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PRODUCTIVITY IMPROVEMENT IN SPREADING (CUTTING) SECTION BY IMPLEMENTING PRE-DETERMINED LAYSHEET

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zbstract: The garment industry is constantly working to enhance production and garment quality in order to compete in such a crowded market. The productivity of the clothing industry determines its long-term viability and profitability. A variety of procedures are carried out at various locations during the garment manufacturing process. Because of the operators to obtain the desired results, all of these activities must be coordinated, scheduled, and completed on time, productivity. In industries, many practises and procedures are used to increase production. Almost every garment company uses time study as one of the most effective tools for optimising output rate. This article examines the production process of shirt. which we have investigated the time spent on each phase of the process.

Introduction:

This is a study conducted at spreading section in shirt factory where we have come up with a solution to an issue that many companies experience. If necessary and suitable action is taken against this particular point, any garment house's quality and output will undoubtedly increase while saving time. It is feasible to increase productivity while minimising waste by employing methods relating to time saving, capacity, and production analysis. Two crucial characteristics have been considered. The possibility of a standard approach for each activity and the time commitment. To record the real individual capacity of each worker and process line, a time study was conducted. For measuring the times and rates of working in the elements, work measurement techniques were used. he findings of work measurement are used to analyse the data and determine the time required to complete a job at a specified level of performance. The first work measuring technique was time study, which derived from Taylor's work. The goals of this project are to determine the average time it takes to complete each garment manufacturing process, examine the gap between actual and basic time for each garment manufacturing process, and make recommendations for increasing production rate based on the analysis. Time study is a branch of engineering in which the productivity of a manufacturing process is examined to determine where improvements might be made. A time study elucidates the optimal approach to perform something in the production process. Time study explains on assembling process about the most effective way to follow through with something, the time expected to finish responsibility, and the method for estimating creation rates. The present clients all over the world request item at the most ideal cost.

MATERIAL AND METHODS:

Three laying tables was selected for this study plain, checks/ stripes and women's wear. At the time of study industry has maximum order of these type of fabrics. these types of fabrics in that three tables are more focused on improving the productivity of the laying tables. Also, it is possible to study the laying process through the entire study.

Method:

To understand the process, sequence a process study is done manually and to identify the bottlenecks a time study is done manually with the help of stopwatch.

STUDY SUMMARY:

Following figure1 elaborates the processing sequence of operations involved in cutting section manufacturing and There are many cycles included however here we considered some particular activity which was required to have been controlled in order to abbreviate the time frame. These cycles should be finished in determined time yet when really it was noticed the outcome showed that there is extra time included which is projected to be diminished.

