THE IMPACT OF JOB SATISFACTION AND EMPLOYEE EDUCATION ON EMPLOYEE EFFICIENCY*

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ABSTRACT

Against a backdrop of continuing discussion on the challenges faced by the apparel industry in Sri Lanka, the human involvement is yet to be considered as a significant organizational element. Therefore this study empirically examined the impact of job satisfaction and employee education on employee efficiency in the apparel industry with reference to the Gampaha district.

The study was aimed to examine the problem "Is there an impact of job satisfaction and employee education on employee efficiency?"This study was conducted from a randomly selected sample of 90 respondents from an Apparel organization by administrating a structured questionnaire, which consisted of 37 questions that featured a 6 point scale. The sample of the study only consisted of machine operators.

For the purpose of analyzing both descriptive and dummy variables regression was used. Descriptive analysis was used to clarify the basic features of the sample. In order to examine the relationship employee efficiency has with job satisfaction and employee education, an ANOVA model was constructed. The constructed ANOVA model for the study is as follows.

$$EF = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + U$$

The findings of the research revealed that there was no positive relationship between employee efficiency, job satisfaction and education and it was statistically confirmed by rejecting the two hypotheses. According to the study, the researcher observed that employee efficiency neither relates to employee job satisfaction nor the level of education of employees since they work to achieve their day to day targets.

Key Words: Employee Efficiency, Job Satisfaction, Employee Education, Machine Operators

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INTRODUCTION

Attainment of a high level of employee efficiency has always been a top priority organizational goal especially in the apparel sector. Inefficient employees are burdensome to the company and in the long run could be detrimental to the overall performance capacity of the organization. Employee efficiency can be defined as "the capacity of labor to produce more and of better quality within a given time and under given circumstances" (Jain 2006/2007, p. 151).

In apparel manufacturing, the skills and expertise of a sewing operator is usually evaluated in terms of efficiency. It is a comparison between the total time of productive work and the total time spent performing the particular task. Employee efficiency is appropriate for analyzing and comparing the overall productivity rate of a particular production line or factory that produces a specific apparel product. The rate of production of a highly efficient operator can, even within a single timeframe, demonstrate that of a low efficient worker. When the operator works with higher efficiency, the manufacturing cost of the factory goes down (Roy et al 2012).

There are many factors that can affect employee efficiency in an organization such as age, educational level, gender, level of job satisfaction, work experience, etc. In this study the main focus of the researcher was to analyze the relationship between employee efficiency and employee job satisfaction. In addition to the main relationship the researcher investigated the relationship between employee efficiency and employee educational level as well.

There are different approaches towards defining job satisfaction. In simple terms job satisfaction can be defined as the positive attitude and feelings people have towards their job. According to Armstrong (2006) positive and favorable attitudes towards the job indicate the job satisfaction level whilst the negative and unfavorable attitudes towards the job indicate the job dissatisfaction level (Funmilola et al 2013).

There are different claims about the impact of job satisfaction and employee efficiency. Optimists think that satisfied employees have the drive and potential to get involved more in the production process and maintain smooth interaction, thus boosting productivity. Others expect that job satisfaction will reduce employee motivation and will make them passive and dull.

When analyzing the relationship between job satisfaction and employee educational level, it is important to understand what is denoted by the word 'education'. Education has many different definitions, but it is still difficult to articulate these definitions in a clear manner. According to Merriam-Webster, education is the action or process of educating or of being educated. According to Aristotle (as cited in Sahu 2002) Education is the creation of a sound mind in a sound body. Pestalozzi defined education as the natural harmonious and progressive development of man's innate power (as cited in Sahu 2002). According to John Dewey, Education is the process of living through continuous re-construction of experiences. It is the development of all those capacities in the individual which will enable him to control his environment and fulfill his responsibilities (as cited in

Sahu 2002).

As stated at the onset of the paper, this research was mainly aimed at investigating the effect of job satisfaction and employee educational level on employee efficiency. Towards this end, the next section will explain the research problem, objective and significance in order to orient the reader to the general purpose and scope of the study.

RESEARCH PROBLEM AND SIGNIFICANCE OF THE STUDY

Employees are the most important resource in any organization. Similarly in the apparel sector, employees play a major role and make significant contributions to the organization. However, poor working conditions and exploitation of labor are considered as prevalent conditions in the Sri Lankan apparel industry. The generally held opinion is that the satisfaction of employees within the apparel industry is low due to poor working conditions. There is confusion and debate among the practitioners on the topic of job satisfaction and efficiency even at a time when employees are increasingly important in maintaining organizational success and competitiveness. Therefore the research is mainly based on the investigation of the effect of job satisfaction on employee efficiency.

