

# High-tech machine in RMG Industry: reducing SMV, lead time and boosting up the productivity

## Abstract

Sewing is one of the most important processes in garment manufacturing where manual machines are widely used for the production. This is the common scenario of the Bangladesh RMG sector. Sewing can also be done by using High tech machines instead of manual but not widely practices as manual. So this report aims to demonstrate some statistical comparison between manual and high tech sewing machines and the result is a huge save in terms of SMV, manpower and salary for an organization. Report conducts the comparison for Collar, Cuff & Flap making, Pocket joining, and Sleeve placket creasing and Button attaching process for a basic woven shirt. This comparison of both types of machines is done by collecting both primary and secondary data. Data is collected of total required SMV, manpower and salary of a process of both manual and High tech and then the comparison is given according to the data. From the result of the report less process, SMV, manpower, and salary is a seen using high tech machine instead of manual which is a huge industrial save and thus enhance profit for an organization. So employers of the country can clearly have an idea using high tech machines can result in a huge save for the organization and also enhance the productivity at the same time.

**Keywords:** sewing, high-tech, SMV, manpower, salary, production cost, lead time

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## Introduction

Bangladesh is one of the leading exporters of Ready-Made Garments throughout the world standing just after China. A lion share of foreign currency has been earned from this sector an overwhelming 82% of Bangladesh's total merchandise export.<sup>1</sup> So RMG sector has a direct influence to its economic development. Adding to this, around 75% of people in Bangladesh are involved with this industry directly or indirectly. So a large amount of people is interlinked with that sector and thus reflects the importance of the sector for its upcoming future. However, the scenario has changed a lot since this industry started sailing in Bangladesh with the establishment of Desh Garment, the first ever readymade garment industry in our country. Although we have emerged as one of the key exporters in this industry, the introduction of High-tech machinery in the industry is yet to be done in a broader way. Still a small amount of industries is interested to invest on using high tech machines. But the fashion industry is witnessing the advent of exciting new technology, which will change the future of the business.<sup>2</sup> Besides, there are several functions in the readymade garment industry but sewing section can be considered as one of the most important and valuable functions. Now a day's apparel manufacturing industries are trying to develop their current production system and situation and continuously looking for new production tools and techniques in order to keep swiftness with the rapid changes of trend in consumers of apparel products.<sup>3</sup> Various kinds of researches and innovations are continuing for different sections of the sector. Currently in our RMG industry sewing procedure has to undergo mostly by manually which consumes a substantial amount of time like other sections in the garments.<sup>4</sup> Thus, it creates a significant impact over lead time. Many processes are available which are talking a lot of time but not adding value in proportion to that. So to deal with the recent problems & challenges industries have to improve production efficiency & productivity, reduce lead time, ensuring proper quality requirements.<sup>3</sup> On this point introduction of automatic

sewing machine in sewing section can play a vital role to increase productivity and to reduce lead time. Various kinds of high tech sewing machines using for different processes can lead to reduce the time. When reduction of process is possible than time and cost will be reduced also as all are interlinked. Moving to High tech machines is also become essential for the apparel manufacturers because of the availability of unskilled workers which is one of the challenges for the sector.<sup>5,6</sup> This report will focus on the implementation of high tech machine in place of manual and demonstrate a huge industrial save. This will demonstrate how high tech machine can make the difference and influence employees to invest for high tech machines. Moving forward to technology will not only help to face the challenges but also strengthen the existence in the competitive global market. Reducing manpower can allow the employees to open more lines using the same number of manpower.

## Objective of the study

The objective of the report is to demonstrate some statistical difference between conventional and high tech sewing machine procedures which results in saving SMV, manpower cost and production cost in garments. Although the study is a pilot run based on a woven shirt, it is applicable to other garments as well. This report will show how manpower and time can be reduced by using high-tech sewing machines. It will result in less SMV and manpower requirement per garment in a high-tech machine than manual. Therefore, it will help an organization reducing a huge amount of money within the organization and increasing productivity. Furthermore, it sharply shows the feasibility of making asset by investing money for high-tech machines a certain years later.