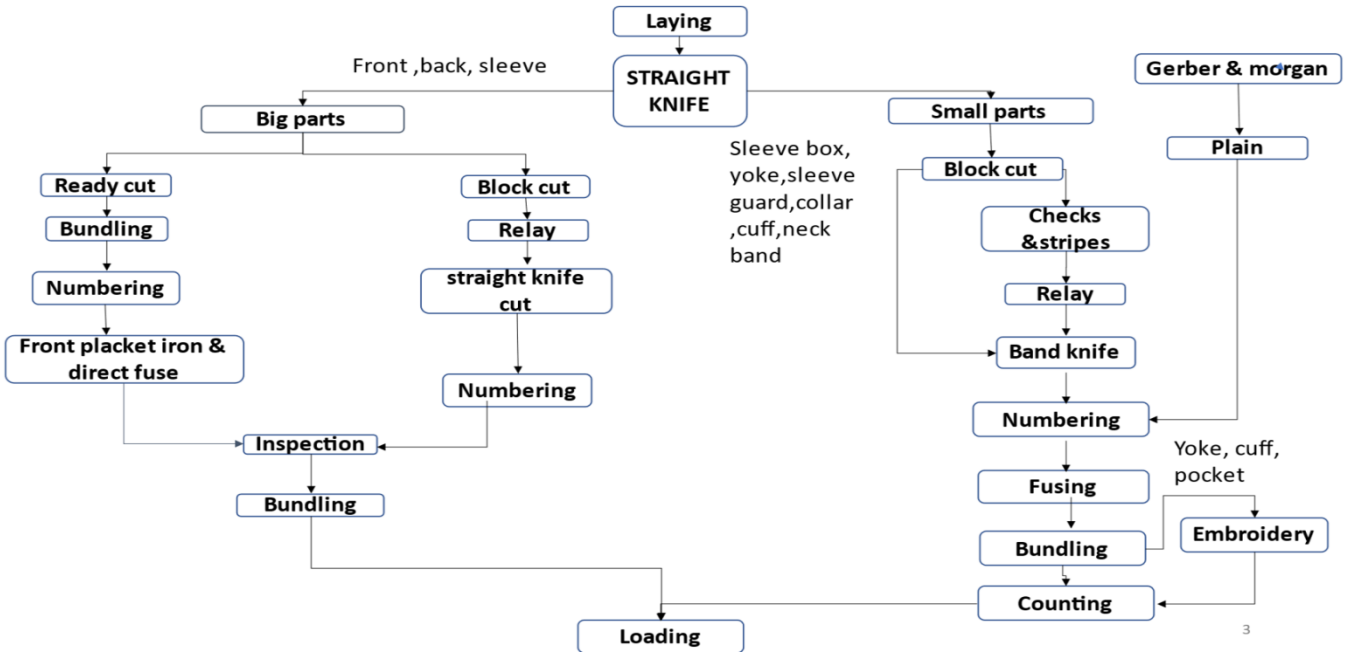
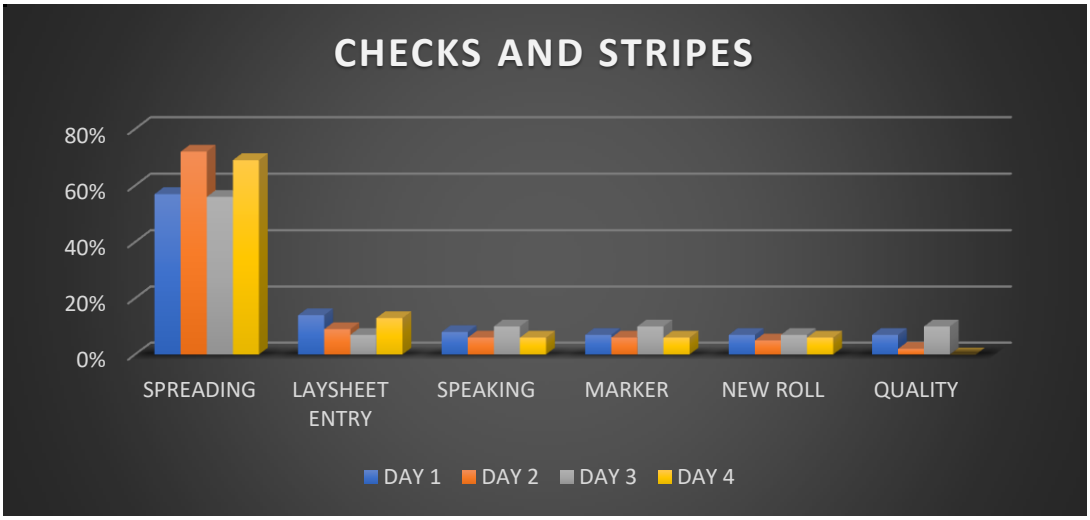