Apart from analyzing the more highlighted relationship between job satisfaction and employee efficiency, due attention should be given to the level of education of an employee, which has the potential to affect the total efficiency level of the relevant employee. Therefore the research problem of the study was formulated as follows: Is there an impact of job satisfaction and employee education on employee efficiency?

Within this larger framework, the study also seeks to identify the relationship between employee education and employee efficiency, identify the educational levels of the respondents in the selected sample, and to propose or recommend suggestions based on the findings.

Export of textiles and apparel products is one of the biggest industries in Sri Lanka and one which plays a key role in advancing the country's economy. The apparel industry of Sri Lanka employs about 15 percent of the country's workforce, accounting for about half of the country's total exports (Dheerasinghe 2003). Hence this research may help to improve the productivity in the apparel sector and will also provide fresh management and academic perspectives to the issue.

On the managerial level, this study could be used to improve and uplift the efficiency level of employees and would also be helpful in enhancing the rate of job satisfaction among them. On the academic level, this research will benefit other students by helping them identify the relationship between job satisfaction and employee efficiency and will also make them understand the relationship between employee educational level and employee efficiency better. Additionally, this research could provide guidance for other researchers who are interested in studying the impact of job satisfaction and employee educational level on employee efficiency in other organizations and industries.

Extensive research has been done on the

relationship between job satisfaction and employee performance since the early 1930s, whose beginning was marked by the Hawthorn studies (1927-1932) that observed a positive relationship between job satisfaction and employee performance. This was further affirmed by Robbins (2003), Rao (1999), Jain and Trendis (1990), Parasurman and Furtell (1983), Steers (1981), Halim (1980), Organ (1977), and Brayfield and Crocket (1955) (Thompson 2008, p.151).

When observing the relationship between employee education and employee efficiency, the Human Capital Theory that drew attention to the investment aspects of education cannot be ignored. Becker (1964 and 1974) provided a rationale for treating human capital the same way as physical capital which considers an investment in education as an investment in human capital, resting on the assumption that additional education acquired by individuals will lead to an increase in their productivity which leads to higher efficiency (Becker 1964 and 1974 as cited in Sahu 2002).

The higher earnings of educated workers are thus believed to reflect their superior productivity. Additionally, Collin Beardwell and Holden (1997) stated that an educated and skilled workforce is essential for the effective functioning of an economy, as well as the competitiveness and wealth of a nation.

Despite this wealth of literature on the relationship between job satisfaction and employee performance, the researcher had found that there is a lack of study or relatively little research conducted on the relationship between employee efficiency, job satisfaction, and employee education. In addition, most researchers have focused on such sectors as education, hotel, non-profit, and the naval sector, but concentration on the apparel sector has been scarce. Especially the number of studies carried out by Sri Lankans on the relationship between employee efficiency, job satisfaction, and employee education seems to be comparatively fewer than their international counterparts. Therefore this research is important in contributing towards filling that gap.

VARIABLES AND HYPOTHESES

The following illustration shows the schematic diagram of the study.
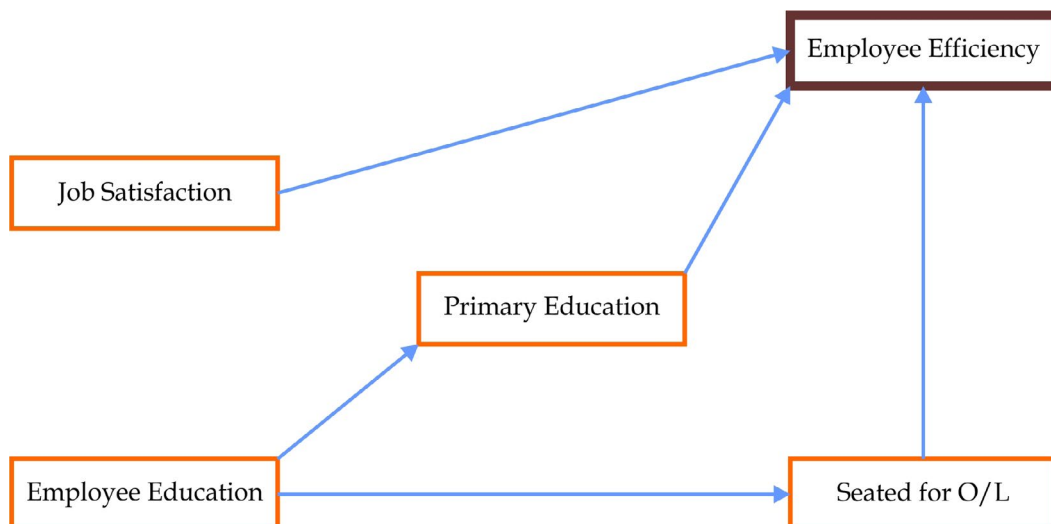
According to the above diagram, employee efficiency can be identified as the dependent variable. Job satisfaction, primary education, and 'seated for O/L' can be identified as the independent variables. Based on this conceptual framework and guided by empirical evidence of previous studies, the research hypotheses can be formulated in the following manner.

