

# Impact of Dyeing and Printing industry on employment in Pali (Rajasthan)

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## Abstract:

Textile processing is one of the important industries related to textile manufacturing operations. Textile Processing is a general term that covers right from singeing to finishing. Indian textile industry is the one of the leading industry in the world. Despite the fact that it was primarily unorganized industry but the scenario started changing after the economic liberalization. **At present the Indian textile industry contributed 14% to industrial production of the country. It also contributes around 4% to GDP of the country and in addition to this 12% to the country's export earnings in 2011<sup>1</sup>** Rajasthan is also famous for its textile industry. Textile industry is mainly spread in Pali, Barmer, Jaipur, Bhilwara, Nathdwara, Sanganer in Rajasthan. The present paper is analysis the impact of dyeing and printing industry on employment in Pali. For this, Correlation, Multiple Regression is used.

**Introduction-Pali is the administrative block of Pali District, situated at the banks of Bandi river, about 72 from southeast of Jodhpur. There are 3422 industrial units in Pali district. The industries established in Pali are based on agriculture, mineral-chemical processing, constructions material and leather. Major identified units however are tie and die, textile.<sup>2</sup>**

Pali is well known for trade centre since ancient time. It is known as the Cloth Market in Western India. Modern industrial development started when Maharaja Shree Umed Mills was established by Bangur family with the help of Jodhpur king Shree Umed Singh in 1941. It started their production in 1942. Currently around 10000 workers have been employed in the mill.

Pali has lot of dyeing and printing industries on small scale. The foundation was laid in 1964 with the establishment of Manjur dyeing company and Lodha fabrics. Earlier the business was done by local Rangrej and Chippa community which got transferred from generation to generation. The heavy import of gray, cotton, color-chemical and major export of gray printed saree from Pali shows the importance of dyeing and printing industry in Pali. The paper will highlight the impact of dyeing and printing industry on employment in Pali.

## Methodology-

Data collection-To study the impact of dyeing and printing industry on employment in Pali, data were collected from RIICO,Pali.

**Analysis- using statistical analysis- as a statistical part, as a scientific discipline it aims to discover what is permanent in stochastic processes variation and to measure the influence that determines the change in time and space, in the qualitative point of view.<sup>3</sup>**

In this paper correlation, multiple regressions, ANOVA, analysis is done for study.

**Correlation analysis is statistical tool we can use to describe the degree to which one variable is linearly related to another. Often, correlation analysis is used in conjunction with regression analysis to measure how well the regression lone explains the variation of the dependent variable.<sup>4</sup>**

To identify the relationship between employment, investment and number of unit correlation method is used.

**Multiple regression method is considered an explanatory one for explaining the change of a complex phenomenon analyzed based on the variation of the variables considered independent or exogenous.**<sup>5</sup>

Multiple regression method will be used to analyze the effect of investment and number of units on employment.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \mu$$

Where -

**Y = employment**

**$\alpha$  = intercept**

**$\beta_1, \beta_2$  = Slope of coefficient**

**$X_1$  = no of unit**

**$X_2$  = Investment**

**$\mu$  = Error**

To investigate the difference between employment and estimated employment the model above study has chosen the residual statistics for inferences.

$$\mu = Y - \hat{Y}$$

Where -

**$\mu$  = Residual**

**Y = Actual employment**

**$\hat{Y}$  = Estimated employment**

**Case study-** Although there are about 1500 units in Pali but there is variance in Number of registered units in Govt. organization. We are analyzing the impact of dyeing and printing industry on employment according to the data collected by RIICO, Pali:

**Table 1.1**

Dyeing & Printing Industry (Pali)			
Year	No. of Unit	Employment	Investment(in Lac)
1995-96	580	7865	1346.07
2001-02	620	8470	2172.28
2005-06	704	9553	3267.71
2011-12	810	10990	4699.65
2015-16	932	12650	5407.5