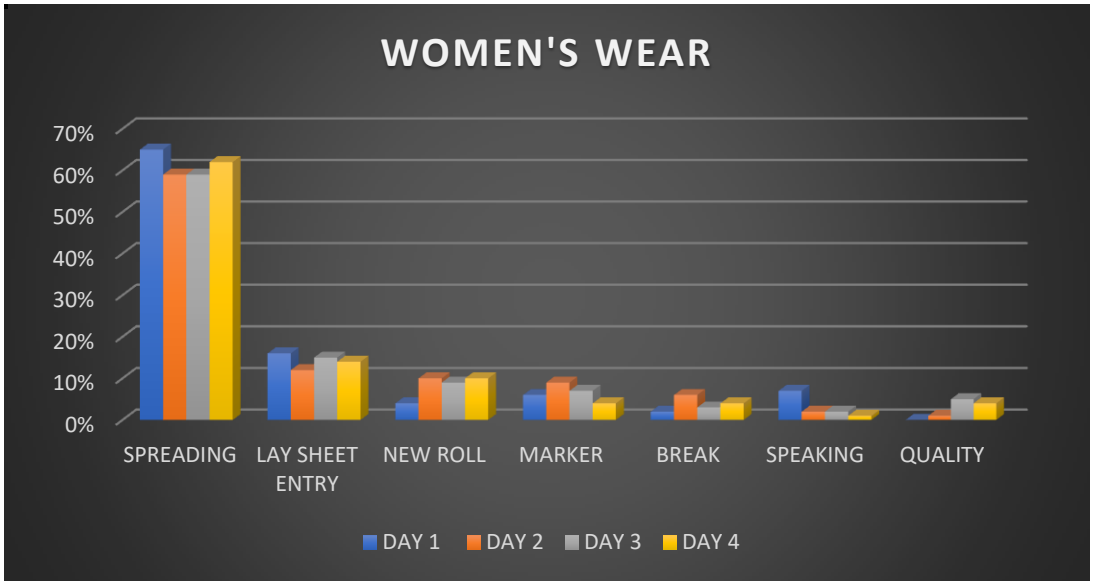
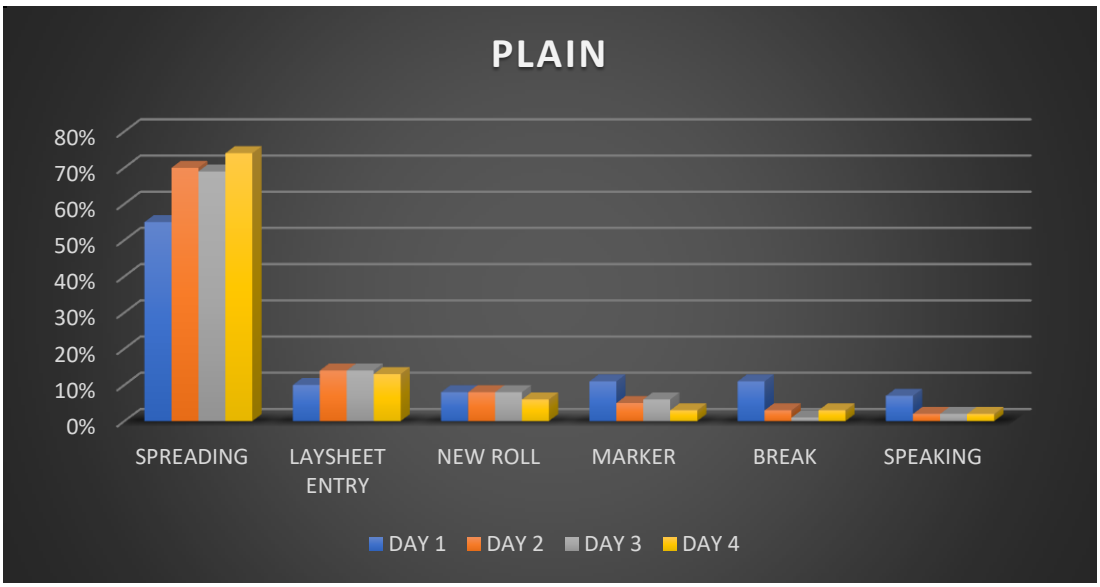