Hypothesis 1: There is a positive relationship between employee efficiency and job satisfaction.

Hypothesis 2: There is a positive relationship between employee efficiency and employee education.

RESEARCH METHODS AND OPERATIONALIZATION

1. The Sample and Data Collection

Table 1.1 shows the province wise distribution of employees in the textile and apparel industry in Sri Lanka.

Table 1.1

Province	Industry	No. of Employees
1. Western	Manufacture of Textile	31,315
	Manu.of wearing Apparel, dressing & dyeing of fur	166,997
2. Central	Manufacture of Textile	2,674
	Manu.of wearing Apparel, dressing & dyeing of fur	20,066
3. Southern	Manufacture of Textile	2,105
	Manu.of wearing Apparel, dressing & dyeing of fur	25,376
4. Northern	Manufacture of Textile	151
	Manu.of wearing Apparel, dressing & dyeing of fur	143
5. Eastern	Manufacture of Textile	196
	Manu.of wearing Apparel, dressing & dyeing of fur	

6. Northwest	Manufacture of Textile	10,935
	Manu.of wearing Apparel, dressing & dyeing of fur	33,805
7. North-Central	Manufacture of Textile	70
	Manu.of wearing Apparel, dressing & dyeing of fur	9,903
8. Uva	Manufacture of Textile	63
	Manu.of wearing Apparel, dressing & dyeing of fur	4,242
9. Sabaragamuwa	Manufacture of Textile	1,647
	Manu.of wearing Apparel, dressing & dyeing of fur	17,004

Source: Annual Survey of Industries 2011, Department of Census and Statistics

Chart 1.1
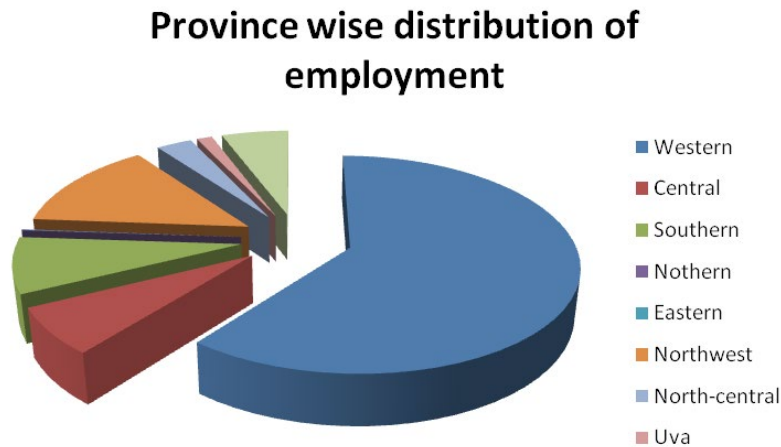
Source: Own calculations using data from, Annual survey of industries 2011

According to the above data, it is clear that the geographical distribution of employment indicates a heavy concentration within the Western Province. This is largely due to the better infrastructure facilities present there. A significant number of employees were from the commercial capital of Colombo and the Gampaha district (Annual Survey of Industries 2011).

The research was conducted in Gampaha district since it has become a highly industrialized area within the western province during the last few decades. A large number of export processing zones which generates a significant amount of employment opportunities have emerged

in the area and at the same time the convenience of the researcher was also considered as a factor when choosing the research area.

In 2012, the Export Development Board ranked Brandix (Pvt.) Ltd as the country's largest apparel exporter, comprising 25 fully-integrated manufacturing facilities backed by strategically located international sourcing offices. Brandix provides direct employment to over 35,000 people while generating indirect employment to an equivalent number (Sri Lanka Export development board 2012).

The prominent profile of Brandix Intimate Apparel Ltd encouraged the researcher to choose the sample of this study from said company, situated in Walisara, Gampaha district, Western Province, Sri Lanka. A sample of machine operators was selected in particular since they are directly involved in the production process and the results of their labor is tangible and can be easily measured. The organizations regularly measure efficiency of machine operators in order to find out their performance levels. Therefore the researcher had easy access to reliable data regarding their efficiency which had been accumulated by the company. Due to the lack of time and resources, it was not possible to cover all machine operators in the factory. Therefore it was decided to take a representative sample of all machine operators.

The production flow is divided into fifteen teams (lines), and each team consists of 30 machine operators. The researcher randomly selected 6 teams (lines), and from each team 15 respondents were selected as the sample. Therefore a total number of 90 respondents were selected as the sample. Employee participation was on a voluntary basis.

