8	111.5	105.6	103.6	96.3	98.2	109.5
14	75	104.9	100.8	110.7	99.0	101.0	100.9	98.9	109.5
15	21	100.7	97.9	107.9	99.4	98.4	99.9	100.9	108.9
16	77	98.2	94.9	101.4	99.0	94.3	101.4	106.5	108.0
17	4	102.3	95.1	106.8	95.3	98.8	104.6	100.9	107.8
18	76	100.5	95.1	110.5	94.5	98.9	101.1	96.6	106.7
19	3	97.1	92.1	104.5	-	-	-	102.0	106.6
20	22	105.1	103.0	109.1	94.6	98.4	101.6	97.7	106.6
21	46	105.6	129.0	80.9	116.4	88.7	99.9	131.1	106.1
22	89	100.8	98.7	106.3	98.2	99.6	100.2	98.8	105.0
23	50	92.6	73.9	107.4	98.3	101.8	101.2	97.7	104.9
24	38	100.7	88.2	113.3	96.9	103.2	98.2	92.2	104.5
25	40	95.3	88.2	104.2	100.8	98.4	97.8	100.2	104.4
26	19	96.4	92.2	101.6	102.5	99.3	99.5	102.7	104.3
27	37	102.2	97.0	107.6	100.8	102.8	98.7	96.8	104.2
28	63	103.9	103.7	104.1	99.6	101.0	101.3	99.9	104.0
29	95	98.8	96.8	103.4	98.8	101.1	102.8	100.5	103.9
30	36	101.1	99.6	104.3	-	-	-	99.2	103.5
31	32	96.2	95.0	98.0	99.1	92.1	97.9	105.3	103.2

Table 2

Contribution, sale value and cost factors - mill-wise

Mill rank and ref. no.	Selling price /kg of yarn (Rs)	Sale value /spl. /year (Rs)@	RMC/ kg of yarn (Rs)	As % of sales		Power cost		Contribution#			Avg. count (Ne)
				RMC	SWC	as % of sales	/spl. /year (Rs)@	/spl. /year (Rs)@	/kg of yarn (Rs)	as % of sales	
1	354	81110	219	61.8	2.4	7.0	5660	23380	102	28.8	30
2	304	87720	200	65.8	3.0	5.0	4350	23000	80	26.2	26
3	332	64490	184	55.4	3.0	6.7	4300	22570	116	35.0	31 $
4	384	50560	157	40.9	6.2	10.6	5360	21380	162	42.3	31 *
5	279	83580	188	67.2	3.2	5.6	4650	20040	67	24.0	23
6	310	63270	173	56.0	5.7	6.7	4220	20000	98	31.6	29
7	297	70010	183	61.6	5.0	6.5	4570	18830	80	26.9	29
8	290	62030	169	58.3	4.3	7.2	4450	18790	88	30.3	30
9	395	66480	240	60.7	5.8	5.7	3810	18440	110	27.7	34
10	388	53080	206	53.2	4.5	8.0	4220	18200	133	34.3	42
11	256	60720	136	53.0	9.7	7.5	4580	18070	76	29.8	28
12	417	66500	251	60.3	6.6	6.0	3960	18060	113	27.2	39
13	274	71410	173	63.1	5.1	6.7	4810	17940	69	25.1	24 *
14	287	92890	216	75.3	2.2	4.4	4090	16820	52	18.1	25
15	321	64110	192	60.0	6.0	8.0	5130	16680	83	26.0	27
16	300	69490	198	65.8	2.8	7.9	5480	16320	71	23.5	25
17	355	51440	203	57.0	4.9	6.4	3300	16260	112	31.6	37 *
18	447	44270	231	51.8	5.9	7.3	3230	15520	157	35.1	51
19	431	38730	210	48.7	8.7	4.4	1720	14810	165	38.2	48
20	562	37760	281	49.9	7.6	4.7	1790	14240	212	37.7	54
21	322	68560	219	68.0	5.2	6.2	4260	14070	66	20.5	28
22	318	66740	217	68.3	5.5	5.3	3530	13930	66	20.9	27
23	300	76580	217	72.4	4.2	5.4	4110	13810	54	18.0	23
24	311	55690	203	65.1	5.3	5.0	2790	13720	77	24.6	34
25	456	35310	221	48.4	6.4	6.4	2260	13670	177	38.7	46 *
26	469	41230	237	50.5	5.9	10.5	4340	13670	155	33.1	50
27	474	30870	200	42.3	9.9	3.8	1180	13600	209	44.1	51
28	514	30280	242	47.2	5.9	3.4	1040	13190	224	43.6	62
29	287	70640	202	70.4	4.9	6.4	4560	12890	52	18.2	25
30	521	39360	277	53.2	4.3	9.9	3910	12820	170	32.6	60
31	236	70360	147	62.5	9.2	10.6	7450	12500	42	17.8	22