Fig 1

Spreading (Laying) process is first material flow start process in cutting section and material is moved consequently. So, this study was started with three different types of fabric in spreading (laying) tables. So the time study was taken for those tables with the help of stopwatch. From the time study it is identified that there is about 30% to 40% of required non value added action and non value added action and remaining is about value added actions, spreading. The following graph shows the detailed data of the value added and required non value added and non value added actions percentage in the spreading table



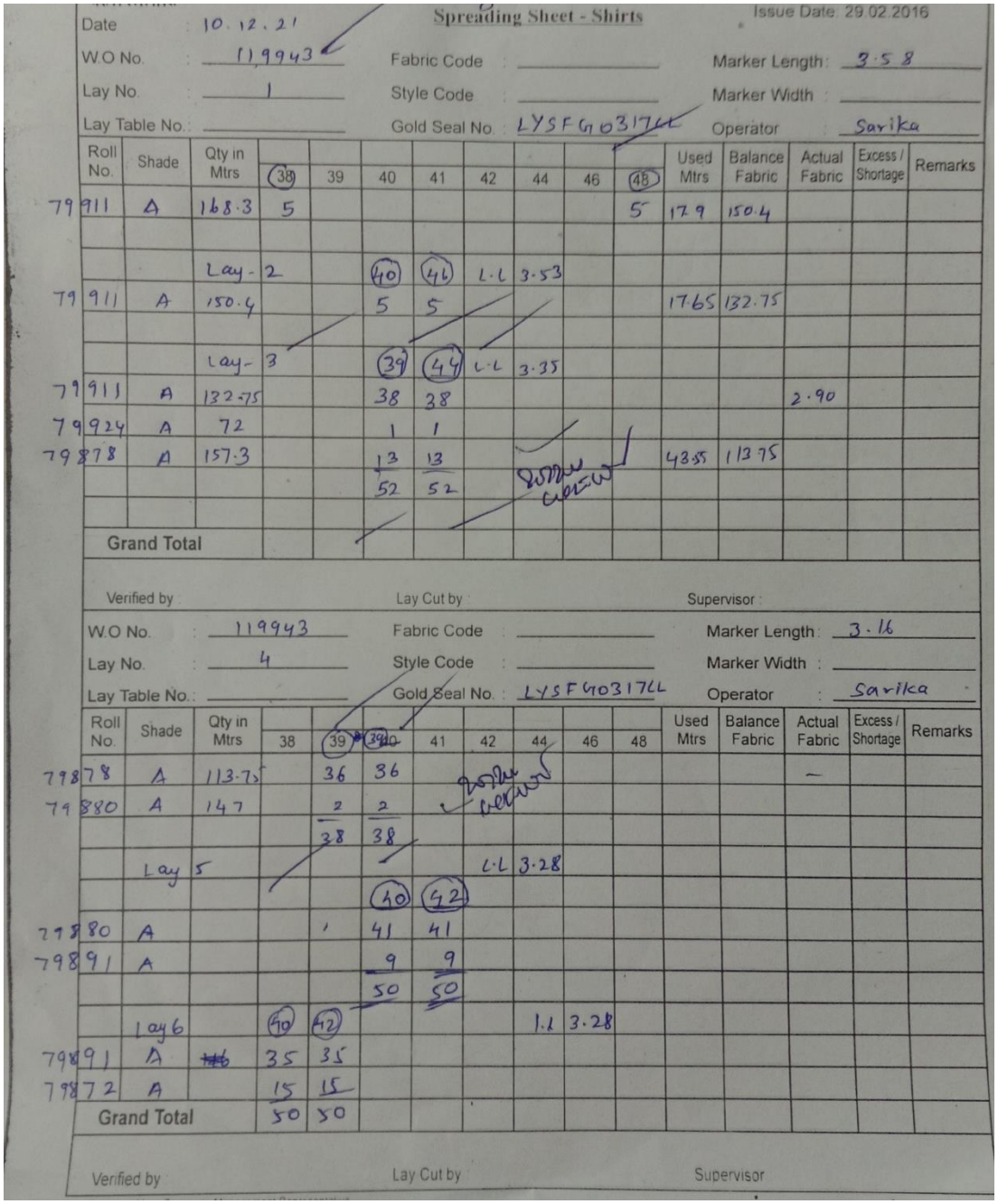




From the time study it is identified that lay sheet entry seems to be a most important required nonvalue added activity so the elimination of that should be carried out first.

Lay sheet entry

It is a manual writing which contains information about production order which includes, workorder number, fabric code, style code, gold seal number, marker length and width, lay no, number of plies, shade group, used fabric roll no, used roll meter, lay wise, size wise, balance fabric, end bits generated in utilized roll.