The study has both quantitative and qualitative variables, therefore for the purpose of analysis, relatively less complex and common statistic tools such as descriptive statistics and dummy variable regression models were used. The software package used for this study was SPSS 19.0 version which is a common statistical package widely used in data analysis.

2. Data Analysis Method

As the first step of data analysis, a descriptive analysis was conducted in order to clarify the basic features of the sample. Descriptive analysis does not provide information regarding the relationship between employee efficiency, job satisfaction, and employee education. Therefore a further analysis had to be used in order to demonstrate the relationship between independent variables and the dependent variable. The SPSS software package version 19.0 was used for this purpose.

In regression analysis the dependent variable is frequently influenced not only by ratio scale variables, but also variables that are essentially qualitative or nominal scale. Such variables are also known as indicator variables, categorical variables, or dummy variables. In this study, job satisfaction and employee education were identified as qualitative or dummy variables. Hence in order to find the relationship among these variables, dummy variable regression model was used.

Regression with dummy variables is a method for studying the relationship between a quantitative dependent variable and one or more qualitative explanatory variables. In research design, a dummy variable is often used to distinguish different treatment groups. It takes the value 0 or 1 to indicate the absence or presence of some categorical effect that may be expected to shift the outcome. Dummy variables are used as devices to sort data into mutually exclusive categories.

Dummy variables can be incorporated in regression models just as easily as quantitative variables. As a matter of fact, a regression model may contain regressors that are all exclusively dummy or qualitative in nature. Such models are called Analysis of Variance (ANOVA) models.

Dummy variables are useful because they enable to use a single regression equation to represent multiple groups. Hence there is no need of writing separate equation models for each subgroup. The dummy variables act like 'switches' that turn various parameters on and off in an equation. In order to find the relationship between employee efficiency, job satisfaction and employee education, an ANOVA model can be constructed as follows;

Employee Efficiency = f (Job Satisfaction, Employee Education)

Employee Efficiency = EF

Job Satisfaction was categorized into two sub categories as

1. Job satisfaction
2. Job Dissatisfaction

Employee Education can be further categorized in to three sub groups as

1. Primary Education
2. Seated for GCE Ordinary Level
3. Passed GCE Advance Level

D1 = Job Satisfaction

D0 = Job Dissatisfaction

D2 = Primary Education

D3 = Seated for GCE Ordinary Level

D4 = Passed GCE Advance Level

According to the study, the 'Job Satisfaction' variable has two sub categories D1 and D0, but the researcher has introduced only one variable (D1) in order to avoid the dummy variable trap that is the situation of perfect collinearity or perfect multicollnearity. Therefore the researcher has identified D0 as the bench mark variable. Similarly the 'Education' variable has three sub categories D2, D3 and D4 but the researcher has identified the D4 variable as the benchmark variable.

Therefore if there is more than one exact relationship among the variables and if there is more than one qualitative variable in the model, for each qualitative regressor the number of dummy variables introduced must be one less than the number of categories of that variable. (If a qualitative variable has 'm' categories, introduce only (m-1) dummy variables).

$EF = \beta_0 + \beta_1 D1 + \beta_2 D2 + \beta_3 D3 + U$

D1 = if the employee is satisfied, 0 otherwise

D2 = 1 if the employee has only had primary education, 0 otherwise

D3 = 1 if the employee has seated for O/L, 0 otherwise

3. Measures and Construction of the Questionnaire

The study used two main research instruments namely structured questionnaires and interviews. Interviews were used as an alternative research instrument to identify employees' personal attitudes which were difficult to be gauged through questionnaires. In addition further information was gathered from managerial level employees and this information has been useful to understand their views, solutions and recommendations for the problem. Books, magazines, websites, and journals were referred in order to gather secondary data.

In order to measure the job satisfaction of the machine operators in the factory, the researcher used a structured questionnaire. It was developed based on past studies conducted by international and local researchers and institutes, but the most suitable variables for the Sri Lankan context were incorporated. The questionnaire was developed in two parts. The first part was the biographical questionnaire and the second one was aimed at measuring job satisfaction. The biographical questionnaire was used to gather background data, primarily the level of education of the respondents. Under this section respondents were asked about their age, gender, duration of employment, highest examination passed, salary, etc.

The researcher used a Likert scale to measure the job satisfaction of the respondents on a six point scale. The Likert scale is a psychometric scale commonly involved in researches that employ questionnaires. It is the most widely used approach to scaling responses in survey research such that the term is often used interchangeably with rating scales or more accurately Likert-type scales.

4. Computing Variables

The data related to job satisfaction were evaluated under the Likert scale by using weighted average rating scores. The six options and values are given below.