Table 4

Power consumption particulars - mill-wise

Mill ref. no.	Avg.cnt. (Ne)	UKG		USS	Power consumption (%)					Power cost per unit (Rs)					Overall power cost per unit (Rs)	State code
		Overall	Without doubling		EB	HSD	HFO	Pvt.	Oth.	EB	HSD	HFO	Pvt.	Oth.		
1	30	3.63	-	835	100.00	-	-	-	-	6.8	-	-	-	-	6.8	MP
2	26	2.42	-	680	98.73	-	-	1.27	-	6.2 @	-	-	6.3	-	6.2	RJ
3	31 $	3.53	-	675	66.51	-	-	33.49	-	5.7	-	-	7.4	-	6.3	MP
4	31 *	6.00	3.81	770	65.71	0.50	0.84	32.95	-	6.6 # @	26.5	12.8	6.6	-	6.8	TN
5	23	2.49	2.32	720	98.70	-	-	1.30	-	6.2 @	-	-	6.3	-	6.2	RJ
6	29	3.30	3.25	675	99.97	0.03	-	-	-	6.2	16.0	-	-	-	6.2	PB
7	29	2.99	-	695	84.26	0.12	-	15.61	-	6.5 #	28.9	-	6.3	-	6.5	TN
8	30	3.83	-	810	99.98	0.02	-	-	-	5.4	17.1	-	-	-	5.4	HP
9	34	4.06	-	675	99.08	0.92	-	-	-	5.5	16.3	-	-	-	5.6	HP
10	42	5.70	-	765	100.00	-	-	-	-	5.4	-	-	-	-	5.4	HP
11	28	3.11	-	715	100.00	-	-	-	-	6.2	-	-	-	-	6.2	PB
12	39	4.30	-	665	100.00	-	-	-	-	5.8	-	-	-	-	5.8	KL
13	24 *	3.06	-	795	100.00	-	-	-	-	6.0	-	-	-	-	6.0	MH
14	25	2.32	-	735	100.00	-	-	-	-	5.4 # @	-	-	-	-	5.4	GJ
15	27	3.29	-	650	-	-	-	-100.00		-	-	-	-	7.8	7.8	RJ
16	25	3.15	-	735	44.33	-	-	-	55.67	7.6	-	-	-	7.5	7.5	MP
17	37 *	3.94	3.79	550	57.31	0.01	-	42.68	-	5.6 #	21.8	-	6.0	-	5.8	TN
18	51	5.61	-	535	57.31	0.01	-	42.68	-	5.7 #	21.7	-	6.0	-	5.8	TN
19	48	5.58	5.51	490	84.38	0.14	-	15.48	-	2.9 # @	26.5	-	6.0	-	3.4	TN
20	54	7.41	6.40	490	74.27	0.43	0.39	24.92	-	2.5 #	28.5	15.2	6.4	-	3.6	TN
21	28	2.76	-	575	22.34	2.03	-	75.64	-	7.5 #	27.3	-	6.6	-	7.2	TN
22	27	2.90	-	590	100.00	-	-	-	-	5.8	-	-	-	-	5.8	MP
23	23	2.78	-	690	100.00	-	-	-	-	5.8	-	-	-	-	5.8	MP
24	34	3.57	-	660	51.89	-	-	48.11	-	2.3 #	-	-	6.6	-	4.4	TN
25	46 *	5.61	5.43	440	69.20	0.59	-	30.21	-	4.7 #	28.0	-	5.9	-	5.2	TN
26	50	6.65	6.31	585	84.40	0.91	-	14.69	-	7.5	32.1	-	5.6	-	7.4	TN
27	51	8.18	6.30	540	99.57	0.43	-	-	-	2.1 #	28.0	-	-	-	2.2	TN
28	62	7.24	-	435	88.09	0.70	-	11.21	-	1.7 #	19.1	-	7.1	-	2.4	TN
29	25	2.83	2.59	685	99.86	0.14	-	-	-	6.5 @	-	-	-	-	6.5	HR
30	60	7.61	-	555	66.58	1.12	-	32.31	-	6.6 # @	26.4	-	6.6	-	6.8	TN
31	22	3.21	2.53	955	-	-	-	-100.00		-	-	-	-	7.8	7.8	RJ
32	46	4.58	-	550	26.82	0.48	-	72.70	-	7.0 #	30.9	-	6.6	-	6.8	TN
33	41 *	4.83	-	500	64.02	0.16	0.53	35.28	-	3.1 #	19.2	13.2	7.7	-	4.8	TN