Spreading Sheet - Shirts

Issue Date: 29.02.2016

Date : 10.12.21
W.O No. : 119943
Fabric Code :
Marker Length : 3.58
Lay No. : 1
Style Code :
Marker Width :
Lay Table No. :
Gold Seal No. : LYSFG03176L
Operator : Sarika

Roll No.	Shade	Qty in Mtrs	38	39	40	41	42	44	46	48	Used Mtrs	Balance Fabric	Actual Fabric	Excess / Shortage	Remarks
79911	A	168.3	5							5	179	150.4			
		Lay-2			40	46	L-L	3.53							
79911	A	150.4			5	5					1765	132.75			
		Lay-3			39	44	L-L	3.35							
79911	A	132.75			38	38							2.90		
79924	A	72			1	1									
79878	A	157.3			13	13					4355	11375			
					52	52									
Grand Total															

Verified by : Lay Cut by : Supervisor :

W.O No. : 119943
Fabric Code :
Marker Length : 3.16
Lay No. : 4
Style Code :
Marker Width :
Lay Table No. :
Gold Seal No. : LYSFG03176L
Operator : Sarika

Roll No.	Shade	Qty in Mtrs	38	39	40	41	42	44	46	48	Used Mtrs	Balance Fabric	Actual Fabric	Excess / Shortage	Remarks
79878	A	113.75		36	36								—		
79880	A	147		2	2										
				38	38										
	Lay 5						L-L	3.28							
					40	42									
79880	A				41	41									
79891	A				9	9									
					50	50									
	Lay 6		40	42				1.1	3.28						
79891	A	~~46~~	35	35											
79872	A		15	15											
Grand Total			50	50											

Verified by : Lay Cut by : Supervisor :

Lay sheet (Manual entry)

In the industry they have cut plan in that the number of lays and number of plies details are there so with the help of cut plan we design a new type of lay sheet using excel VLOOKUP in that all the manual entry can be calculated before the operation that can be taken as print out and can be given to the operators and use it for other purposes. That is predetermined lay sheet Pre-determined lay sheet which contains all the required details similar to the manual entry lay sheet

W.O. NO	119756
FABRIC CODE	F320AHTS3725
GOLDSEAL NO	AHTSG0810RG

	SIZE											
	XS	S	M	L	XL	XXL	3XL	4XL	5XL			
Cut qty	40	101	126	116	81	36					500	

OPERATOR NAME :
DATE:

LAY NO	ROLL NO	SHADE	LAY LENGTH	Qty in mts	SIZE XS	S	M	L	XL	XXL	3XL	4XL	5XL	No of ways	No of Plies	No of Pcs	USED MTS	BAL FABRIC	ACTUAL FABRIC	EXCESS/SHORTAGE
1	0007	A	0.72	60.6	4									1	4	4	2.88	57.72		
2	0007	A	1.57	57.72	36					36				2	36	72	56.52	1.2		
3	0003	A	3.01	60.8		20	20	20	20					4	20	80	60.2	0.6		
	0016	A	3.01	55.5		18	18	18	18					4	18	72	54.18	1.32		
	114	A	3.01	56		3	3	3	3					4	3	12	9.03	46.97		
4	114	A	3.01	46.97		15	15	15	15					4	15	60	45.15	1.82		
	113	A	3.01	61		20	20	20	20					4	20	80	60.2	0.8		
	111	B	3.01	53.3		5	5	5	5					4	5	20	15.05	38.25		
5	111	B	1.40	38.25		10								2	10	20	14	24.25		
6	111	B	1.51	24.25				15	15					2	15	30	22.65	1.6		
	112	B	1.51	74				20	20					2	20	40	30.2	43.8		
7	112	B	0.84	43.8			10							1	10	10	8.4	35.4		