## Limitations

For completing this report there were some limitations. Firstly, not availability of the high tech machineries in the country took a long

time to collect the data. As it takes much time for the data collection so it results in having less time for author to complete of the report. Secondly, during collecting data, there was not enough time to conduct the process easily as production was running. Thirdly, collecting data of manual and high-tech was possible from two different industries as high-tech machines are expensive that creates problems for all entrepreneurs to have these machines in their industry. So comparison is done from data of two different factories. Last important thing is that employers can be discouraged to use high tech machines even though it has a huge save only because of its price. Availability of cheap labor cost influence employers to rely on manpower.

### Hypothesis

This report will focus on giving a statistical comparison of manual and high tech sewing machines in the sewing section of a garments industry. For demonstrating that comparison primary and secondary data will be collected of both manual and high tech machines. Primary data will be cross checked with the secondary data for ensuring a correct and accurate comparison. Data will be of total required SMV (Standard Minute Value), manpower and salary for completing a basic woven shirt. Comparison will be for Collar, Cuff & Flap make, Pocket joining, Sleeve Placket creasing and Button attaching. After that comparison between two types of machines a statistical difference will be shown. Finally, a total process breakdown of a woven shirt only including the high-tech machines will be shown as well. Thus it will demonstrate a compact whole process difference and time and cost saving during total shirt manufacturing. From this difference reader will have a clear idea which manufacturing process will be time consuming and also cost effective for a manufacturer.

### Methodology

This report was made by comparing data of traditional and proposed high-tech sewing machine. At first, we had to collect all data regarding the study for both conventional and newly proposed method to make the comparison. This research is conducted based on both primary data and secondary data. Primary data for both types of machines were taken first and those were cross checked with the secondary data. This comparison was done only to ensure proper statistical difference. SMV, manpower and salary for completing the sewing procedure of a basic woven shirt were taken manually. High-tech machines were not available in that industry. That's why the data for sewing procedure using high tech machine had been collected from another industry. SMV, required manpower and salary for high tech procedures were collected. After that, a process breakdown of a basic woven shirt with SMV, required manpower and salary were collected from the factory. Then some processes within the process breakdown were done using high-tech sewing machines. So, for using high-tech those processes were required less time and manpower than the manual process. Using high-tech for some procedures resulted in a new final process breakdown with less SMV and manpower per garment than the previous one.

### Calculation of SMV and manpower using the conventional machine

The following table shows the process breakdown, SMV and manpower required for making a basic full sleeve woven shirt using the conventional sewing machine (Table 1). From the conventional sewing process data, this report found that a shirt took approximately 24.75 minutes and 75 workers to complete its sewing. It was not a small figure at all during this competitive market. While concerning

various issues like limited lead time, higher production cost, lower productivity etc. it is always important to reduce production time for efficacious production and profit. This report gives some guideline relevant to that concern.

**Table 1** Conventional Machine: Process breakdown, SMV, Manpower

SL	Process	SMV	Manpower
<b>Collar, Cuff &amp; Flap</b>			
1	Collar interlining laying and fusing	.30	1
2	Collar make mark	.30	1
3	Collar make	.35	1
4	Collar trim & turn	.30	1
5	Collar top stitch	.30	1
6	Collar band laying & fusing	.30	1
7	Collar band rulling	.30	1
8	Collar & band match	.30	1
9	Collar band join	.40	1
10	Collar band trim & turn	.30	1
11	Collar band top stitch	.30	1
12	Cuff laying & fusing	.30	1
13	Cuff make mark	.35	1
14	Cuff rulling	.35	1
15	Cuff make	.45	1
16	Cuff trim & turn	.35	1
17	Cuff top stitch	.40	1
18	Flap laying & fusing	.30	1
19	Flap make mark	.35	1
20	Flap make	.45	1
21	Flap trim & turn	.35	1
22	Flap top stitch	.4	1
<b>Front</b>			
23	Front pair tuck	.30	1
24	Button plate by folder	.35	1
25	Box plate	.30	1
26	Pocket rulling	.35	1
27	Pocket iron	.60	1
28	Pocket trimming	.25	1
29	Pocket position mark	.40	1
30	Pocket join	.90	2
31	Flap join mark	.30	1
32	Flap join	.35	1
33	Flap top stitch	.35	1
34	Front fitting	.35	1

Table Continued....