Table 1.2

Weighted Value	Scale option
1	Strongly Disagree
2	Disagree Moderately
3	Disagree Slightly
4	Agree Slightly
5	Agree Moderately
6	Strongly Agree

Survey 2013

If the selected weighted value of the employee is 5 or 6 then the researcher identified them as satisfied employees. All other values were considered to represent non-satisfied employees.

Efficiency of an individual operator, or a production line as a whole, is important to a factory. In order to measure labor efficiency, the following data was gathered from the work study department: Number of operators, working hours per operator per day, number of pieces produced per day, and Garment Standard Minute Value (to measure task or work content of a garment).

In estimating the cost of producing a garment, Standard Minute Value plays a vital role. Past scientists and apparel technicians have done research on how much time should be allowed for a job using the standard method. According to this, minute value has been defined for each movement needed to accomplish a job.

The following equation shows how to calculate the Standard Minute Value

$$\text{SMV} = \text{Basic time} + \text{Rest allowances} + \text{Machine allowances}$$

$$\text{Basic Time} = \frac{(\text{Observe time} \times \text{Observe rate})}{100}$$

Observe rate   =   BSI Scale rating

Rest allowances   =   Basic time × 3/100

Machine Allowances =   Basic time × 1/100

The following equation shows the formula for the calculation of efficiency.

$$\text{Standard Achieve Hours (SAH)} = \frac{\text{No. of pieces} \times \text{SMV}}{60}$$

$$\textbf{Efficiency} = \frac{\textbf{Standard Achieve Hours}}{\textbf{Clock Hours}} \textbf{x 100}$$

The organization hourly, daily, and monthly calculates the individual's efficiency in order to gauge the firm's overall performance. Therefore the average line efficiencies for the month of October were used for the study.

5. *Data Presentation and Analysis*

Description of the Sample

As mentioned earlier, a total of 90 respondents (machine operators) were selected to carry out the study. The purpose of this descriptive analysis is to clarify certain background information of the respondents along lines of age, gender, nationality, marital status, duration of employment, level of education and salary.
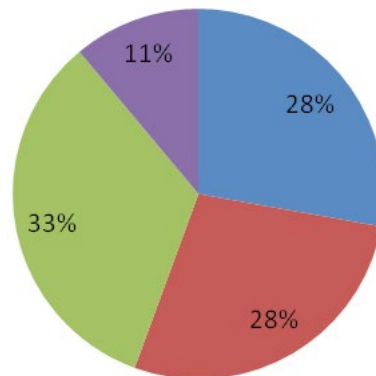
Table 1.3 Respondents by age

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Less than 21	25	27.8	27.8	27.8
	21-25	25	27.8	27.8	55.6
	26-35	30	33.3	33.3	88.9
	More than 36	10	11.1	11.1	100.0
	Total	90	100.0	100.0	

Survey 2013

Chart 1.2

Age Distribution of the respondents

Survey 2013

Table 1.4 Respondents by gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	81	90.0	90.0	90.0
	Male	9	10.0	10.0	100.0
	Total	90	100.0	100.0	

Survey 2013

Chart 1.3

Gender of the respondents

■ Male ■ Female
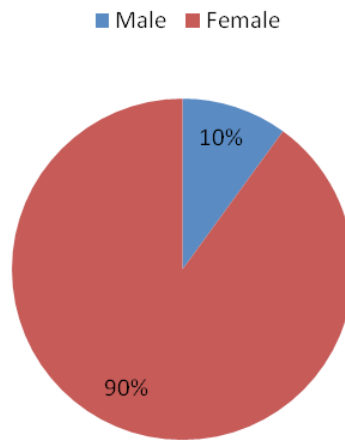
Survey 2013

Table 1.5 Respondents by ethnicity

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Sinhala	88	97.8	97.8	97.8
	Tamil	2	2.2	2.2	100.0
	Total	90	100.0	100.0	

Survey 2013

Chart 1.4

Ethnicity of the respondents

■ Sinhala ■ Tamil
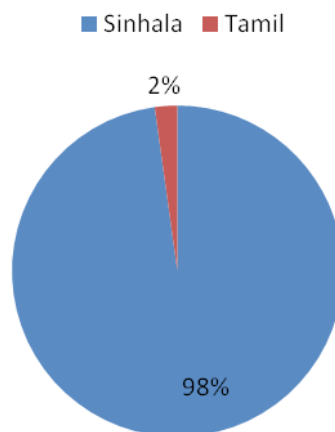
Survey 2013

Table 1.6 Respondents by marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	43	47.8	47.8	47.8
	unmarried	47	52.2	52.2	100.0
	Total	90	100.0	100.0	

