

# JOB SATISFACTION OF SEWING MACHINE OPERATORS IN SRI LANKA: A CASE STUDY

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## *Abstract*

*Apparel industry is one of the largest foreign exchange earners of Sri Lanka. Sewing Machine Operators (SMOs) can be considered as the key personnel in the apparel industry. One of the major challenges faced by the apparel industry is the retention of skilled SMOs through enhancing their job satisfaction. Therefore, the employers are keen on identifying the level of satisfaction of the SMOs about the job and on taking necessary actions to manage the factors which are associated with job satisfaction. This study focused on the job satisfaction of the SMOs employed in a particular manufacturing division of a reputed apparel company in Sri Lanka. The data were gathered through self-administered questionnaires. In the sample, most of the SMOs are on their first employment. Majority of them represent the age category 20-29. Almost half of them are married and among them nearly 50% of SMOs have children younger than six years. Overall job satisfaction of the SMOs are in a higher state where more than 75% of SMOs indicated satisfied in job satisfaction scale. The food and the number of uniforms provided are the most dissatisfactory aspects. Further, the univariate analysis revealed that SMOs working for more than five years have a higher*

*satisfaction level. The SMOs in the age category 30-34 are highly satisfied and greater than 34 are less satisfied. Married SMOs also display a higher job satisfaction level. Discrete Proportional Hazard model was fitted to model the job satisfaction of SMOs. Place of accommodation, service level, facilitative working environment, effective working relationships and pressure from the family were significant at 5% level. The Deviance test, Pearson chi-square test and Parallel lines test concluded the goodness of fit of the model. Odds ratios revealed that the SMOs residing at their own houses are more satisfied than the SMOs residing outside.*

**Keywords:** *Job satisfaction, Sewing Machine Operators, Discrete Proportional Hazard model*

## **1 INTRODUCTION**

Human resources in modern industrial organizations play a prominent role. To gain the maximum contribution from the human resource, the satisfaction on the employment should be enhanced. Satisfied workers always have a positive influence towards the success of an organization. Therefore, it can be considered that the productivity of an organization is closely linked with the concept of Job satisfaction. Enhancing the level of satisfaction of employees is a major challenge for organizations as it involves in handling the factors associated with job satisfaction. Because of the importance of job satisfaction to the business world, it has gained a special concern by many of the researchers and practitioners in the field. Apparel industry in Sri Lanka makes a major contribution to the country's economy as it accounts for about 46 % of the total export earnings in Sri Lanka (Central Bank, 2010).

Among various employment categories in the apparel industry, SMOs are the main employment category for the success of the industry (Tilakatatne, 2006). The major problem that the industry is facing today is the retention of skilled SMOs through enhancing their job satisfaction. This paper attempts to identify the context of job satisfaction of SMOs with special reference to a distinguished apparel company in Sri Lanka. The study will help the organization to understand the factors contributing to job satisfaction and their importance.

## **2. METHODOLOGY AND EXPERIMENTAL DESIGN**

The Stratified sampling technique was used to select the sample of respondents. Gender has been used as the stratification variable since the male SMOs are proportionally low compared to the female SMOs. Further proportional allocation method has been used to decide the number of individuals that has to be sampled from each stratum. Data were collected through self-administered questionnaires from 324 respondents. The questionnaire was designed to capture demographics, personal variables, job related variables and overall job satisfaction of the SMOs. It was mainly comprised of the close ended questions and five point Likert scale questions ranging from 1=highly dissatisfied to 5= highly satisfied and 1=strongly disagree to 5= strongly agree.

The discrete proportional hazard model was used to model the job satisfaction of the SMOs depending on the nature of the data. This is an ordinal regression model with a complementary log-log link. This model assumes the proportional odds assumption. Further, the odds ratios were calculated to determine the change in odds when changing the levels of a variable.