SL	Process	SMV	Manpower
<b>Collar, Cuff &amp; Flap</b>			
<b>Back</b>			
35	Size label attach to main label	.30	1
36	Main label attach to yoke	.30	1
37	Back dart make	.40	1
38	Back yoke join	.40	1
39	Back yoke top stitch	.30	1
40	Back fitting	.30	1
<b>Assemble</b>			
41	Front and Back match	.30	1
42	Front join	.40	1
43	Shoulder top stitch	.30	1
44	Collar match	.30	1
45	Collar join	.40	1
46	Collar closed	.45	2
47	Gamble join	.35	1
48	Gamble tuck	.35	1
49	Half sleeve placket cut & creasing	.45	1
50	Sleeve placket final creasing	.30	1
51	Sleeve placket join	.80	2
52	Armhole scissoring	.30	1
53	Sleeve match	.30	1
54	Sleeve join	.50	2
55	Sleeve top stitch	.55	2
56	Care label attach	.30	1
57	Side scissoring	.30	1
58	Side top stitch	.55	2
59	Cuff match	.35	1
60	Cuff join	.80	2
61	Bottom hem scissoring	.35	1
62	Bottom hem	.40	1
63	Body hole	.35	1
64	Button attach mark	.30	2
65	Button attach	.35	1
66	Thread trimming	.35	2
<b>Total</b>		<b>24.75</b>	<b>75</b>

**Comparison of processes: using both conventional and high-tech machines**

The processes of making a full sleeve shirt were compared using both the conventional and the high-tech sewing machines. Those processes were collar cuff and flap making, pocket joining, sleeve

creasing and button attaching. For comparing the data of manual and high-tech machines, they are demonstrated chronologically.

**Collar, cuff and flap making**

The comparison was done based on a ‘six lines’ sewing floor. For this comparison manual process of the Collar, Cuff and Flap including its required SMV, worker and salary were showed separately but high-tech processes are showed all together as all the process sequences were similar.

**Manual process of collar, cuff and flap making:** From the data for completing collar cuff and flap make per shirt in the conventional process, many processes are required. This process consumed 6.2 minutes and 18 workers where these workers cost was \$1528. The calculation was prepared for only 1 line. For six lines or per floor calculation, this required 6.2x6=37.2 minutes, 18x6=108 workers and \$1528x6=\$9168USD (Table 2).

**Table 2** Manual Process of Collar, Cuff and Flap making

SL	Process	SMV	Worker	Salary
1	Collar interlining laying and fusing	.30	1	\$85
2	Collar make mark	.30	1	\$78
3	Collar make	.35	1	\$90
4	Collar trim & turn	.30	1	\$78
5	Collar top stitch	.30	1	\$90
6	Collar band laying & fusing	.30	1	\$85
7	Collar band rulling	.30	1	\$90
8	Cuff laying & fusing	.30	1	\$85
9	Cuff make mark	.35	1	\$78
10	Cuff rulling	.35	1	\$90
11	Cuff make	.45	1	\$90
12	Cuff trim & turn	.35	1	\$78
13	Cuff top stitch	.40	1	\$90
14	Flap laying & fusing	.30	1	\$85
15	Flap make mark	.35	1	\$78
16	Flap make	.45	1	\$90
17	Flap trim & turn	.35	1	\$78
18	Flap top stitch	.40	1	\$90
<b>Total</b>		<b>6.2</b>	<b>18</b>	<b>\$1,528</b>

**Proposed process of collar, cuff and flap making:** For completing these processes high tech Collar, Cuff and Flap making machine is used. Using this high tech machine leads to less process requirements than the manual (Table 3).

**Table 3** High-tech machine for Collar, Cuff and Flap

SL	Process	SMV	Worker	Salary
1	Interlining laying & fusing	1.5	1	\$85
2	Collar, cuff & flap make	1.2	3	\$270
3	Trim & turn	.90	2	\$180
4	Topstitch	1.03	3	\$270
<b>Total</b>		<b>4.63</b>	<b>9</b>	<b>\$805</b>

From the data for completing collar, cuff & flap making per shirt in the projected high-tech process required less time than the manual process. This process consumed 4.63 minutes and 9 workers where these workers cost was only \$805. This calculation was for only 1 line. For six lines or per floor calculation this required  $4.63 \times 6 = 27.78$  minutes,  $9 \times 6 = 54$  workers and  $\$805 \times 6 = \$4830$