Source: RIICO, Pali

**Table 1.2 Correlations**

		Employment	Units	Investment
Pearson Correlation	Employment	1.000	1.000	.983
	Units	1.000	1.000	.983
	Investment	.983	.983	1.000
Sig. (1-tailed)	Employment	0	0	.001
	Units	.000	0	.001
	Investment	.001	.001	0
N	Employment	5	5	5
	Units	5	5	5
	Investment	5	5	5

**Table 1.3 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000 <sup>a</sup>	1.000	1.000	34.53181	1.000	6312.483	2	2	.000	2.894

a. Predictors: (Constant), investment, units  
 b. Dependent Variable: employment

**Table 1.4 ANOVA**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	15054592.308	2	7527296.154	6312.483	.000 <sup>b</sup>
Residual	2384.892	2	1192.446		
Total	15056977.200	4			

a. Dependent Variable: employment  
 b. Predictors: (Constant), investment, units

**Table 1.5 Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF	
1 (Constant)	99.960	298.001			.335	.769	-1182.234	1382.153		
Units	13.405	.661	.992	20.289	.002	10.562	16.248		.033	30.193
investment	.009	.056	.008	.162	.886	-.232	.250		.033	30.193

a. Dependent Variable: employment

This section presents the relationship between no. of unit, investment and employment. With reference to equation  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \mu$ , following result have been made by the study-

$$Y = 99.960 + 13.405X_1 + .009X_2$$

$$R^2 = 1$$

This study show higher value of R2 and highly significant result of ANOVA at 5% level of significance. Correlation matrix shows that employment is highly related with no. of unit and investment both. But

when further this study show that employment is significantly related with no. of units. So for higher growth of employment government should promote no. of unit more.

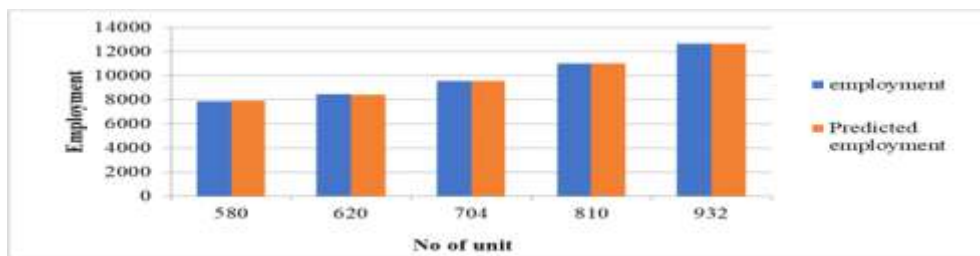
With the refer to equation  $\mu = Y - \hat{Y}$  following result have been made-

**Table 1.6 Case Wise Diagnostic**

<i>Observation</i>	<i>Predicted employment</i>	<i>Employment</i>	<i>Residuals</i>	<i>Standard Residuals</i>
1	7887.08068	7865	-22.0806802	-0.904337272
2	8430.806444	8470	39.19355612	1.605212941
3	9566.791715	9553	-13.79171476	-0.564854053
4	11000.74983	10990	-10.74982879	-0.440270443
5	12642.57133	12650	7.428667638	0.304248826

Dependent Variable Employment

$$\hat{Y}_{2015-16} = 99.960 + 13.405 (932) + .009 (5047.2) = 12642.57$$



Thus the given value of employment was forecasted (12642.57). The actual value of employment in 2015-16 was 12650. The estimated model hence over predicated the actual employment by about 7.428667638. It means forecast error is about 7.42866738, which is 0.058 percent of actual value of 2015-16.

**Conculsion-** In Pali, Dyeing and Printing industry is the main source of employment. Also investment in this sector is highly effect employment. But comparably number of unit is more significantly affect employment so government should increase number of unit to increase employment. As these studies suggest, an estimated model may be used for increase employment. By appropriate policy of textile industry government can achieve the level of target variable Y (Employment).

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