## **3. RESULTS**

### **3.1 Descriptive Analysis**

According to the composition of the sample 88.6% are female respondents (refer Table 1) and remaining 11.4% are male respondents. More females are working as SMOs since the occupation is more related to females than to males. Table 1 shows that three out of every four SMOs fall into the age category of 20 – 29. The percentage of SMOs who are older than 40 years is very less. Out of the total respondents, almost 50% of SMOs are married. Furthermore, from the married employees 43% of SMOs are having children younger than 6 years. Table 1 shows the service level of the 324 respondents where most of the SMOs have 1-3 years of service (31.7%) and considerably large number of SMOs also have more than 5 years of service (27.5%). Considering about the accommodation of the SMOs 86.7% of SMOs stay at their homes while the other 13.3% reside outside their homes.

Table 1: Demographic information of the sample

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	37	11.4%
Female	287	88.6%
<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>
Less than 20	11	3.4%
20 – 24	129	39.8%
25 – 29	115	35.5%
30 – 34	46	14.2%
35 – 39	18	5.6%
40 ≤	5	1.5%
<b>Marital status</b>	<b>Frequency</b>	<b>Percentage</b>
Single	166	51.3%
Married	153	47.2%
Separated/ Widow/ widower	5	1.5%
<b>Do you have children younger than 6 years?</b>	<b>Frequency From married SMOs</b>	<b>Percentage From married SMOs</b>
No	86	57%
Yes	67	43%
<b>Service level</b>	<b>Frequency</b>	<b>Percentage</b>
≤ 6 months	21	6.5%
6 months - 1 year	45	13.9%
1 year- 3 years	103	31.7%
3 years – 5 years	66	20.4%
5 years ≤	89	27.5%
<b>Accommodation</b>	<b>Frequency</b>	<b>Percentage</b>
Home	281	86.7%
Boarding place	23	7.1%
Company hostel	13	4%
Relative's place	7	2.2%

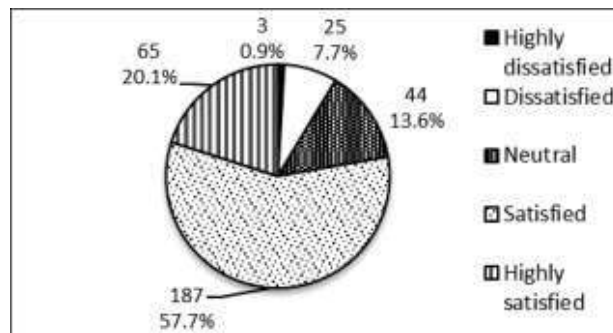


Figure 1 : Past employment composition of SMOs

Figure 1 depicts that 62% of the SMOs have not been occupied in a job before the current employment. About one fourth from the total number of SMOs in the sample have experienced one job before. About 13% of SMOs have experienced two or more jobs before.

### 3.2 Job Satisfaction

A five point Likert type scale ranging from 1=strongly disagree to 5= strongly agree was used to capture the overall job satisfaction of the SMOs. The Cronbach's alpha value of 0.878 indicated a higher internal consistency of the scale used (Hair, et al. 2010). The average response level for the scale was taken as the dependent variable which captures the job satisfaction of the SMOs.

The pie chart illustrates that 20.1% of SMOs are highly satisfied with their employment and 57.7% of SMOs are satisfied with their employment. Therefore, altogether 77.8% SMOs from the sample are satisfied (either satisfied or highly satisfied) with their current employment. 8.6% of SMOs from the sample are dissatisfied (either dissatisfied or highly dissatisfied) with their employment. Considerably a high percentage (13.6%) of neutral responses for the overall job satisfaction is present in the sample.

According to the above table the “number of uniforms given” and the “food of the canteen” are the conditions that the highest amount of employees are dissatisfied with compared to the other working conditions. As a percentage, almost 42% from

the total sample are dissatisfied with the number of uniforms, which are offered by the company and almost 33% of SMOs are dissatisfied with the food it provides.