**Statistical deference of both manual and proposed process for collar, cuff and flap making:** So, selecting high tech for collar, cuff & flap making instead of conventional can minimize a considerable figure. It saved a total of 9.42 minutes time, 54 workers and \$4338USD. This calculation was only for 1 floor containing 6 lines. It will be increased with the increasing number of floors. Cost per collar, cuff and flap making high tech machine was \$2,040. Six lines required 18 machines, 3 per line costing  $\$2,040 \times 18 = \$36720$ . Machine depreciation cost per month was high than other machines as more machine were required about  $36720/120 = \$306$  for 10 years. So, the net profit was calculated  $\$4338 - \$306 = \$4032$  per floor (Table 4).

**Table 4** Statistical Difference between manual and high-tech machine for 6 lines

Method	SMV	Worker	Salary
Manual	37.2	108	\$9,168
High tech	27.78	54	\$4,830
Save	9.42	54	\$4,338

### Pockets joining

The comparison was done based on a 'six lines' sewing floor. First of all, the manual process of the pocket joining is showed. This is a basic double pocket shirt. Then finally demonstrating the high-tech machine procedure leads the report to show the comparison

**Manual process of pockets joining:** From the data for completing pocket join per shirt in the conventional process it required six processes. These processes required 2.5 minutes and 6 workers where these workers cost was \$511. This calculation was for only 1 line. For six lines or per floor calculation this required  $2.5 \times 6 = 15$  minutes,  $6 \times 6 = 36$  workers and  $\$511 \times 6 = \$3066$  (Table 5).

**Table 5** Manual Process of Pocket Joining

SL	Process	SMV	Worker	Salary
1	Pocket rulling	0.35	1	\$90
2	Pocket iron	.60	1	\$85
3	Pocket trimming	.25	1	\$78
4	Pocket position mark	.40	1	\$78
5	Pocket join	.90	2	\$180
<b>Total</b>		<b>2.5</b>	<b>6</b>	<b>\$511</b>

**Proposed process of pockets joining:** From the proposed process joining of the pocket is done by using Pocket Creasing & Setter machine. This machine is more efficient and time consuming than manual (Table 6).

From the data for completing pocket join per shirt in the projected high-tech process it required only two processes instead of six. These processes required 1.2 minutes and 2 workers where these workers cost was only \$180. This calculation was for only 1 line. For six lines or per floor calculation this required  $1.2 \times 6 = 7.2$  minutes,  $2 \times 6 = 12$  workers and  $\$180 \times 6 = \$1080$ .

**Table 6** High-tech machine process of pocket joining

SL	Process	SMV	Worker	Salary
1	Pocket rulling	.35	1	\$90
2	Pocket creasing & join	.83	1	\$90
<b>Total</b>		<b>1.2</b>	<b>2</b>	<b>\$180</b>

**Statistical deference of both manual and proposed process for pockets joining:** So, selecting high tech for pocket joining instead of conventional it saved 4 extra processes, 7.8 minutes, 24 workers costing \$1986. This calculation was only for 1 floor containing 6 lines. It will be increased with the increasing number of floors. Cost per pocket joining high tech machine was \$20,430. For six lines required six machines costing  $\$20,430 \times 6 = \$122,580$ . Machine depreciation cost per month was about  $122,580/120 = \$1021.5$  for 10 years. So, the net profit was calculated  $\$1986 - \$1021.5 = \$964.5$  per floor (Table 7).

**Table 7** Statistical Difference for pocket joining between manual and high-tech machine for 6 lines

Method	SMV	Worker	Salary
Manual	15	36	\$3,066
High tech	7.2	12	\$1,080
Save	7.8	24	\$1,986

### Sleeve placket creasing

The comparison was done based on a 'six lines' sewing floor. First of all, the manual process of the sleeve placket creasing is showed. Then finally demonstrating the high-tech machine procedure leads the report to show the comparison.

#### Manual process of sleeve placket creasing

From the data for completing sleeve placket creasing per shirt in the conventional process it required two processes. These processes required .75 minutes and 2 workers where these workers cost was \$170. This calculation was for only 1 line. For six lines or per floor calculation this required  $.75 \times 6 = 4.5$  minutes,  $2 \times 6 = 12$  workers and  $\$170 \times 6 = \$1020$  (Table 8).