Survey 2013

Chart 1.5

Marital Status of the respondents

■ Married ■ Unmarried
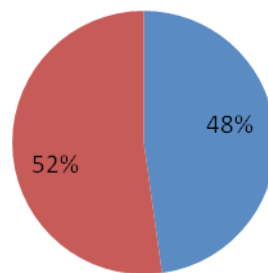
Survey 2013
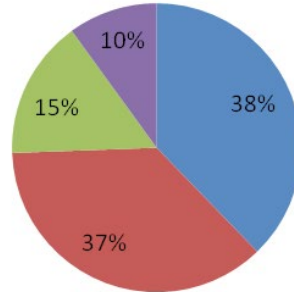
Table 1.7 Respondents by duration of employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	34	37.8	37.8	37.8
	1-3	33	36.7	36.7	74.4
	4-6	14	15.6	15.6	90.0
	More than 7 years	9	10.0	10.0	100
	Total	90	100.0	100.0	

Survey 2013

Chart 1.6

Duration of Employment

Less than 1 year ■ 1-3 years ■ 4-6 years ■ More than 7 years

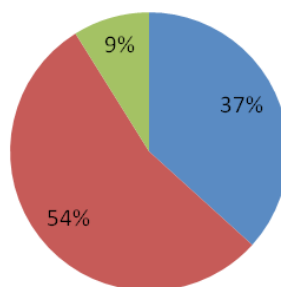**Survey 2013**

Table 1.8 Respondents by level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary Education	33	36.7	36.7	36.7
	Seated for O/L	49	54.4	54.4	91.1
	Passed GCE A/L	8	8.9	8.9	100.0
	Total	90	100.0	100.0	

Survey 2013

Chart 1.7

Level of education of the respondents

Primary Education ■ Seated for A/L ■ Passed GCE A/L

Survey 2013

The table 1.9 below shows the salary of the employees. The total salary received by an employee per month may vary according to their duration of work, level of efficiency, company over time, and bonus payment structure.
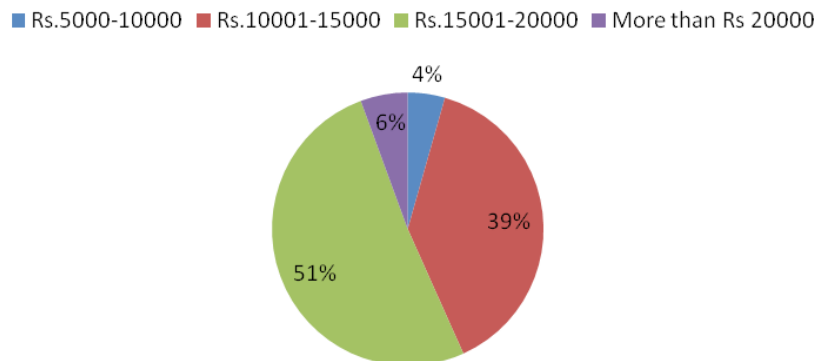
Table 1.9 Respondents by salary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5000-10000	4	4.4	4.4	4.4
	10001-15000	35	38.9	38.9	43.3
	15001-20000	46	51.1	51.1	94.4
	More than 20000	5	5.6	5.6	100
	Total	90	100.0	100.0	

Survey 2013

Chart 1.8

Salary of the respondents

■ Rs.5000-10000 ■ Rs.10001-15000 ■ Rs.15001-20000 ■ More than Rs 20000

4%
6%
39%
51%

The researcher has done a cross tabulation analysis in order to find out the relationship between the salary of the employees and the duration of the employment.

6. Scale Reliability Analysis Of The Questionnaire

Reliability analysis allows the researcher to determine the extent to which a scale produces consistent results if the measurements are repeated. Reliability analysis is conducted when there are two or more questions that will be summed to determine a specific variable.

Cronbach's alpha is the most common measure of internal consistency (reliability). It is most commonly used when multiple likert questions in a survey form a scale and there is a need to determine if the scale is reliable. Cronbach's alpha reliability coefficient

normally ranges between 0 and 1. The closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) on the scale.

According to George and Mallery (2003), interpretation of the Cronbach's alpha output can be done as follows.

>0.9 = Excellent

>0.8 = Good

>0.7 = Acceptable

>0.6 = Questionable

>0.5 = Poor

<0.5 = Unacceptable

In order to find out the scale reliability of the questionnaire a total of 31 variables were used including 30 questions on job satisfaction and 1 basic question on the level of education.

The following table 1.11 shows the overall reliability statistics of the study.

Table1.11 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.890	.895	31

A high value in Cronbach's Alpha indicates good internal consistency. According to table 1.11 above, Cronbach's Alpha of the study is 0.890 and Cronbach's Alpha based on standardized item is 0.895 which are good and therefore testify to higher reliability and internal consistency.