Table 7

Labour productivity - mill-wise

Mill ref. no.	Up to ring frames@		Auto winding HOK@	Ring frame		Avg. count (Ne) (ring spinning)
	HOK	OHSAM		Tenter assign. index*	Doffer assign. index*	
1	-	-	-	185	AD	30
2	6.4	1.0	-	138	AD	26
3	-	-	-	134	83	31
4	14.4	2.1	5.7	96	71	88
5	7.2	1.1	-	123	AD	23
6	-	-	-	123	AD	29
7	11.0	1.6	2.0	81	AD	29
8	-	-	-	125	AD	30
9	-	-	-	130	AD	34
10	-	-	-	165	AD	42
11	13.2	1.9	2.5	41	79	28
12	12.8	1.9	4.8	134	96	39
13	-	-	3.4	94	69	26
14	9.8	1.5	2.1	70	AD	25
15	-	-	-	59	69	27
16	-	-	-	143	AD	25
17	8.2	1.2	-	122	80	48
18	7.3	1.1	-	149	AD	51
19	13.4	1.9	3.0	75	90	48
20	12.6	1.8	3.8	152	79	54
21	12.3	1.7	-	60	AD	28
22	-	-	-	98	81	27
23	-	-	-	80	AD	23
24	-	-	-	50	AD	34
25	17.1	2.4	3.9	123	86	59
26	-	-	-	93	84	50
27	12.8	1.7	2.6	84	112	51
28	10.4	1.4	2.3	118	AD	62
29	11.1	1.7	2.1	56	93	25
30	9.6	1.4	-	106	AD	60
31	-	-	-	53	56	22
32	10.8	1.6	2.8	128	79	46

