



VALUE STREAM MAPPING CALCULATIONS

Process Name:	Incoming Inspector Flow Design
Date:	10/20/2018
Version:	1.0
Number of Annual Customer demands processed (Parts/Transactions/Files)	40,000
Effective working time assumptions:	
# of effective working hours per day	7.5
# of shifts per day	1
# of working days per year	251
Total # of effective working hours per year	2,044

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Version:	1.0

VSM
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Operator Function (10 maximum)	Annual Operator Gross Salary	Social Contributions on %	Annual Operator labour cost
Receiving Clerk	\$105,600		\$105,600
General Receiving Clerk	\$105,600		\$105,600
Quality Inspector	\$163,200		\$163,200
Buyer/Quality CS	\$163,200		\$163,200

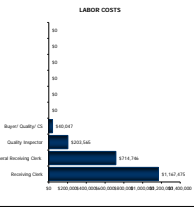
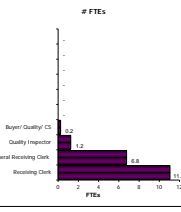
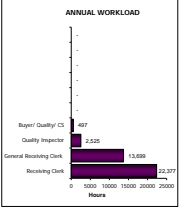
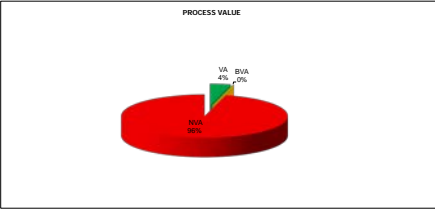
\*Include your VSM map here\*

Please input your VSM element information below in rows 21 to 120 (input and graphs will be displayed in rows 121 to 145)