RESULTS

1. The Impact of Job Satisfaction and Employee Education on Employee Efficiency

In order to find the relationship between employee efficiency, job satisfaction and employee education, the researcher constructed an ANOVA model by using employee satisfaction and educational data. As mentioned earlier, in the model the researcher categorized job satisfaction into two sub categories namely job satisfaction (D1) and job dissatisfaction (D0), while the level of education was categorized into three sub categories namely primary education (D2), seated for O/L (D3) and passed GCE A/L (D4). The model identified D0 and D4 as bench mark variables.

Table 1.12 shows the model summary of the study.

Table 1.12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.167a	.028	-.006	9.49624

a. Predictors: (Constant), Seated for O/L, Job Satisfaction, Primary Education

The multiple correlation coefficient (R) is a measure of the strength of the relationship between employee efficiency and the other two variables, job satisfaction and employee education. In this study R = 0.167 which means that there is no statistically significant relationship between the dependent variable and the independent variables.

The R square refers to the "goodness or fit" of the model. This measures how successful the fit is in explaining the variation of data. According to the study, the R square for this model is .028, which means that only 2.8 per cent of the variation of employee efficiency is described by the independent variables.

According to the above model summary the adjusted R square is -.006 a negative value, which means the model contains terms that do not help to predict the response.

Table 1.13 ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	222.207	3	74.069	.821	.486a
	Residual	7755.365	86	90.179		
	Total	7977.572	89			

a. Predictors: (Constant), Seated for O/L, Job Satisfaction, Primary Education

b. Dependent Variable: Efficiency of the line

According to the above ANOVA table, the value of $F_{(3, 86)}$ is .821 and the p value is .486. Therefore it reveals that the overall model of the study is not statistically significant at the 5 per cent level.

Table 1.14 Coefficientsa

| Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	54.753	3.879		14.116	.000	47.042	62.464
Job Satisfaction	2.814	2.220	.137	1.268	.208	-1.599	7.226
Primary Education	1.213	3.790	.062	.320	.750	-6.320	8.747
Seated for O/L	2.607	3.635	.138	.717	.475	-4.618	9.832

a. Dependent Variable: Efficiency of the line

According to table 1.14 above, the model of the study can be constructed as follows.

$$EF = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + U$$

$$EF = 54.753 + 2.814 D_1 + 1.213 D_2 + 2.607 D_3$$

In order to find the statistical significance at 5 per cent of the study, the t value should be greater than 1.96.
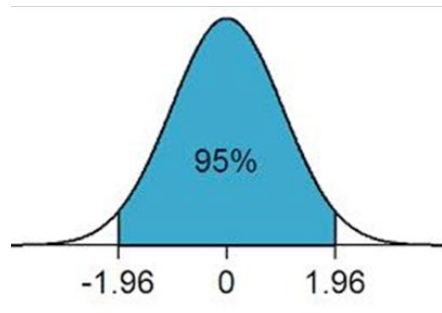
If the t value < 1.96, then the H0 is accepted and the study will not be considered statistically significant at the 5 per cent level. According to table 1.14, the t values are observed as less than 1.96.

Job Satisfaction   = 1.96>1.268

Primary Education   =1.96>0.320,

Seated For O/L   = 1.96>0.717

Hence the P values are as follows;

Job Satisfaction   = 0.208

Primary Education   = 0.750

Seated for O/L   = 0.475

According to table 1.14 it was found that the independent variables (job satisfaction, employee education) do not describe the variance of the dependent variable (employee efficiency) significantly.

Hence it is clear that the study is not statistically significant which means that the data does not support Hypothesis 1 – There is a positive relationship between employee efficiency and job satisfaction.

According to the above survey results, it can be derived that there is no relationship between employee efficiency and employee education. Therefore the statistical testing does not support Hypothesis 2 – There is a positive relationship between employee efficiency and employee education.

2. Discussion of the Results

There are a few significant outcomes that can be pointed out from the analysis. According to the descriptive analysis the researcher found that the majority of respondents (machine operators) were between age 26 and 35, and 90 per cent of them were females within the industry. When observing the ethnicity of the respondents over 90 per cent of the employees were Sinhala and more than 50 per cent of the respondents in the sample were not married. When observing the duration of the respondents in the sector the researcher found that the majority of employees have newly joined the firm which means that they have worked there for less than a year.

According to the descriptive analysis it was found that the highest qualification of more than 50 per cent of the employees

in the sector was primary education and GCE Ordinary Level. When observing the salary range of the employees it was found that there was a tendency of salary increments converse with the period of work.

When considering the impact of job satisfaction and employee education on employee efficiency, the dummy variable regression analysis concluded that there is no significant impact of job satisfaction and employee education on employee efficiency. Hence there is statistical evidence to reject the two hypotheses formulated for the study because the statistical testing did not support the assumption that employee efficiency has a positive relationship with employee educational levels.

The rejection of the hypotheses of the study can be due to several reasons. One could be a limitation in line efficiency data, instead of employee efficiency data.