Table 8

Machine productivity - mill-wise

Mill ref. no.	Prodn./ spl./ 8 hrs. (g)@	Spindle/ rotor utilisation (%)	% loss in utilisation					MPI
			Repairs & maint-enance	Labour shortage	Power shortage	Others#	Total	
1	-	94.85	1.21	-	0.09	3.85	5.15	-
2	130	98.27	0.85	-	0.08	0.80	1.73	112
3	-	96.66	0.93	0.02	-	2.39	3.34	-
3 $	-	97.29	1.35	-	0.14	1.22	2.71	-
4	114	97.53	1.31	0.05	0.22	0.89	2.47	98
4 *	-	99.40	0.16	-	0.23	0.21	0.60	-
5	119	98.68	0.61	-	0.13	0.58	1.32	103
6	-	95.14	1.22	-	0.31	3.33	4.86	-
7	124	96.72	0.96	0.24	1.55	0.53	3.28	106
8	-	96.38	0.51	-	0.45	2.66	3.62	-
9	-	96.33	0.49	0.08	0.27	2.83	3.67	-
10	-	96.97	1.02	-	0.68	1.33	3.03	-
11	114	98.40	0.51	-	0.07	1.02	1.60	99
12	115	97.89	0.76	-	0.18	1.17	2.11	98
13	-	96.04	1.56	-	1.00	1.40	3.96	-
13 *	-	94.56	3.92	0.04	1.00	0.48	5.44	-
14	134	96.99	1.68	-	0.70	0.63	3.01	114
15	-	96.21	0.74	1.26	0.02	1.77	3.79	-
16	-	94.32	0.26	-	0.06	5.36	5.68	-
17	122	99.30	0.60	-	0.02	0.08	0.70	106
17 *	-	98.64	0.95	-	0.40	0.01	1.36	-
18	120	99.31	0.49	-	0.12	0.08	0.69	105
19	113	97.03	1.37	0.75	0.11	0.74	2.97	97
20	109	96.63	1.00	-	0.12	2.25	3.37	93
21	109	97.47	1.50	-	0.43	0.60	2.53	94
22	-	98.00	0.57	-	0.10	1.33	2.00	-
23	-	98.00	0.39	-	0.10	1.51	2.00	-
24	111	92.52	2.95	0.14	0.97	3.42	7.48	90
25	101	93.57	1.49	0.23	0.46	4.25	6.43	83
25 *	-	96.57	0.75	0.09	0.79	1.80	3.43	-
26	108	95.02	1.77	0.01	0.44	2.76	4.98	90
27	96	93.54	0.86	1.96	0.39	3.25	6.46	78
28	96	93.80	1.63	0.05	-	4.52	6.20	79

Table 9

Product diversification - mill-wise

(as a % of total yarn production)

Mill ref. no.	Export	Combed	Hosiery	Doubled			Compact	Chemical processed	Gassed	Slub	Core spun	Melange	100% cotton	100% non-cotton	Cotton/ MMF blended
				Ring	TFO	Eli-twist									
1	92	100	96	-	-	3	-	-	-	-	-	-	100	-	-
2	37	76	44	-	-	-	-	-	-	-	-	-	100	-	-
3	69	49	71	-	2	-	43	-	-	-	-	-	52	2	47
3 $	67	6	98	-	-	-	-	-	-	-	-	-	5	9	86
4	59	100	-	-	51	-	100	-	41	-	-	-	100	-	-
4 *	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-
5	44	59	53	-	37	-	-	-	-	-	-	-	100	-	-
6	48	63	79	-	6	-	-	-	-	-	-	-	24	1	75
7	2	100	98	-	-	-	98	-	-	-	-	-	-	-	100
8	25	100	88	-	-	-	35	-	-	-	-	-	33	-	67
9	82	83	75	-	-	-	13	-	-	-	-	-	48	-	52
10	11	88	15	-	-	-	98	-	-	-	-	-	100	-	-
11	27	100	100	-	-	-	-	-	-	-	-	-	-	-	100
12	64	100	100	-	-	-	100	-	-	-	-	-	100	-	-
13	13	36	41	-	25	-	45	-	-	-	-	-	50	40	10
13 *	45	-	-	-	13	-	-	-	-	-	-	-	100	-	-
14	97	100	82	-	-	3	100	-	-	-	-	-	100	-	-
15	56	100	64	-	25	-	-	-	-	-	-	-	100	-	-
16	13	47	17	1	7	-	36	-	-	-	-	-	63	18	19
17	17	100	42	-	-	-	100	-	-	-	-	-	100	-	-
17 *	13	-	-	-	-	-	-	-	-	-	-	-	100	-	-
18	16	100	30	-	-	-	100	-	-	-	-	-	100	-	-
19	-	84	-	-	15	-	56	-	-	20	7	-	100	-	-
20	31	99	26	-	15	15	99	-	7	-	27	-	97	-	3
21	16	84	95	-	-	-	100	-	-	-	-	-	100	-	-
22	41	100	100	-	-	-	-	-	-	-	-	-	93	-	7
23	-	100	100	-	-	-	-	-	-	-	-	-	100	-	-
24	-	100	100	-	-	-	77	-	-	5	-	-	100	-	-
25	33	87	20	-	10	-	95	-	10	-	-	-	87	-	13
25 *	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-
26	-	100	22	-	10	-	100	-	-	-	-	-	100	-	-
27	100	100	-	61	39	-	-	-	30	-	-	-	100	-	-
28	-	100	63	-	-	-	100	-	-	-	-	-	100	-	-
29	54	46	78	-	21	-	2	-	-	-	-	-	100	-	-