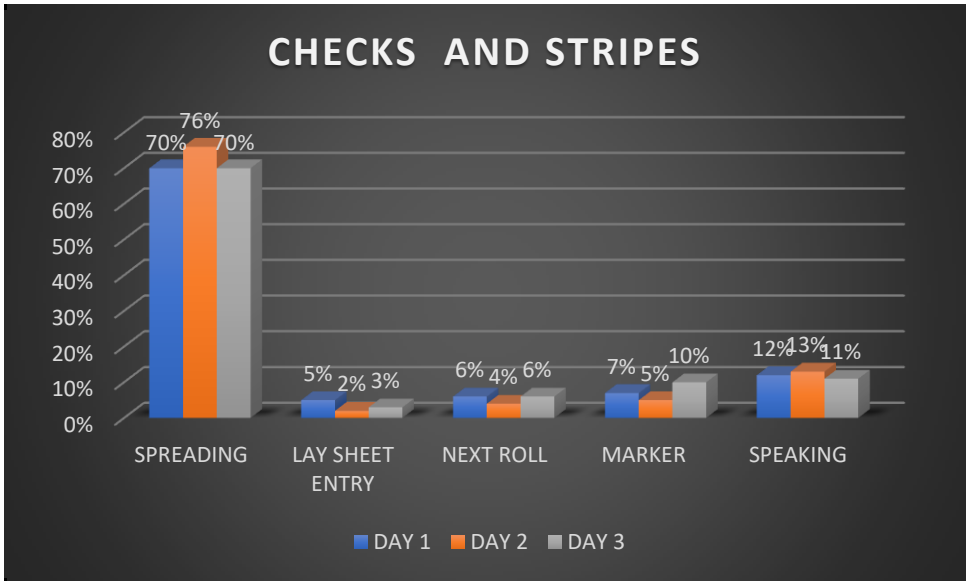
					SIZE													
W.O. NO	119854				38	39	40	41	42	43	44	46	48				OPERATOR NAME :	
FABRIC CODE	F320LPSH6940			Cut qty	60	375	405		405		210	30	15		1500		DATE:	
GOLDSEAL NO	LPSFG0209CL																	
					SIZE													
LAY NO	ROLL NO	SHADE	LAY LENGTH	Qty in mts	38	39	40	41	42	43	44	46	48	No of ways	No of Plies	No of Pcs	USED MT	ACTUAL FABRIC
1	79737	E	2.64	154.8	58	58								2	58	116	153.12	1.68
	78894	E	2.64	103	2	2								2	2	4	5.28	97.72
2	78894	E	3.02	97.72		30						30		2	30	60	90.6	7.12
3	78894	E	3.10	7.12		2							2	2	2	4	6.2	0.92
	78910	E	3.10	141.5		13							13	2	13	26	40.3	101.2
	78910	E	5.77	101.2		17					17			4	17	68	98.09	3.11