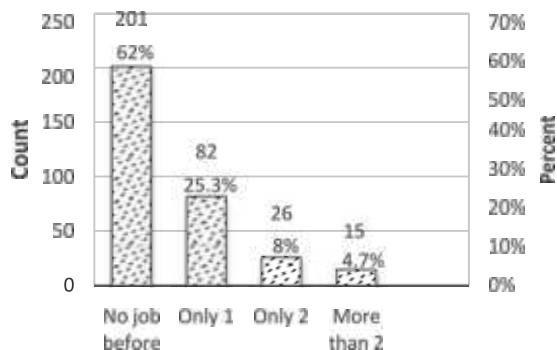


Figure 2 : Overall job satisfaction of SMOs

Table 2 : Satisfaction level of working nvironment

Working Environment	High y dissatisfied %	Dissatisfied %	Neut al %	Satisfied %	High y satisfied %
Lighting at the work place	0	0.6	0.3	49.7	49.4
Safety in the working place	0	1.9	0.3	56.5	41.4
Ventilation at the work place	0.9	3.4	1.2	57.7	36.7
Sanitary facilities	0.6	6.5	2.2	63.9	26.9
State of the machines used	0.6	4.9	9.6	66	18.8
Food of the canteen	9.6	23.1	7.1	51.9	8.3
Number of uniforms given	4.6	37.3	2.2	43.2	12.7

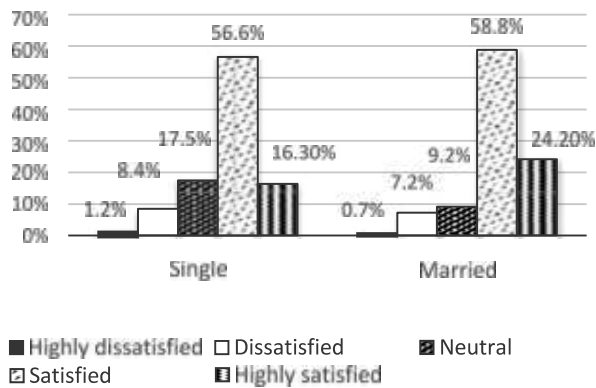


Figure 3 : Marital status vs. overall job satisfaction

According to the above figure married SMOs are more satisfied or highly satisfied (83%) with their employment rather than the unmarried SMOs (almost 73%).

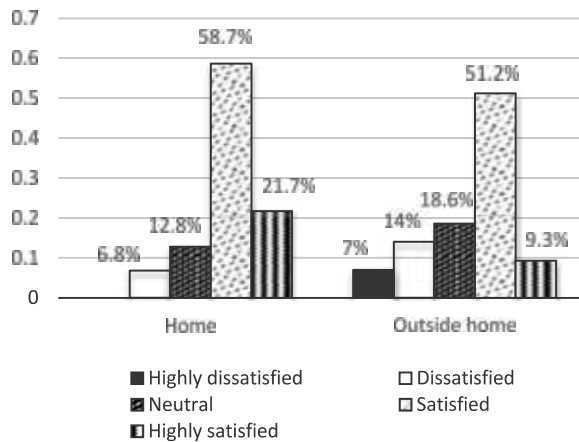


Figure 4 : Marital status vs. overall job satisfaction

SMOs who reside in their own houses have shown a higher overall job satisfaction (about 80%) than the SMOs who live outside their homes during their employment (refer to figure 4) Here the “Outside home” refers to the SMOs who live in boarding places, company hostel or their relatives' places during their employment (refer to figure 4).

Table 3 : Satisfaction level by age category

Age	Highly dissatisfied %	Dissatisfied %	Neutral %	Satisfied %	Highly satisfied %
Less than 25	1.4	10	14.3	56.4	17.9
25-29	0	4.3	15.7	63.5	16.5
30-34	2.2	2.2	6.5	60.9	28.3
Greater than 34	0	21.7	13	30.4	34.8

It can be clearly seen in table 3 that the SMOs in the age of 30 to 34 are more satisfied than the SMOs in other age categories (89.2%). SMOs in the age of 25 to 29 also show a higher satisfaction level about their current employment (80%). SMOs older than the age of 34 are more dissatisfied compared to the SMOs in the other age categories. As a proportion, it accounts for more than one fifth of the total SMOs older than 34 years. SMOs younger than 25 years also show a some dissatisfaction about their employment (11.4%).