Table 10

Yarn selling price, raw material cost,
net out-put value and yarn quality - count-wise

Mill ref. no.	Yarn selling price (Rs/ kg)	Raw material cost (Rs/kg of yarn)	Net out-put value (Rs/ kg of yarn)	Net out-put value (Rs/ spl./ shift)*	Ring yarn quality: Count CV%	CSP@	Strength CV%	U%	Imperfections/1000 m: Thin	Thick	Neps	Total	Hairiness index
					Ring spun yarn								
					Cotton carded yarn								
					Domestic market								
					20s K								
19	230.6	163.6	67.0	18.3	1.3	2300	3.9	14.5	80	628	839	1547	-
96	230.3	192.8	37.5	9.4	1.8	2450	2.6	13.3	10	449	548	1007	-
					30s K								
60	250.0	213.1	36.9	6.5	1.4	2600	4.6	14.0	34	651	1462	2147	7.5
					32s K								
76	262.0	184.5	77.5	11.5	1.5	2600	4.5	-	22	492	753	1267	-
					34s K								
90	272.0	211.9	60.1	8.1	1.3	2250	4.5	15.0	65	750	850	1665	6.0
					36s K								
76	255.0	168.0	87.0	10.6	1.6	2600	4.1	-	36	544	848	1428	-
					40s K								
60	280.0	213.1	66.9	7.3	1.4	2400	3.7	14.8	85	862	2163	3110	6.7
73	299.6	218.9	80.7	9.1	1.3	2350	4.4	13.0	76	514	941	1531	6.3
76	288.0	184.5	103.5	10.7	1.4	2500	3.9	-	63	770	1117	1950	-
79	292.4	198.4	94.0	10.4	1.8	2400	5.1	13.1	31	290	1230	1551	-
95	277.2	190.3	86.9	9.6	2.5	2250	4.9	14.9	92	805	2039	2936	-
96	280.0	192.8	87.2	9.4	2.6	2300	4.8	15.4	14	1094	2555	3663	-
98	262.0	190.7	71.3	7.8	-	2250	-	15.8	98	950	1959	3007	-
Avg.	*282.7*	*198.4*	*84.3*	*9.2*	*1.8*	*2350*	*4.5*	*14.5*	*66*	*755*	*1715*	*2536*	-
					41s K								
76	305.0	184.5	120.5	12.5	1.4	2550	4.3	-	70	720	983	1773	-
79	295.6	198.4	97.2	10.3	1.8	2400	5.2	13.3	33	493	1301	1827	-

Table 11

Yarn realisation & wastes and raw material quality - count-wise

Mill ref. no.	Yarn realisation and wastes					Average cotton quality									
	Yarn realisation (%)	Blow room & card waste(%)	Hard waste (%)*	Sweep waste (%)*	Invisible loss (%)*	Proportion of cotton(s) in the mixing**	Local/ Import	2.5% span length (mm)	Uniformity ratio (%)	Strength (g/tex-ICC)	Upper half mean legnth (mm)	Uniformity index (%)	Strength (g/tex-HVI)	Fineness (µg/inch)	Trash in mixing (%)
						Ring spun yarn									
						Cotton carded yarn									
						Domestic market									
	20s K														
19	83.4	15.6	0.4	0.4	0.2	-	Local	27.9	45.4	20.8	-	-	-	3.4	7.2
96	86.2	6.9	0.5	1.7	1.6	-	Local	28.4	47.9	22.1	-	-	-	4.2	2.4
	30s K														
60	87.0	10.4	0.6	1.0	1.0	M1+B1	Local	30.9	47.1	24.6	-	-	-	4.1	3.1
	32s K														
76	86.1	11.7	0.5	0.6	1.1	B1 (100%)	Local	30.0	48.0	25.5	-	-	-	4.2	3.5
	34s K														
90	86.0	12.5	1.0	0.7	1.7	B1 (80%)+J34 (20%)	Local	30.0	47.5	25.2	-	-	-	4.5	2.5
	36s K														
76	86.1	11.7	0.5	0.6	1.1	B1 (100%)	Local	30.5	48.0	-	-	-	-	3.8	3.5