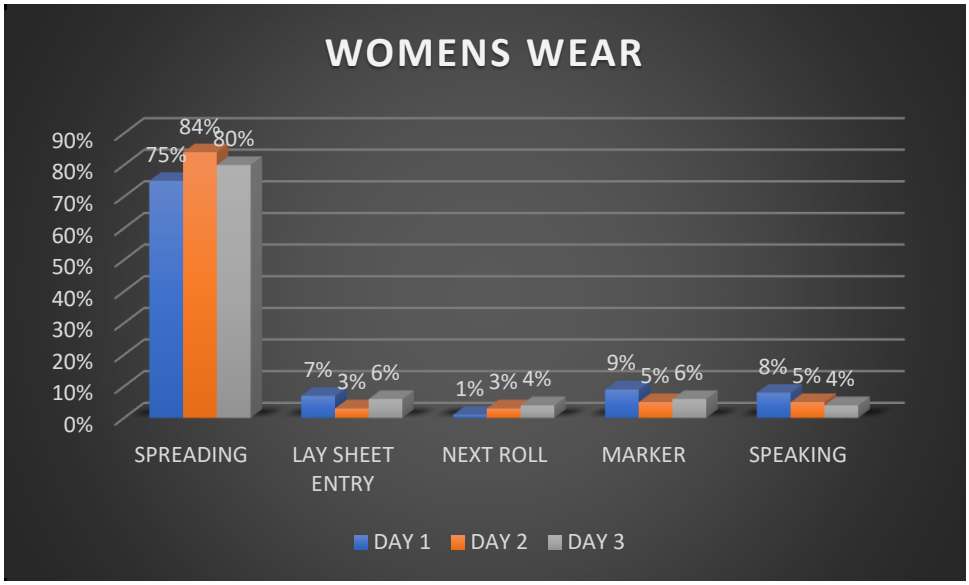
119853 Base sheet

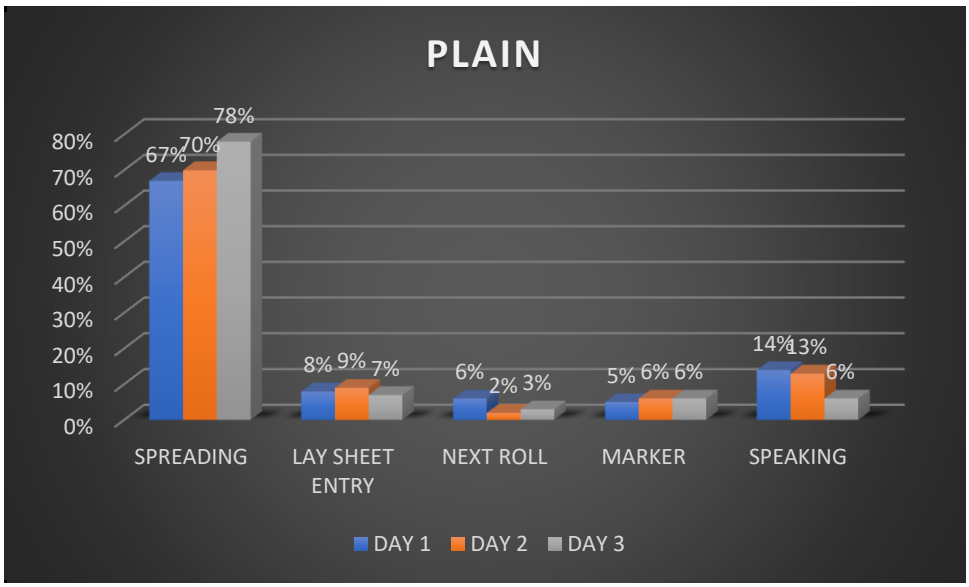
Excel format for the pre- determined lay sheet

After giving this pre -determined lay sheet again time study was taken for those laying tables

From the study the following graph shows that

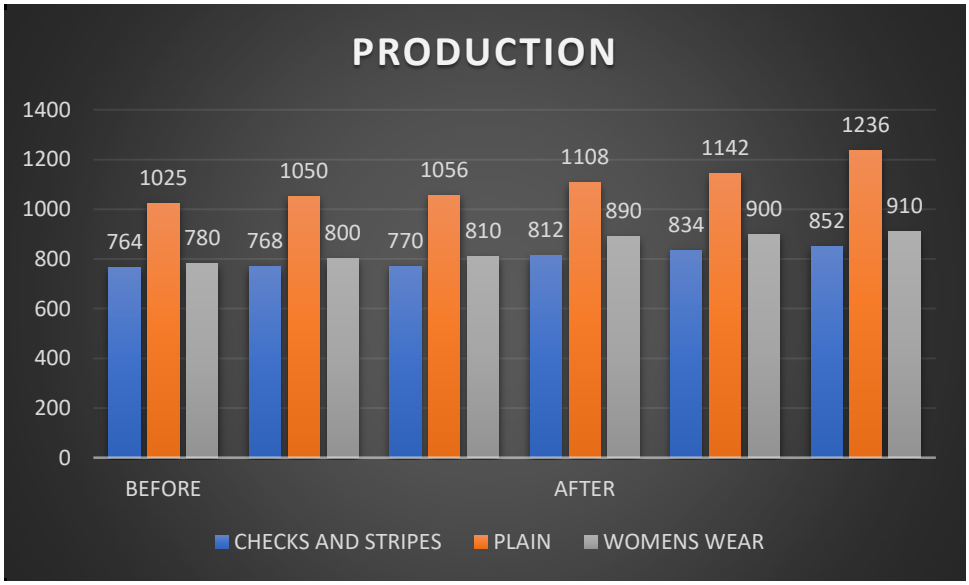






The graph shows that after the implementation of pre-determined lay sheet the lay sheet entry time was reduced day by day and the reduced time was utilised for the spreading hence by this the spreading production was also improved.

RESULT:



After implementation, the production numbers have increased day by day.

CONCLUSION:

Hence after the implementation of predetermined lay sheet, the spreading percentage of the cutting section has risen from 64% to 75% by our project the spreading percentage increased up to 11% than before.

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