



CONDITION IDENTIFICATION FOR DEFINED SAMPLING PLAN

FINAL REPORT

This is Submitted to Fulfill Pre-Requirements of Industrial Engineering of International S-1 Program



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APPROVAL

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INTERVIEW WITH GOD

I dreamed I had an interview with God
"So you would like to interview me," God asked
"If you have time," I said
God smiled

"My time is eternity....."
"What questions do you have in mind for me?"
"What surprises you most about humankind?"

God answered....

"That they get bored with childhood, they rush to grow up,
and then long to be children again."

"That they lose their health to make money,
and then lose their money to restore their health"

"That by thinking anxiously about the future, they forget the present, such that they live in neither the present nor the future."

"That they live as if they will never die and die as though they had never lived."

God's hand took mine and we were silent for awhile.

And then I asked,

"As a parent, what are some of life's lessons you want your children to learn?"

"To learn they can not make anyone love them."

"All they can do is let themselves to be loved."

"To learn that it is not good to compare themselves to others."

"To learn to forgive by practicing forgiveness."

"To learn that it only takes a few seconds to open profound wounds in those they love, and it can take many years to heal them."

"To learn that a rich person is not one who has the most, but is one who needs the least."

"To learn that there are people who love them dearly,

but simply do not yet know how to express or show their feelings."
"To learn that two people can look at the same thing and see it differently."

"To learn that it is not enough that they forgive one another, but they must also forgive themselves."

"Thank you for your time," I said humbly

"Is there anything else you'd like your children to know?"

God smiled and said......
"Just know that I'm here"
"Always"

This final report is dedicated to:

Jesus Christ, my almighty God

My mom and dad, the best parents in the world

My beloved, Valentinus Christian Susanto

My brothers and sisters

Tasha and Vania, my cute nieces

My best friends, Erma, Fani, Betzy, and Lolita

All of people I've ever known

I've been blessed to meet you all in this world

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Hopefully, this report is useful for the readers. Critics and suggestions from the readers are very expected.

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The writer

TABLE OF CONTENTS

TITLE PAGE	i							
APPROVAL PAGE	ii							
DEDICATION PAGE	iii							
ACKNOWLEDGEMENT	V							
TABLE OF CONTENTS	viii							
TITST OF FIGURES	X							
LIST OF APPENDICES	хi							
LIST OF SYMBOLS	xii							
ABSTRACT	xiii							
CHAPTER 1. INTRODUCTION	1							
1.1. Background	1							
1.2. Problem Statement	3							
1.3. Objective of the Research	3							
1.4. Problem Limitation	4							
1.5. Methodology	4							
1.5.1. Data	4							
1.5.2. Step of the Research	4							
1.6. Report Outline	7							
CHAPTER 2. LITERATURE REVIEW								
CHAPTER 3. THEORY	11							
3.1. The Quality Control	11							
3.2. Sampling Plan for Attribute	15							
3.3. Design of Single Sampling Plan	19							

CHAPTER 4.COMPANY PROFILE AND DATA	20					
4.1. Company Profile	20					
4.1.1. Brief History of the Company	20					
4.1.2. Product of P.T. Mekar Armada Jaya	22					
4.1.3. Reinforcement Rocker-Outer Left						
Handed (Y 2021)	24					
4.2. Data	30					
CHAPTER 5. DATA ANALYSIS AND DISCUSSION	31					
5.1. Data Analysis	31					
5.2. Discussion	38					
CHAPTER 6. CONCLUSION	42					
6.1. Conclusion	42					
6.2. Suggestion	42					
REFERENCES	44					
APPENDICES						

LIST OF FIGURES

1.	Figure	1.1.	Flowchart of Steps to Conduct the	
			Research	6
2.	Figure	4.1.	Organizational Structure of	
			P.T. Mekar Armada Jaya	22
3.	Figure	4.2.	Flowchart of Production Process of	
			Y 2021	27
4.	Figure	5.1.	Flowchart of Method of Calculating	
			LQL Limits	32
5.	Figure	5.2.	Graph of LQL toward Sample Size \dots	36
6.	Figure	5.3.	Graph of LQL toward Acceptance	
			Number	37

LIST OF APPENDICES

1.	Appendix	1:	Picture of the Product	4 4
2.	Appendix	2:	Technical Drawing of the Product	47
3.	Appendix	3:	Pictures of Product's Defects	4 9
4.	Appendix	4:	The Grubb's Table	52
5	Annondiv	5.	The Calculation of IOI Limit	5/

LIST OF SYMBOLS

- 1. AQL = Acceptable Quality Level.
- 2. LQL = Limiting Quality Level.
- 3. N = the lot size.
- 4. n = the sample size.
- 5. c = acceptance number.
- 6. np₁ = obtained from Grubb's Table, the nominator for calculating n in producer's stipulated plan.
- 8. p_2/p_1 = the ratio of LQL toward AQL.
- 9. α = the expected producer's risk.
- 10. β = the expected consumer's risk.

ABSTRACT

The Stamping Production Division of P.T. Mekar Armada Jaya Magelang produces various kinds of car components. One of them is Reinforcement Rocker-Outer Left Handed (Y 2021), a component of Xenia, a car produced by P.T. Astra-Daihatsu Motor Jakarta. P.T. Mekar Armada Jaya has experienced in applying inappropriate sampling plan. The inappropriate sampling plan has caused invalid inspection result. P.T. Mekar Armada Jaya is changing the sampling plan with the new one, but considering the client's regulation to decrease the LQL value gradually until reaching zero level, the new sampling plan can not be the final solution. At a certain level of LQL, the sampling plan will be obsolescent and in turn will give invalid inspection result.

In order to avoid repeating the bad experience, the writer wants to find the affordable LQL limit for the current sampling plan through this research. The objectives of the research are finding the affordable LQL limits for the current sampling plan, alerting the obsolescence of sampling plan in order to avoid invalid inspection result, and preparing the factory to face the possibility of quality standard changing from the client. The method of the research is trial and error method.

It is found from the research that the current sampling plan will be valid for LQL value of 4.9% - 6.51%. For LQL value below 4.9%, P.T. Mekar Armada Jaya must start to do screening with acceptance number at least equal to 3.