Process Step #	Process Step description	% of total flow going through this step (including eventual loops)	# of annual occurrences processed in the step	Step Operator Function	Step Cycle Time in Calendar Time (seconds) (includes Waiting Time)	Step Effective working time (W/T) (seconds)	Step Value Added (VA) time (seconds)	Step Business Value Added (BVA) time (seconds)	Weighted Step Cycle Time in calendar time (seconds) (includes Waiting Time)	Weighted Step Effective working time (W/T) (seconds)	Weighted Step Value Added (VA) time (seconds)	Weighted Step Business Value Added (BVA) time (seconds)	Weighted step operator labour cost
1	Look up the tracking # and carrier # of the part number in the hot list, and then log if parts have been shipped	100%	40,000	Receiving Clerk	60	60	0	0	240	240	0	0	\$6.81
2	Grab a package or find the device attached	175%	70,000	Receiving Clerk	99	99	99	0	172.50	172.50	172.50	0	\$1.91
3	Take packing slip out of the package	100%	40,000	Receiving Clerk	4.8	4.8	0	0	4.8	4.8	0	0	\$0.07
4	Find the part decal in DMS and scan POF status	100%	40,000	Receiving Clerk	291	291	0	0	291	291	0	0	\$2.44
5	Insert inspect's	100%	40,000	Receiving Clerk	60	60	60	0	60	60	60	0	\$0.61
6	Review to whether inspection	26%	10,400	Buyer/Quality CS	144,000	40	0	0	144,000	40	0	0	\$0.34
7	Record information in ERP system	100%	40,000	Receiving Clerk	172.7	172.7	172.7	0	172.7	172.7	172.7	0	\$1.92
8	Contact Quality and a NCR is created	0%	0	Buyer/Quality CS	28950	0	0	0	28.95	0	0	0	\$0.00
9	Verify the decal in manual inspection	100%	40,000	Receiving Clerk	4.8	4.8	0	0	4.8	4.8	0	0	\$0.06
10	Verify complete data information	100%	40,000	General Receiving Clerk	30	30	30	0	30	30	30	0	\$0.43
11	Deliver to inspection table	100%	40,000	General Receiving Clerk	131.2	131.2	0	0	131.2	131.2	0	0	\$1.41
12	Find the inspection accuracy and the date of the box and grab samples	30%	12,000	General Receiving Clerk	42	42	0	0	12.4	12.4	0	0	\$0.28
13	Inspect the ADA and record	100%	40,000	General Receiving Clerk	248	248	248	0	24.8	24.8	24.8	0	\$0.24
14	Inspect for obvious damage and contact quality and a NCR is created	190%	76,000	General Receiving Clerk	36	36	36	0	36.756	36.756	36.756	0	\$0.38
15	Contact Quality and a NCR is created	0%	0	Buyer/Quality CS	28950	0	0	0	28.95	0	0	0	\$0.00
16	Put the SPC inspection information and the operator's job card in the box	11%	4,400	Receiving Clerk	60	60	0	0	6.6	6.6	6.6	0	\$0.10
17	Put the SPC inspection information and the operator's job card in the box	11%	4,400	Quality Inspector	120	120	0	0	13.2	13.2	13.2	0	\$0.13
18	Verify label information against the part	11%	4,400	Quality Inspector	60	60	0	0	6.6	6.6	6.6	0	\$0.10
19	Find relevant inspection information	11%	4,400	Quality Inspector	51	51	0	0	5.61	5.61	5.61	0	\$0.11
20	Verify the date of a accuracy on the label	11%	4,400	Quality Inspector	50	50	0	0	5.5	5.5	5.5	0	\$0.11
21	Verify the date of a accuracy on the label	11%	4,400	Quality Inspector	40	40	0	0	4.4	4.4	4.4	0	\$0.10
22	Verify together equipment against the label	11%	4,400	Quality Inspector	40	40	0	0	4.4	4.4	4.4	0	\$0.10
23	Print out the drawings and verify them	3%	1,200	Buyer/Quality CS	144,000	40	0	0	144,000	40	0	0	\$0.04
24	Find the location inspection chart in the system	11%	4,400	Quality Inspector	40	40	0	0	4.4	4.4	4.4	0	\$0.10
25	Create new inspection chart and upload	2%	800	Quality Inspector	180	180	0	0	1.8	1.8	1.8	0	\$0.04
26	Get Quality approval	2%	800	Buyer/Quality CS	144,000	40	0	0	144,000	40	0	0	\$0.04
27	Verify information on inspection chart	11%	4,400	Quality Inspector	120	120	0	0	13.2	13.2	13.2	0	\$0.13
28	Scan the inspection device	11%	4,400	Quality Inspector	140	140	0	0	15.4	15.4	15.4	0	\$0.16
29	Print out the drawings and verify them	11%	4,400	Quality Inspector	284.2	284.2	284.2	0	31.262	31.262	31.262	0	\$0.32
30	Verify the date and accuracy on the label	11%	4,400	Quality Inspector	60	60	0	0	6.6	6.6	6.6	0	\$0.10
31	Contact Quality and a NCR is created	0%	0	Buyer/Quality CS	28950	0	0	0	28.95	0	0	0	\$0.00
32	Label the package with a serial number and date	11%	4,400	Quality Inspector	114	114	114	0	12.54	12.54	12.54	0	\$0.13
33	Record information in ERP	11%	4,400	Quality Inspector	90	90	0	0	9.9	9.9	9.9	0	\$0.10
34	Verify the Quality Inspector approval	11%	4,400	Quality Inspector	120	120	0	0	13.2	13.2	13.2	0	\$0.13
35	Print out the drawings and verify them	11%	4,400	Quality Inspector	114	114	114	0	12.54	12.54	12.54	0	\$0.13
36	Print out the drawings and verify them	11%	4,400	Quality Inspector	120	120	0	0	13.2	13.2	13.2	0	\$0.13
37	Make all the inspected parts into one	11%	4,400	Quality Inspector	307	307	0	0	33.77	33.77	33.77	0	\$0.35
38	Make all the inspected parts into one	11%	4,400	Quality Inspector	307	307	0	0	33.77	33.77	33.77	0	\$0.35
39	General Receiving Clerk picks up the parts	143%	56,400	General Receiving Clerk	600	600	0	0	66.6	66.6	66.6	0	\$1.24