Table 12
Production parameters of spinning - count-wise

Mill ref. no.	Actual count@ (Ne)	Prodn./ spl./ 8 hrs.(g)	Spindle speed (rpm)	Tpi	End breaks/ 100 spindle hours	Pneumafil waste (%)	Lift (mm) & ring dia. (mm)	Tenter assign. (spls.)	Doffer assign. (spl. doffs)
				Ring spun yarn					
				Cotton carded yarn					
				Domestic market					
					20s K				
19	20.2	274	16500	19.7	8.0	1.3	180 x 42	960	AD
96	20.0	250	15000	18.9	8.6	2.1	178 x 38	1512	6000
					30s K				
60	30.0	177	19000	22.8	5.2	3.0	170 x 36	2880	9750
					32s K				
76	32.5	149	17490	24.0	7.0	2.8	152 x 36	1800	5000
					34s K				
90	34.0	135	18000	27.0	13.0	3.0	180 x 38	1656	7500
					36s K				
76	36.5	122	16450	25.4	7.0	2.8	152 x 36	1800	5000
					40s K				
60	40.0	110	19000	26.6	5.5	3.2	170 x 36	2880	9750
73	40.0	112	18500	27.2	5.9	2.6	160 x 36	2760	9600
76	40.7	103	16400	26.8	7.0	2.8	152 x 36	1800	5000
79	40.5	111	18300	27.0	8.0	1.6	190 x 38	1200	6000
95	40.2	110	17800	27.7	9.0	2.3	170 x 38	2280	6500
96	40.0	108	-	-	9.8	2.6	178 x 38	2520	6000
98	40.2	110	18500	29.0	-	2.0	-	2016	6000
Avg.	*40.2*	*109*	*18080*	*27.4*	*7.5*	*2.4*	-	*2208*	*6979*
					41s K				
76	41.7	104	17100	27.1	7.0	2.8	152 x 36	1800	5000
79	41.5	106	18300	27.7	7.8	1.7	190 x 38	1200	6000
					42s K				
97	42.6	84	15840	28.7	6.5	3.5	180 x 40	3648	6000

Table 13

Production parameters of automatic cone winding - count-wise

Mill ref. no.	Production/ tenter/ 8 hours (kg)	Average winding-on speed (mpm)	Drums assigned per tenter	Efficiency (%)+	Clearer cuts/one lakh metres	Cop content (g)	Delivery cone wt. (kg)
Ring spun yarn							
Cotton carded yarn							
Domestic market							
				20s K			
19	-	1500	- #	-	45	58	2.00
90	326	1100	30	70	26	45	1.50
				24s K			
29	468	1350	40	73	30	50	2.70
				30s K			
60	282	1500	30	66	48	45	1.89
90	211	1100	30	68	30	45	1.50
				32s K			
76	200	1400	20	81	65	38	1.89
				34s K			
90	186	1100	30	68	30	46	1.50
				36s K			
76	267	1400	30	81	65	38	1.89
				40s K			
60	278	1500	40	65	56	42	1.89
73	275	1400	40	69	72	40	1.89
76	241	1400	30	81	70	38	1.89
79	308	1400	40	78	68	47	1.88
95	220	1400	30	74	-	50	1.50
96	285	1200	40	84	50	52	1.50
98	300	1250	40	85	-	49	1.50
Avg.	*272*	*1360*	*37*	*77*	*63*	*45*	*1.72*

