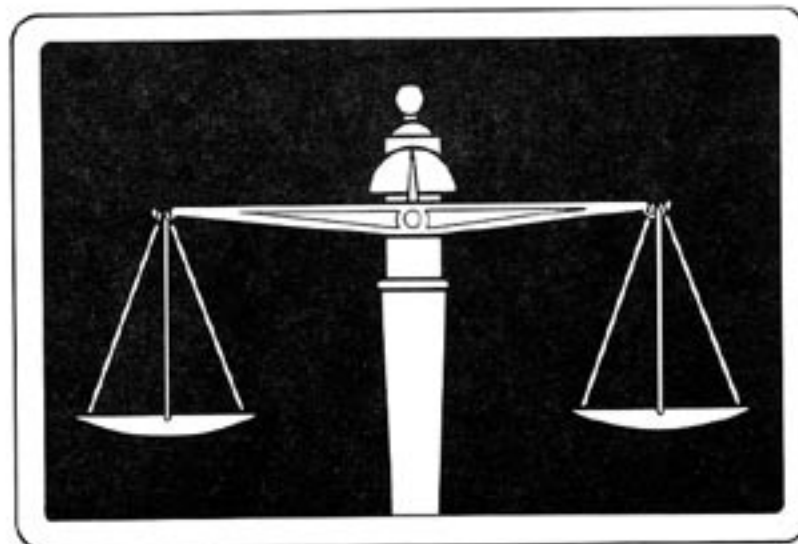


 **RESEARCH  
DYNAMICS**



# **PRACTICAL EXPERIMENT DESIGN**

**LEVEL I**

*Engineering Workbook*

*Mikel J. Harry, Ph.D.*

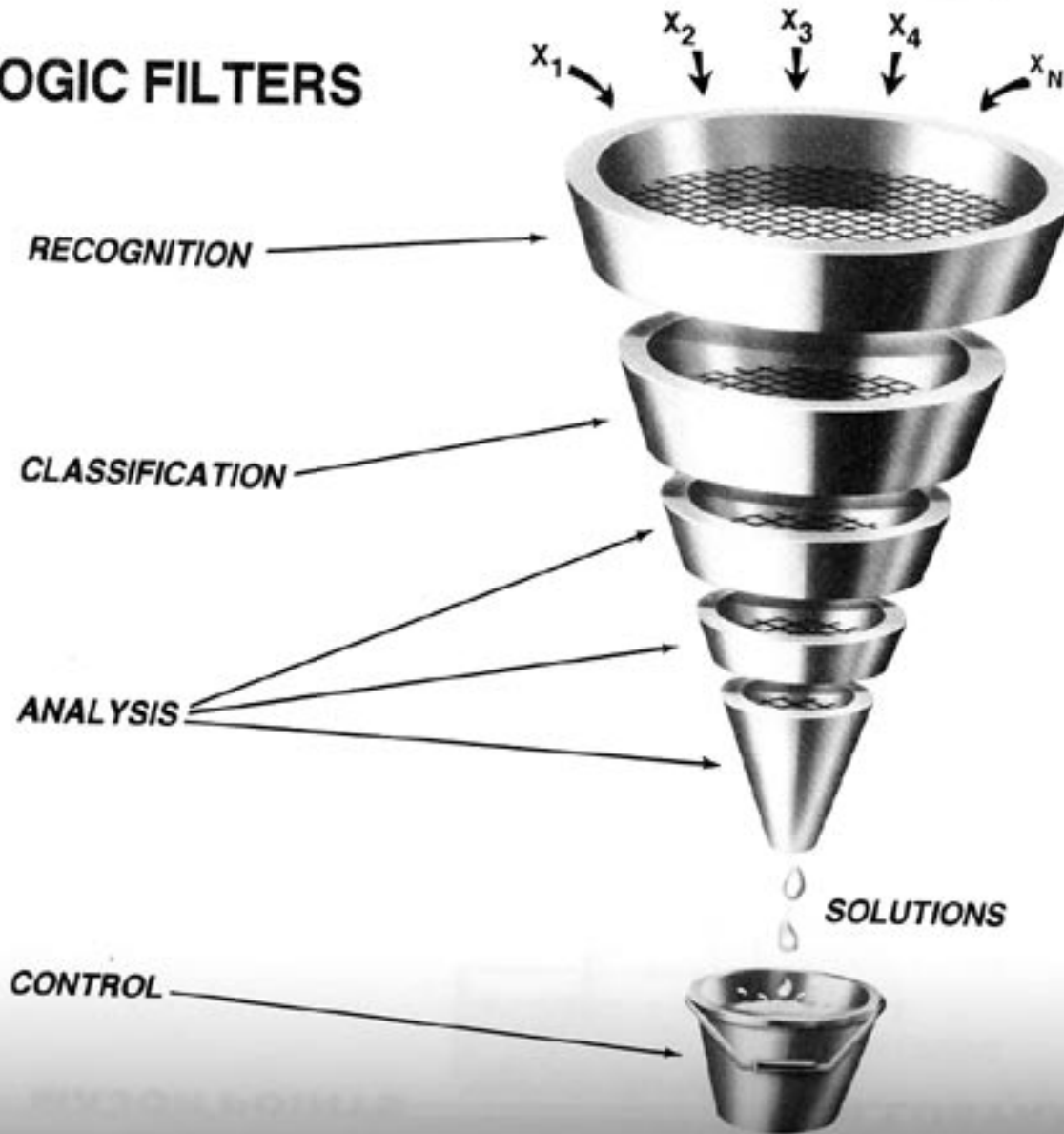
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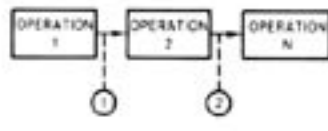
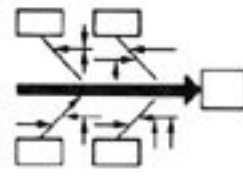
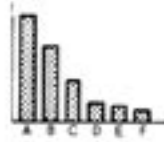
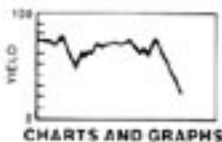
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**THE TOTAL UNIVERSE OF  
MANUFACTURING VARIABLES**