VSM SUMMARY AND GRAPHS

PROCESS VSM SUMMARY					WORK LOAD				LABOUR COSTS		
Number of Annual Customer demands processed (Parts/Transactions/Files)	40,000				Operator Function(s)	One process occurrence (seconds)	All annual process occurrences (years)	FTEs (Full Time Employee)	Operator Function(s)	One process occurrence	All annual process occurrences
Average labour cost of one process occurrence	\$53.15				Receiving Clerk	2,014	22,377	1.11	Receiving Clerk	\$29.19	\$1,167,475
Total labour cost of all annual process occurrences	\$2,125,833				General Receiving Clerk	1,233	13,690	4.9	General Receiving Clerk	\$17.87	\$174,746
Times for One Process Occurrence	seconds	minutes	hours	days	Quality Inspector	227	2,525	1.2	Quality Inspector	\$5.09	\$203,568
Total Cycle Time (Calendar time)	44.379	739.6	12.33	0.51	Buyer/Quality CS	45	497	0.2	Buyer/Quality CS	\$1.00	\$40,047
Effective Working Time (W/T)	3.519	58.6	0.98	0.04	TOTAL	3,519	39,097	19.3	TOTAL	\$53.15	\$2,125,833
Value Added Time (VA/T)	1,791	29.9	0.50	0.02							
Business Value Added Time (BVA/T)	30	0.5	0.01	0.00							
Non Value Added Time (NVA/T)	42,538	709.0	11.82	0.49							
TACT Time (Transaction frequency)	182										
PCE (Process Cycle Efficiency)	4.06%										
Average Standard Work in Progress (SWIP)	244										



Attribute	Metric	Before	After
<b>Process</b>	<u>Times for One Process Occurrence</u>		
	Total Cycle time (Calendar time)	750.3 min	739.6 min
	Effective Working Time (W/T)	64.3 min	58.6 min
	Value Added Time (VA/T)	30.1 min	29.9 min
	Business VALUE Added Time (BVA/T)	0.8 min	0.8 min
	Non Value Added Time (NVA/T)	719.4 min	709.0 min
	TAKT Time (transaction frequency)	3.0 min	3.0 min
	PCE (Process Cycle Efficiency)	4.01%	4.04%
<b>Work Load</b>	<u>One process occurrence (seconds)</u>		
	Receiving Clerk	37.6	33.6
	General Receiving Clerk	20.5	20.5
	Quality Inspector	5.5	3.8
	Buyer/ Quality / CS	0.7	0.7
	TOTAL	64.3	58.6
	<u>All annual process occurrences (hours)</u>		
	Receiving Clerk	25043	22377
	General Receiving Clerk	13699	13699
	Quality Inspector	3638	2525
	Buyer/ Quality / CS	497	497
	TOTAL	42877	39097
	<u>FTEs (Full Time Employees)</u>		
	Receiving Clerk	12.4	11.1
	General Receiving Clerk	6.8	6.8
	Quality Inspector	1.8	1.2
Buyer/ Quality / CS	0.2	0.2	
TOTAL	21.2	19.3	
<b>Labor Cost</b>	<u>One process occurrence (seconds)</u>		
	Receiving Clerk	\$32.7	\$29.2
	General Receiving Clerk	\$17.9	\$17.9
	Quality Inspector	\$7.3	\$5.1
	Buyer/ Quality / CS	\$1.0	\$1.0
	TOTAL	\$58.9	\$53.1
	<u>All annual process occurrences (hours)</u>		
	Receiving Clerk	\$1,306,605	\$1,167,475
	General Receiving Clerk	\$714,746	\$714,746
	Quality Inspector	\$293,325	\$203,565
	Buyer/ Quality / CS	\$40,047	\$40,047
	TOTAL	\$2,354,723	\$2,125,833