

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Midterm Examination: Semester 1

Academic Year: 2007

Date: 30 July 2007

Time: 9:00-12:00

Subject: 225-467 Quality Improvement

Room: A400

ทูลริตใการสอบ โทษขั้ันต่ำปรับตกใรรายวิชาขั้ันและ
พักการเรียน 1 ภาคการศึกษา

Instructions:

1. There are 60 points (30%).
2. Books and notes are allowed.
3. A calculator and a dictionary are allowed.
4. Borrowing things from other students is prohibited.

Question No.	Full Score	Score
1.1	3	
1.2	3	
2	5	
3.1	6	
3.2	6	
4	12	
5	10	
6	10	
7	5	
Total	60	

Dr. Runchana Sinthavalai

Instructor



1. If you are the owner of the company manufacturing, selling and fixing (repairing) the air-condition.

1.1 What do you think are the key dimensions of product quality in the point of customer's view? And How? Examine 3 dimensions

(3 Points)

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1.2 What do you think are the key dimensions of service quality in the point of customer's view? And How? Examine 3 dimensions

(3 Points)

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2. **Drawing a flowchart** that describes **customer's decision making process** in order to buy an air-condition. Starting from their needs to buy an air-condition until they go to the shop.

(5 Points)

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3. In your company, an air-conditioning repair department manager has the data from service call center for the previous week, as shown in the table

Job No.	Problem/ Customer Type	Job No.	Problem/ Customer Type	Job No.	Problem/ Customer Type
301	F/R	315	F/C	329	O/C
302	O/R	316	O/C	330	N/R
303	N/C	317	W/C	331	N/R
304	N/R	318	N/R	332	W/R
305	W/C	319	O/C	333	O/R
306	N/R	320	F/R	334	O/C
307	F/R	321	F/R	335	N/R
308	N/C	322	O/R	336	W/R
309	W/R	323	F/R	337	O/C
310	N/R	324	N/C	338	O/R
311	N/R	325	F/R	339	F/R
312	F/C	326	O/R	340	N/R
313	N/R	327	W/C	341	O/C
314	W/C	328	O/C		

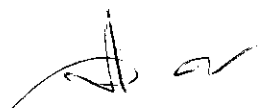
Key: Problem Type: N= Noisy, F=Equipment Failure, W=Runs Warm, O=Odor
 Customer Type: C=Commercial Customer, R= Residential Customer

3.1 **Construct a check sheet** for a weekly data collection. Make it convenient and simple. Indeed, there are many staffs in the service call center and you would like to record who is receiving the call, when and what time in the check sheet. Detail of each problem would not be required to fill in this check sheet.

(6 Points)

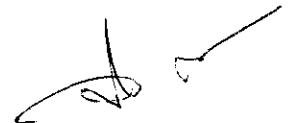
3.2 Construct a Pareto diagram for each type of problem

(6 Points)



4. Using a Cause-and-Effect diagram to analyze the possible cause of customer un-satisfaction with the company Product and Service (including manufacturing, selling and repairing the air condition).

Using **5M** (Man, Machine, Material, Method, Maintenance) as the key categories
(12 Points)

