A STUDY ON THE ESSENTIALS OF EFFECTIVE PRODUCTION MANAGEMENT TO ATTAIN ZERO DEFECTIVE WORKFLOW

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ABSTRACT:

Mistakes will occur as long as humans stay in aproduction process, it is a human nature. But not only human error sometimes material and machines also make errors. In this research we have focused mainly on these three errors. These areas were analyzed using a research question which were responded by employees of the firm which is the primary data of this study and the secondary data is taken from articles. This research acts as a practical suggestion which will help the industry to run with zero defective workflow. I have used two spss tools namely Independent sample-T test and chi square for analysis and also used percentage analysis.

KEYWORDS: Production management,zero defects, defective workflow, reduce defects, Quality

INTRODUCTION:

Zero defects are a management tool aimed at reduction of defects through prevention. In the current situation zero defective workflow is very much important. Reducing the defective products can increase the profit of the firm so the employees can extra benefits from it and also the production can be further boosted as a result of it. The problem of defective workflow mainly occurs due to improper production management. If the production is low no problem at all, but if the production gets high more defective products will occur. This can be reduced by effective production management. We can calculate the defective ratio of the firm by dividing total number defective products by total number products manufactured in industry. To get the maximum profit the firm must continuously work on their production management to maintain zero defective workflow.

OBJECTIVES OF THE STUDY:

The main objective of the study is to maintain zero defective work flow in industry. To educate employees about good production management. To find the area where maximum defective workflow takes place. To find the department which has good production management.

REVIEW OF LITERATURE:

Gabriella Gustafsson & Wiktoria Rydin(2020), the study states the Quality improvements towards zero defects. In this study they state that every instruction and every part contributing to the process should be designed in the best possible way to enable the prevention of faults and mistakes.

Xiaoyuan Gong(2020), This study is about Application of deep learning in defect Detection. The application of deep learning in defect detection is still limited to the surface of industrial products. The depth estimation of a single image may be applied to internal defect detection in the future.

Jacob Bjorkman & Sebastian Wisen(2020), This study is about Investigation of defective products and how to reduce them. This research concludes that it is possible to affirm that by lowering the number of defects in production, companies can contribute towards more sustainable development.

Petis kent(2018), This study is about the Production Process Moves and the Effective Management of Process Knowledge. This study identified several factors thatmay enhance or erode a firm's ability to transfer valuable yet elusive process knowledge.

DANIEL KRSTEVSKI and ZORAN TODOROVSKI(2011), This study is to achieve Zero Defects at SKF Logistics Services Sweden loading area and hub area. This study 14 concludes that Investigate deadlines and prioritizing issues in-depth before implementing the suggestions in the thesis. Utilize internal resources as much as possible for implementation.
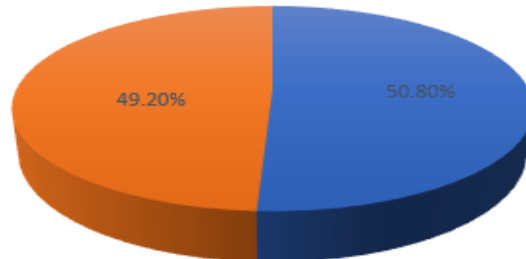
RESEARCH METHODOLOGY:

Based on my study I have used descriptive research . And also, I take 120 respondents for my study . I use questionnaire as a Primary data and Secondary data from articles.

RESULT:

Table showing department which produces more defective products

| Department	No. of respondents	Percentage
Shell department	61	50.8%
Metal department	59	49.2%

INFERENCE

Majority 50.8% respondents says shell department produces maximum defect.Mostly human errors occurs here and chances of other modes errors were less.

**Table showing the mode of manufacturing which produces maximum defect**

Particulars	No. of respondents	Percentage
Manual	31	25.8%
Automatic	34	28.3%
Both	55	45.8%
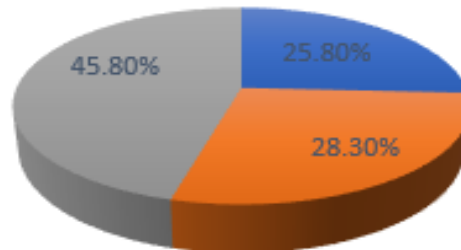
INFERENCE

Majority 45.8% respondents says both mode of manufacturing produces equal defects. But out of these two many people said that automatic mode produces more defects it encourages firm to use more manual system.