**Table 8** Manual Process of Sleeve Placket Creasing

SL	Process	SMV	Worker	Salary
1	Half sleeve placket cut & creasing	.45	1	\$85
2	Sleeve placket final creasing	.30	1	\$85
<b>Total</b>		<b>.75</b>	<b>2</b>	<b>\$170</b>

#### Proposed process of sleeve placket creasing

In the proposed process Sleeve Placket Creasing is done by using Laser Sleeve placket Creaser machine. By using this machine one process was able to reduce (Table 9).

**Table 9** High-tech machine process of Sleeve Placket Creasing

SL	Process	SMV	Worker	Salary
1	Sleeve placket creasing	.163	1 for 3 lines	\$90/3
<b>Total</b>		<b>.163</b>	<b>3-Jan</b>	<b>\$30</b>

From the data for completing sleeve placket creasing per shirt in the projected high-tech process it required only one process instead

of two. This process required 0.163 minute and one-third worker where this worker cost was only \$30. This calculation was for only 1 line. For six lines or per floor calculation this required 0.163x6=0.98 minute, 1/3x6=2 workers and \$30x6=\$180.

**Statistical deference of both manual and proposed process for sleeve placket creasing**

So, selecting high tech for sleeve placket creasing instead of conventional can minimize 1 extra process, 3.52 minutes, 10 workers costing \$840. This calculation was only for 1 floor containing 6 lines. It will be increased with the increasing number of floors. Cost per sleeve placket creasing high tech machine was \$5,300. For six lines required only two machines costing \$5,300x2=\$10,600. Machine depreciation cost per month was about 10,600/120=\$88.33 for 10 years. So, the net profit was calculated \$840-\$88.33=\$751.66 per floor (Table 10).

**Table 10** Statistical Difference for Sleeve Placket Creasing between manual and high-tech machine for 6 lines

Method	SMV	Worker	Salary
Manual	4.5	12	\$1,020
High tech	.98	2	\$180
<b>Save</b>	<b>3.52</b>	<b>10</b>	<b>\$840</b>

**Button attaching**

The comparison was done based on a ‘six lines’ sewing floor. First of all, the manual process of button attaching is showed. Then finally demonstrating the high-tech machine procedure leads the report to show the comparison.

**Manual process of button attaching:** From the data for completing button attaching per shirt in the conventional process it required three processes. These processes required 1 minute and 4 workers where these workers cost was \$336. This calculation was for only 1 line. For six lines or per floor calculation this required 1x6=6 minutes, 4x6=24 workers and \$336x6=\$2016 (Table 11).

**Table 11** Manual Process of Button Attaching

SL	Process	SMV	Worker	Salary
1	Body hole	.35	1	\$90
2	Button attach mark	.30	2	\$156
3	Button attach	.35	1	\$90
<b>Total</b>		<b>1</b>	<b>4</b>	<b>\$336</b>

**Proposed process of button attaching:** In the proposed process Button Attaching is done by using auto Button hole and attaching machine. This machine is more time consuming that the manually operated one (Table 12).

**Table 12** High-tech machine process of Button Attaching

SL	Process	SMV	Worker	Salary
1	Body hole	.15	1 for 3 lines	\$90/3
2	Button attach	.12	1 for 3 lines	\$90/3
<b>Total</b>		<b>.27</b>	<b>2/3</b>	<b>\$60</b>

From the data for completing button attaching per shirt in the projected high-tech process it required only two processes instead

of three. This process required 0.27 minute and two third workers where these workers cost was only \$60. This calculation was for only 1 line. For six lines or per floor calculation this required 0.27x6=1.62 minutes, 2/3x6=4 workers and \$60x6=\$360.

**Statistical deference of both manual and proposed process for button attaching:** So, selecting high tech for button attaching instead of conventional can reduce 1 extra process, 4.38 minutes, 20 workers costing \$1656. This calculation was only for 1 floor containing 6 lines. It will be increased with the increasing number of floors. Cost per button attaching high tech machine was \$23,200. For six lines required four machines costing \$23,200x4=\$92,800. Machine depreciation cost per month was about 92,800/120=\$773.33 for 10 years. So, the net profit was calculated \$1656-\$773.33=\$882.67 per floor (Table 13).