# THE LOGIC FILTERS



**RESEARCH DYNAMICS**

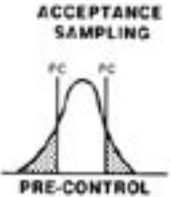


GATE	PARAMETER	DATA	CONTROL
1			
2			
3			
4			

**CONTROL OPTIMIZATION PLAN**

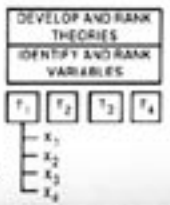
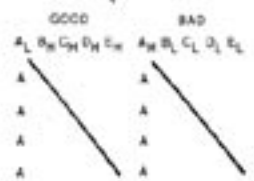
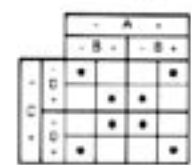
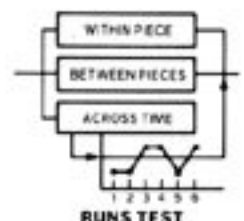
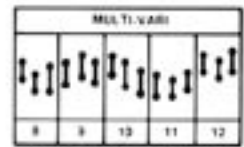
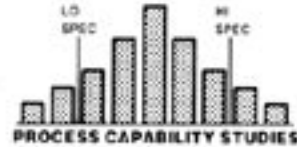
$$S = \sqrt{\frac{\sum (X_i - \bar{X})^2}{n-1}}$$

**STATISTICS**



FREQUENCY	ACTION MATRIX	
	SEVERITY	

**CORRECTIVE ACTION MATRIX**



- PROBLEM IDENTIFICATION**
- DEFINE PROBLEM
  - CONDITIONS
  - EXTENT
  - LEVEL OF PERFORMANCE
  - TIME FRAME
  - STANDARDS