Table 4 : Satisfaction level for service level

Level of service	Highly dissatisfied %	Dissatisfied %	Neutral %	Satisfied %	Highly satisfied %
Less than 6 months	0	14.3	9.5	47.6	28.6
6 months to 1 year	2.2	4.4	15.6	55.6	22.2
1 year to 3 years	0	15.5	19.4	51.5	13.6
3 years to 5 years	3	1.5	9.1	66.7	19.7
More than 5 years	0	3.4	10.1	61.8	24.7

The table 4 describes how the overall job satisfaction differs according to the years of service of the SMOs. The SMOs who have a service level of one to three years are the most dissatisfied (15.5%) compared to other SMOs. The SMOs in the probation period (less than 6 months) also show a comparatively higher level of dissatisfaction (about 14%). The SMOs who worked more than three years in the manufacturing division display a greater level of satisfaction compared to the SMOs who worked in the division less than that. Although the situation is such that the SMOs who have a service level between six months to one year also indicate a higher level of satisfaction.



Table 5 : Family background

Statements	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %
Family issues have an adverse effect on my job	35.5	47.5	4.3	9.6	3.1
Family members push me to go for another job	41	40.7	6.5	10.5	1.2
Too many people dependent on my salary	28.4	37.3	6.5	21	6.8
I suffer from some family problems	29.3	35.5	4.6	22.8	7.7

Table 5 depicts that most of the SMOs (83%) believe that their family issues do not have a negative effect on their employment. Higher percentage (81.7%) of SMOs also responded that they are not encouraged by their family members to alter the current employment. Most satisfied SMOs responded with a strong disagreement for each statement (More than 28%). Although the situation is such that a considerable percentage of employees (27.8%) claim that too many individuals rely on their salary. About 30% of the SMOs from the sample agree on the fact that they go through some family problems.

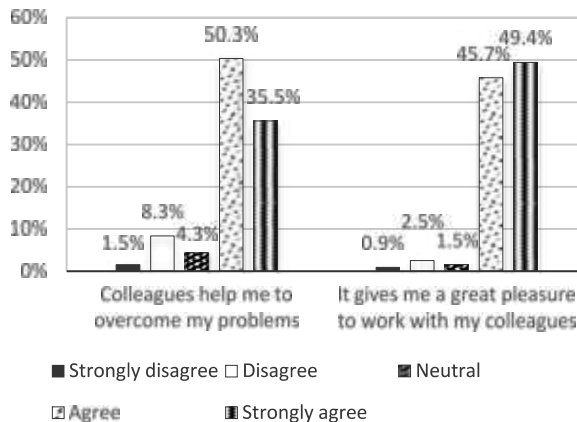


Figure 5 : Relationship with colleagues

95% of SMOs from the sample think that working with their colleagues is a pleasant experience. Almost half from the sample of SMOs strongly agreed upon this statement which talks about the pleasure of working with the colleagues. 85.8% of SMOs believe that they have been given the necessary help by their colleagues to overcome their problems. There is no any significant dissatisfaction for both of the statements (refer to figure 5).

Table 6 : Relationship with immediate supervisor

Statements	Strongly disagree %	Disagree %	Neutral %	Agree %	Strongly agree %
I can tell my immediate supervisor when things go wrong.	4.6	9.3	5.6	57.4	23.1
I prefer the way my supervisor deals with me on my job	4	5.6	8.3	57.7	24.4
My supervisor gives me necessary feedbacks to improve my work	2.2	9.3	5.9	57.7	25
My supervisor clearly informs me about the targets that should be covered	1.2	6.5	2.5	61.4	28.4

A high percentage (89.8%) of SMOs feel that they have been clearly informed about the targets that have to be achieved. They also feel that they are given the necessary feedbacks to improve their work (82.7%). 82.1% of SMOs prefer the way that the supervisor deals with them in their job related activities (see table 6).