**Table 13** Statistical Difference of button attaching between manual and high-tech machine for 6 lines

Method	SMV	Worker	Salary
Manual	6	24	\$2,016
High tech	1.62	4	\$360
<b>Save</b>	<b>4.38</b>	<b>20</b>	<b>\$1,656</b>

**Result and discussion**

From this report, a reader can get a clear idea about the implementation of high-tech with its financial benefits. It has separately demonstrated a substantial amount of resource saving in the collar; cuff and flap making, pocket joining, sleeve creasing and button attaching processes by implementing high tech machines chronologically. Price of the machines was added to this study as well. Finally, it can be stated that from the collar, cuff and flap comparison, total industrial saving is \$4338 by removing 54 extra workers. Not only the money but also an industry can save up to 9.42 minutes per shirt for that specific process. It also helps to increase productivity by optimum utilization of resources. Chronologically from pocket joining, total savings for SMV, Worker and salary is 7.8 minutes, 24 workers and \$1986. From sleeve, creasing difference is 3.52 minutes, 10 workers, \$840. Lastly, from button attaching 4.38 minutes, 20 workers and \$1656 can be reduced. So, this is a considerable save collectively for all categories and is estimated for one floor of six lines and one month. So, from the report result is very clear that industry will be benefited financially with abridged lead time by substituting high tech machines instead of manual (Table 14).

**Table 14** Total SMV, Manpower and Salary diminution from comparison

Process	SMV save	Worker save	Salary save
Collar, cuff & flap making	9.42	54	\$4,338
Pocket joining	7.8	24	\$1,986
Sleeve creasing	3.52	10	\$840
Button attaching	4.38	20	\$1,656

This table demonstrating total saves of SMV, manpower and salary from four comparisons. This comparison is of four important processes during Collar Cuff and Flap making, Pocket joining, Sleeve placket creasing and Button attaching. Firstly, from the data of conventional Collar Cuff and Flap making, it indicates that it takes 6.2 minutes and 18 workers where these workers cost is \$1528. For a floor of six lines that goes to 37.2 minutes, 108 workers and \$9168USD. Again for

High tech machine for completing same task it takes 4.63 minutes and 9 workers where these workers cost is only \$805. For six lines it goes to 27.78 minutes, 54 workers and \$4830. From this comparison using high tech instead of manual sewing machine can save 9.42 minute, 54 workers and \$4338 for Collar, Cuff and Flap making. Secondly, from the data of conventional Pocket joining it indicates that it takes 2.5 minutes and 6 workers where these workers cost is \$511. For a floor of six lines that goes to 15 minutes, 36 workers and \$3066 USD. Again for High tech machine for completing same task it takes 1.2 minutes and 2 workers where these workers cost is only \$180. For six lines it goes to 7.2 minutes, 12 workers and \$1080. From this comparison using high tech instead of manual sewing machine can save 7.8 minute, 24 workers and \$1986 for Pocket joining. Thirdly, from the data of conventional Sleeve placket creasing it indicates that it takes 0.75 minutes and 2 workers where these workers cost is \$170. For a floor of six lines that goes to 4.5 minutes, 12 workers and \$1020USD. Again for High tech machine for completing same task it takes 0.163 minutes and 1/3 workers where these workers cost is only \$30. From this comparison using high tech instead of manual sewing machine can save 3.52 minute, 10 workers and \$840 for Sleeve placket creasing. Finally from the data of conventional Button attaching it indicates that it takes 1 minute and 4 workers where these workers cost is \$336. For a floor of six lines that goes to 6 minutes, 24 workers and \$2016 USD. Again for High tech machine for completing same task it takes 0.27 minutes and 2/3 workers where these workers cost is only \$60. For six lines it goes to 1.62 minutes, 4 workers and \$360. From this comparison using high tech instead of manual sewing machine can save 4.38 minute, 20 workers and \$1656 for Collar, Cuff and Flap making. Total saving in SMV and manpower is pictured by some graphical presentation (Figures 1–4).