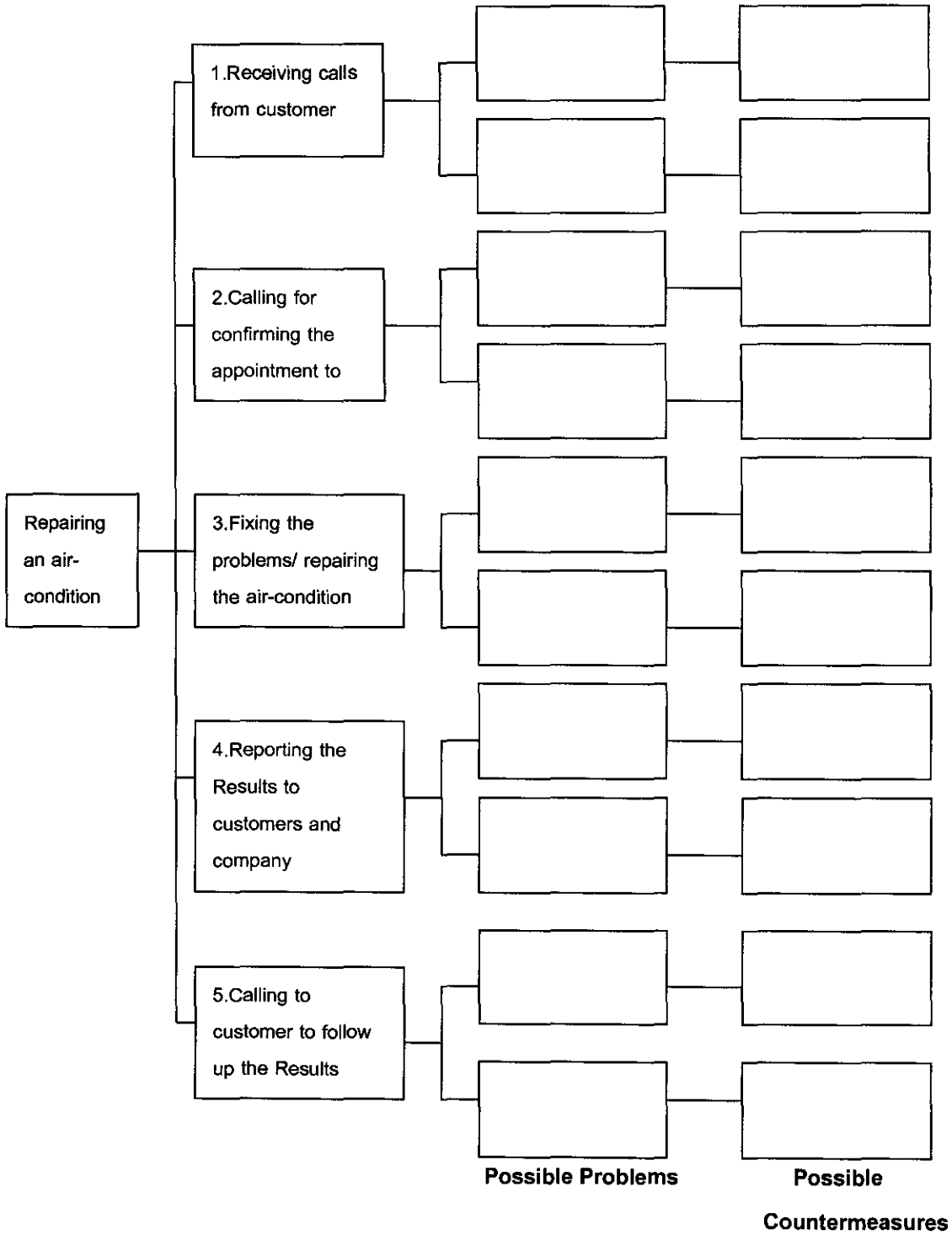


5. Preparing a **benchmark process** of your air-conditioning repair department.

(10 Points)

Process	Key Performance Indicators (KPIs)	Reasons to choose these KPIs	Partners	Reasons to choose these partners
1.Receiving calls from customer	1		1	
	2		2	
2.Calling for confirming the appointment to the customer	1		1	
	2		2	
3.Fixing the problems/ repairing the air-condition	1		1	
	2		2	
4.Reporting the Results to customers and company	1		1	
	2		2	
5.Calling to customer to follow up the Results	1		1	
	2		2	

6. From the process of air-conditioning repair department, **develop the PDPC** to identify Possible Problems in each step and Possible Countermeasures (Plans and Actions) (10 Points)



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7. What are the differences between Juran's COQ Model and Deming's COQ Model?

(5 Points)