On the intuitive level, the researcher observed that there is no impact of job satisfaction on employee efficiency since the main preoccupation of employees is with achieving their day to day targets, and hence they are little concerned with such abstract concepts as job satisfaction or dissatisfaction. The absence of a significant influence of employee educational level on their efficiency can also be ascribed to the same reason – in the preoccupation with achieving day to day targets, the importance of educational qualifications fade into the background.

Division of labor is a common observation in the apparel industry. As a result of this, every employee is specialized to do his or her specific job. Rather than job satisfaction and education what

is relatively decisive is determining employee efficiency through training, which the employees receive for their respective jobs. This is another possible reason for the absence of a significant relationship between job satisfaction, employee education, and employee efficiency.

CONCLUSIONS AND RECOMMENDATIONS

Employees are the livelihood of any organization, because they make a significant contribution to the organization. The commonly held opinion is that 'A satisfied worker is an efficient worker and a satisfied workforce will create a pleasant atmosphere within the organization to perform well'. Hence job satisfaction has become a major topic of interest in the world of economics. In addition, employee education also has become a major topic in the business world. Theoretically it is said that both these variables exert significant influence over employee efficiency. To determine whether this assumption functions at the practical level, the researcher sought to investigate whether there is an impact of job satisfaction and education on employee efficiency and found that there is no such relationship in a significant sense. Therefore the researcher presents the following recommendations from a managerial perspective.

The recruitment process of the organization should be focused not only on educational qualifications but also the specific skills required for the job. Employers should give more attention to job related skills than paper qualifications, for which they can use tests like Purdue

pegboard tests. The Purdue pegboard test is a timed physical test used to measure manual dexterity and brain function. Test subjects are asked to place small pins into holes in the pegboard using a specific hand and following a specific process. The test may be used as a diagnostic tool for learning disabilities, as an occupational recovery tool after brain or hand damage, or as a probable-performance indicator for candidates applying for assembly positions (Tiffin 1968).

The employees must be physically and mentally fit to undertake duties in the plant. Therefore in the recruitment process there is a need for medical checkups of the employees to ensure unimpaired efficiency.

Organizations should give priority to employee training. Employee training is essential for organizational success since it educates workers about the effective use of technology, thereby improving productivity and efficiency.

The human resource department and the work-study department of the plant should take the responsibility of increasing efficiency of the employees and continuously monitor the efficiency of the employees. The management should introduce programs like Total Productive Maintenance (TPM). TPM is a contemporary idea aimed at increasing the productivity of the organizations' equipment. The fundamental objective of TPM is to prevent quality failures. This is important because the maintenance of the factory, building, machinery, plant, power, and lighting are crucial to prevent quality errors. The benefits of a TPM system include better understanding by production staff about the performance of their equipment which helps to diagnose and rectify problems quicker, more effective teamwork helping to improve flexibility, reduction in equipment breakdowns in production giving greater efficiency of production flow, and less rework, scrap and wastage levels (Mfowabo 2006).

The Organization can also implement incentive programs like grading point systems to encourage employee efficiency. The researcher observed such grading point systems in the chosen research field. In this system the management gives stars for each efficient employee according to their efficiency levels. The one who gets more than four stars becomes the Jumper. The jumper is aware of the total product which means he has the ability to complete a total garment. Once an employee becomes a jumper he/she gets a higher salary than the other employees (machine operators). Therefore every employee in the plant tries to enhance their performance in order to get a salary increase.

The employers should give a clear idea about the organizational short term and long term targets. This way every employee in the plant will know what is expected of them and the speed with which the task is to be performed.

In this study, the researcher statistically confirmed that there is no influence of job satisfaction on employee efficiency. The researcher also observed the same result on a practical level in the plant through observation. Therefore it can be recommended for organizations to cut back on irrelevant expenses on non-effective satisfaction programs. Most of

the organizations in the sector implement various programs to increase the level of job satisfaction of their employees. While these programs might be marginally beneficial for the company by increasing goodwill between the management and employees, they constitute little more than an entertaining experience for their intended beneficiaries. From an efficiency perspective, hence, it can be argued that these programs are not necessarily connected with the efficiency level of the employees.

In terms of employee welfare, it is necessary to help them through trying circumstances and obtain continuous performance.

In the apparel industry the heavy emphasis on division of labor results in mental fatigue because employees are required to repeat the same monotonous task on a daily basis. If employee awareness of the total product can be increased, they will better be able to relate to the production process and appreciate their place in it, which can improve efficiency. Therefore the organization should provide its employees the opportunity to learn about the production system.

The above discussion brought into light several recommendations that will be helpful in supporting the management in the apparel industry to improve their employees' efficiency level. It is also expected that this study will encourage more researchers to approach the issue of increasing employee efficiency from a multitude of perspectives.

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