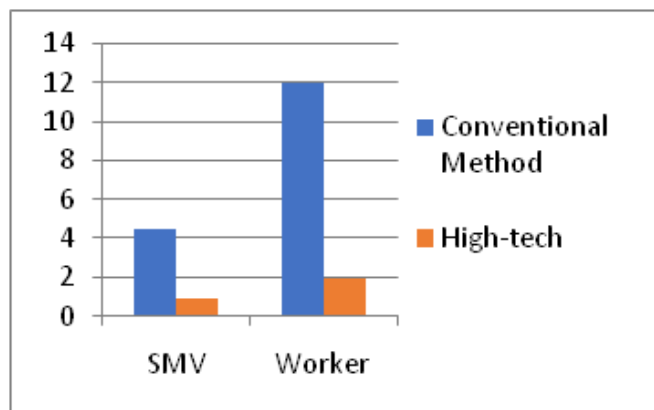


Figure 3 Comparison of Sleeve placket creasing.

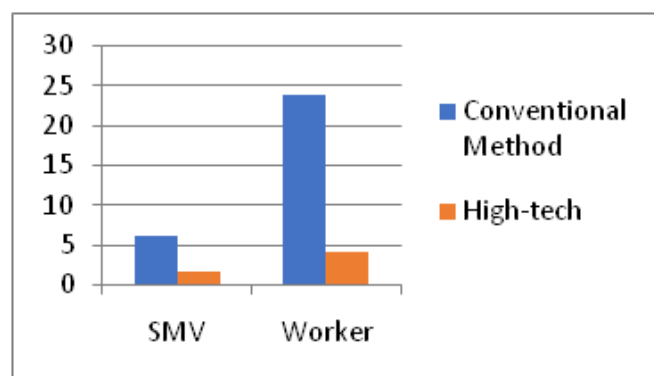


Figure 4 Comparison of Button attaching.

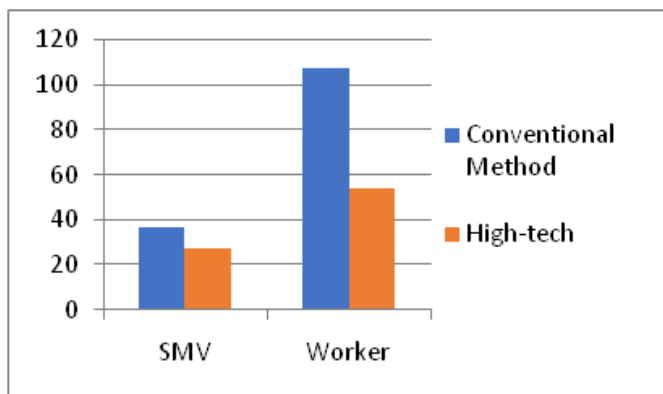


Figure 1 Comparison of Collar, Cuff & Flap making.

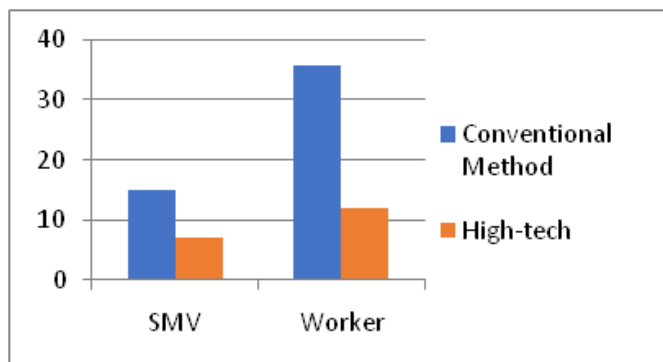


Figure 2 Comparison of Pocket joining.

## Conclusion

From the report we can draw the conclusion that using high tech machine in sewing section instead of manual leads to a huge industrial save for the organization. Higher productivity can directly possible by the reduction of SMV and profit can be increased because of limited manpower as well. Whenever any organization set up automatic high tech machines all kind of savings will be done automatically as all are clearly interlinked. So by implementing automatic machines total time saving from Collar Cuff & Flap, Pocket joining, Sleeve creasing and Button attaching will be chronologically 9.42, 7.8, 3.52 and 4.38 minutes. Again worker saving for same processes chronologically 54, 24, 10 and 20. Finally net saving from the amount of money in Dollar is chronologically \$4338, \$1986, \$840, \$1656. So in word it can be stated that implementation of high tech machineries in industry can result in a huge industrial save for an employer in terms of time, manpower and cost.

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## Conflicts of interest

Author declares there is no conflict of interest in publishing the article.

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