### 3.3 Discrete Proportional Hazard Model

The job satisfaction measured through the above mentioned scale was used as the dependent variable for the modelling process. Given the ordinal nature of the dependent variable an ordinal regression model was used to determine the relationship between job satisfaction and the other independent variables. According to Yay & Akinici (2009) the model could be identified as Discrete Proportional Hazard model. Initially univariate analysis was carried out in order to find out the independent variables that are associated with job satisfaction. Variables with a P-value < 0.05 in the univariate analysis were included in the model. Forward and backward selection methods were applied and the variables

with a P-value < 0.05 in the model were retained. Interaction terms were not considered since meaningful interaction could not be identified through the retained factors.

The final model was consisted of the variables accommodation and service level from the demographic variables and the factors which were found through a factor analysis process carried out with the data. Those factors are known as facilitative working environment, effective working relationships, and pressure from the family.

Table 7 : Test of parallel lines

Chi-Square	DF	P-value
9.445	8	0.306

According to table 7, P- value is greater than 0.05 in the parallel lines test concluded that the model holds the proportional odds assumption.

Table 8 : Goodness of fit tests

Test	Chi-Square	DF	P-value
Pearson	632.286	634	0.512
Deviance	339.988	634	1.000

More over table 8 presents the results produced by the deviance and the Pearson chi-square statistic. Both tests displayed p-values greater than 0.05 suggesting that the fit of the model is adequate.

Odds ratio measures the association between levels of the factors with the dependent variable under consideration. When calculating the odds ratio for a particular factor, other factors were considered as constant at their base levels. Odds ratios from the model declares that a Sewing Machine Operator who is residing at a place other than home is 0.43 times are less likely to be satisfied than a Sewing Machine Operator who is residing at home. Moreover, it also states that a Sewing Machine Operator who has been working in the division for 1 year to 3 years is 0.40 times less likely to be satisfied than a Sewing Machine Operator who has been working at the division for more than 5 years.

#### **4. DISCUSSION AND CONCLUSION**

More female workers are employed in the division as Sewing Machine Operators than male workers when considering about the gender composition of the manufacturing division. The reason is that the sewing is the main occupation due to the nature of the industry and it is more related to female workers. Most of the employees are within the age group of 20-29 state that younger crowd is employed in the division. Most of the SMOs have not been employed before the current job.

Considerable percentage of SMOs are dissatisfied with the number of uniforms that they are provided with. The SMOs feel that they should be given more than two uniforms since they have to wear them continuously in all working days of the week. The other dissatisfied area of the SMOs is the food provided by the canteen. They prefer some improvements in the food provided by the canteen.

Overall job satisfaction of the SMOs was measured through the scale used in the study. According to the scale, about 77% of SMOs are satisfied with the job. From that about 20% of the employees are highly satisfied. About 9% of the SMOs are dissatisfied and a very few percentages of SMOs are highly dissatisfied. The percentage of SMOs who are neither satisfied nor dissatisfied about the job is 13.6%.

Married SMOs are more satisfied with the job than the unmarried SMOs in the division. As well as the SMOs, older than 34 years are more dissatisfied with their employment compared to the younger SMOs. SMOs who worked more than three years at the division are more satisfied with their job. It shows that when the service level increases the SMOs tend to be more settled on the employment and it drives them towards satisfaction with the job. The SMO who are accommodated outside their home are more dissatisfied with the job. This can be due to the fact that the SMOs who reside in an outside place rather than in their own houses have to undergo some practical problems compared to the SMOs who reside at their own houses. (e.g. meals, freedom etc.).

Further, a considerable percentage of SMOs claim that too many individuals rely on their salary. They also state that they have to undergo some sort of family problems. Social relationships of the SMOs at the working environment are at a

satisfactory condition.

The factors, “Accommodation”, “Service Level”, “Facilitative Working Environment”, “Effective Working Relationships” and “Pressure from the Family” were included in the final model of job satisfaction. Goodness of fit tests have suggested the better fit of the final model for the data.

The main conclusion obtained through the analysis is that the overall job satisfaction of Sewing Machine Operators in the manufacturing division depends on the 5 factors - accommodation, service level, facilitative working environment, effective working relationships, and pressure from the family.

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