Table 14

Production parameters of two-for-one twisting - count-wise

Mill ref. no.	Production/ spindle/ 8 hours (g)	Average spindle speed (rpm)	Tpi	Efficiency (%)@	Breaks/ 100 spindle hours	Feed weight (g)	Delivery weight (g)	Spindles/ tenter
				Ring spun yarn				
				Cotton carded yarn				
				Domestic market				
				2/10s K				
19	2250	7000	8.5	95	0.5	938	1890	240
				2/20s K				
19	1125	7000	8.5	95	0.5	938	1890	240
90	1150	10500	12.7	97	6.0	620	1500	240
				2/24s K				
29	1239	9300	8.6	95	1.4	833	2500	216
				2/30s K				
60	431	8100	17.5	97	1.2	945	1890	720
60	535	10100	17.5	97	1.3	945	1890	720
				2/42s K				
60	325	10100	20.6	97	1.2	945	1890	1008
60	312	10100	21.5	97	1.1	945	1890	1008
				2/60s K				
99	172	10500	25.0	85	1.4	400	1500	432
				2/8.5s K-Comp.				
16	1434	5500	9.1	70	0.3	945	2800	792
				2/20s K-Comp.				
51	631	6000	13.0	95	-	950	950	384
				2/30s K-Comp.				
51	441	7500	16.0	98	-	950	950	480
				2/20s K-Ex.				
5	1350	9000	7.5	78	0.4	1100	2200	1080
13	1267	8500	8.5	88	4.2	1000	2000	432

Table 17

Major counts spun by the mills

Mill ref. no.	Major counts	Prodn. of major counts as % of total prodn.	Counts spun during the quarter*			
			Min.	Max.	Range	Total per 30000 spls.
1	16s CH-Comp.-Ex., 20s CH-Comp.-Ex., 30s CH-Comp.-Ex., 32s CH-Comp.-Ex., 30s CH-Comp.-Org.-Ex., 40s CH-Comp.-Org.-Ex.	74	-	-	-	-
2	20s K-Comp., 30s K-Comp., 20s C-Comp., 30s C-Comp., 30s CH-Comp.-Ex., 32s CH-Comp.-Ex.	76	20	32	12	5
3	60s C-Comp., 30s C-CS, 30s CH-Comp.-Ex., 30s P/C-CH-Ex. (40/60), 40s Mod./C-CH-Comp.-Ex. (40/60), 30s AJ-P/C-CH-Ex. (40/60)	10	10	80	70	3
4	2/100s C-Comp., 2/105s C-Comp.-G, 70s C-Comp.-Ex., 2/90s C-Comp.-G-Ex., 2/100s C-Comp.-G-Ex., 10s OE	37	66	137	71	11
5	2/20s K-Ex., 2/20s KH-Ex., 16s C, 20s C-Slub, 20s CH-Ex., 32s CH-Ex.	88	16	32	16	14
6	20s CH-Slub, 12s C/A-K-Ex. (40/60), 18s C/A-KH-Ex. (51/49), 30s C/A-CH-Ex. (51/49), 10s V/C-K-Slub (75/25), 38s Mod./C-C-Slub (40/60)	19	7	40	33	-
7	24s P/C-CH-Comp. (40/60), 30s P/C-CH-Comp. (40/60), 40s P/C-CH-Comp. (45/55), 20s C/P-CH-Comp. (80/20), 30s C/P-CH-Comp. (80/20), 40s C/P-CH-Comp. (80/20)	51	10	40	30	31
8	30s CH-Comp.-Ex., 24s P/C-CH (48/52), 30s P/C-CH (48/52), 40s P/C-CH (48/52), 30s P/C-CH-Comp. (48/52), 40s P/C-CH-Comp. (48/52)	45	12	45	33	10
9	20s KH-Ex., 30s CH-Ex., 32s CH-Org.-Ex., 34s CH-Org.-Ex., 30s Mod./C-C-Ex. (40/60), 34s Mod./C-C-Ex. (40/60)	39	18	80	62	24
10	30s C-Comp., 32s C-Comp., 40s C-Comp., 50s C-Comp., 40s C-Comp.-Org., 40s CH-Comp.-Ex.	50	20	80	60	-
11	20s P/C-CH (48/52), 24s P/C-CH (48/52), 30s P/C-CH (40/60), 30s P/C-CH (48/52), 20s P/C-CH-Ex. (50/50), 32s P/C-CH-Ex. (40/60)	93	-	-	-	-
12	30s CH-Comp., 40s CH-Comp., 28s CH-Comp.-Ex., 30s CH-Comp.-Ex., 50s CH-Comp.-Ex., 60s CH-Comp.-Ex.	42	24	80	56	15
13	20s K-Comp.-Ex., 30s K-Comp.-Ex., 36s CH, 30s V, 16s OE-Ex., 20s OE-Ex.	40	15	50	35	15
14	2/40s CH-ET, 20s C-Comp.-Ex., 20s CH-Comp.-Ex., 24s CH-Comp.-Ex., 26s CH-Comp.-Ex., 30s CH-Comp.-Ex.	100	20	30	10	7
15	20s CH, 24s CH, 40s CH, 24s CH-Ex., 30s CH-Ex., 40s CH-Ex.	40	14	40	26	-
16	30s K-Comp., 20s K-CS, 40s C, 40s C-Comp., 20s P/C-C (65/35), 45s P/C-C-Comp. (65/35)	18	9	45	37	8
17	50s C-Comp., 60s C-Comp., 80s C-Comp., 120s C-Comp., 40s CH-Comp., 20s OE	48	30	140	110	5
18	40s C-Comp., 50s C-Comp., 60s C-Comp., 100s C-Comp., 40s CH-Comp.	46	36	100	64	4
19	20s K, 60s C-Comp., 30s C-Slub, 40s C-Slub, 60s C-Slub, 50s C-CS	80	10	60	50	12
20	60s C-Comp., 30s C-CS, 40s C-CS, 42s C-CS, 2/80s C-Comp.-Ex., 2/70s CH-ET-Ex.	45	20	120	100	-