Table showing the type of error that occurs as always
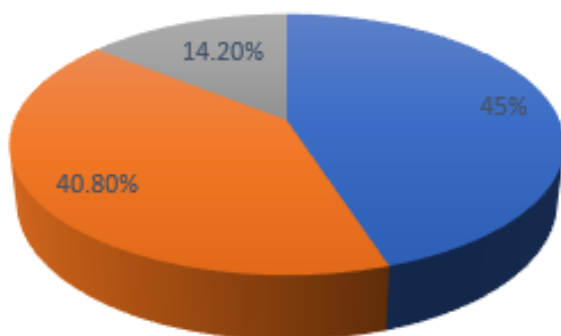
| Errors	No. of respondents	Percentage
Machine errors	54	45%
Material errors	49	40.8%
Human errors	17	14.2%

INFERENCE

Majorirty 45% respondents says that machine errors occurs as always.It shows that the machine maintenance is not good in this firm.

Table showing the satisfaction of employees for machine maintenance

Particulars	No. of respondents	Percentage
Highly unsatisfied	4	3.3%
Unsatisfied	52	43.3%
Neutral	17	14.2%
Satisfied	28	23.3%
Highly satisfied	19	15.8%

No. of respondents
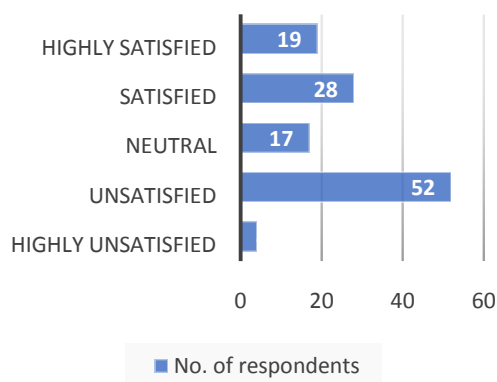
INFERENCE

Majority 43% respondents are unsatisfied by the machine maintenance. Like we see in the previous machines are producing more defects and also employees are also unsatisfied by the machine maintenance. These machines must be maintained to reduce most defects

CHI-SQUARE TEST:

Cross tabulation between working departmentand department which produces maximum defective products

Chi-Square tests			
	value	df	Asymptotic significance(2-sided)
Pearson Chi-Square	5.820[a]	2	0.054
Likelihood ratio	5.830	2	0.054
N of valid cases	80		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.95.			

INFERENCE

Since the p value 0.054 is greater than 0.05, the null hypothesis is accepted and alternate hypothesis is rejected. Therefore there is no significant association between the employees working department and their perception towards department which produces maximum defect.

INDEPENDENT SAMPLE T TEST:

Group statistics

	Experience	N	mean	Std. deviation	Std. error mean
Employees support to fresher in work	**fresher**	16	3.7500	1.18322	0.29580
	1 year	17	3.8235	1.13111	0.27433

t-test for equality of means

	t	df	Sig(2-tailed)	Mean difference
Equal variances assumed	-0.183	31	0.856	-0.07353
Equal variances not assumed	-0.812	30.646	0.857	-0.07353

INFERENCE

Since p value 0.856 is greater than 0.05 at 5% level of significance, the null hypothesis is accepted and alternate hypothesis is rejected. Therefore there is no significant difference between experience of the employees and their perception towards support of experienced employee to fresher in work.

FINDINGS:

❖ Majority respondents says shell department produces maximum defect. Mostly human errors occurs here and chances of other modes errors were less.

❖ Majority of the respondents are unsatisfied by the machine maintenance. Like we see in the previous machines are producing more defects and also employees are also unsatisfied by the machine maintenance. These machines must be maintained to reduce most defects

❖ Majority respondents says both mode of manufacturing produces equal defects. But out of these two many people said that automatic mode produces more defects it encourages firm to use more manual system.

❖ Majority 29.1% respondents were either satisfied or unsatisfied by the production management of shell department.

❖ Majority 27.5% respondents were unsatisfied by the production management of metal department.

❖ Majority 26.6% respondents were highly satisfied by the production management of project department.

SUGGESTIONS:

❖ Many employees feels that barrelling machine has a problem so that the problem must be rectified to decrease defective workflow.

❖ The quality of the materials coming from outside vendors must be quality checked or can change the vendor.

❖ Machines must be maintained every month so that the error occuring by machines can be reduced

❖ Good training must be given to freshers and must guide the freshers in work until they get experience.

❖ In metal department rough buffing machine is not working well so it must be changed to decrese defective workflow.

CONCLUSION:

The study concluded that the company has lots of medium to produce defective workflow. Project department has less production but it is performing well. I suggest all other departments to lookover the production management of project department.The profit can be increased by reducing defective workflow so the company must work on my suggestion to achieve that.In this competitive market, to achieve success a industry must work with zero defective workflow. Since the company's start it is slightly growing step by step, managing those errors they can grow little bit faster. Steps must be taken to reduce the defective products. Thus the above study will help the industry to achieve zero defective workflow.

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