Table 18

Installed capacity - spinning and post spinning - mill-wise

Mill ref. no.	Year of esta-blishment	Ring spindles@	Rotors	Air-jet/ Vortex spindles	Doubling spindles	TFO spindles	Auto winder drums	No.of days worked during the quarter
1 *	2012	56500	-	-	-	-	1606	91
2 *	2007	44000	-	-	-	-	-	92
3 *	2006	354500	-	1984	-	-	-	91
4 *	1956	31000	576	-	-	10812	636	91
5 *	2007	28500	-	-	-	2160	617	92
6 *	1965	47500	-	-	-	1740	1092	91
7 *	1993	35000	-	-	-	-	840	90
8 *	1993	85000	-	-	-	1494	2321	92
9	1996	44500	-	-	-	-	1140	92
10 *	1998	55500	-	-	-	-	1392	92
11 *	1995	47500	-	-	-	-	1044	91
12 *	1992	24500	-	-	-	-	624	89
13 *	1996	43500	2160	-	-	4248	1053	91
14	2015	27500	-	-	-	-	690	92
15 *	2005	31000	-	-	-	-	760	92
16 *	2007	143000	-	-	-	7524	3588	91
17 *	1953	65500	3320	-	-	5760	1268	91
18 *	2006	56500	-	-	-	-	1020	91
19	1956	30000	-	-	-	480	526	90
20 *	1991	33500	-	-	-	3930	732	92
21	2009	50500	-	-	-	-	1311	90
22 *	1991	55500	-	-	-	-	2080	90
23 *	1991	24000	-	-	-	-	1230	90
24	2014	13000	-	-	-	-	324	91
25	1994	59500	1040	-	-	2320	1288	92
26 *	1992	36000	-	-	-	4056	690	90
27	1956	57500	-	-	22544	8160	1152	91
28	2008	22500	-	-	-	-	528	92
29 *	1991	115000	-	-	-	4968	2413	90
30 *	1992	57500	-	-	-	-	1136	90
31 *	1989	63500	-	-	8224	17908	1768	92
32	1996	21000	-	-	-	-	384	91