

**Universiti Tunku Abdul Rahman**

**UECS3383 Software Quality Assurance**

**Case Study: THE NEED FOR PROJECT MANAGEMENT METRICS (C)**

**SELECTING THE RIGHT METRICS**

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ID	Student Name	Email

Q No	Total Marks	Marks
Q1	15 marks	
Q2	15 marks	
Q3	60 marks	
Q4	10 marks	
TOTAL		

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**Case Study**

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**THE NEED FOR PROJECT MANAGEMENT METRICS (C): SELECTING THE RIGHT METRICS**

**SELECTING THE RIGHT METRICS**

The team reconvened with each team member bringing with them a list of possible metrics. Each team member had interviewed people in their own group and at all levels of management. Each team member knew that their list was highly subjective and they now had to combine their thought process with the entire team and see if they could come up with a more objective list. The first step was to combine the metrics as shown in Exhibit-I.

**Exhibit-I Combined Listing of Metrics**

<b>No</b>	<b>Metrics</b>
1	Percent of work packages adhering to the schedule
2	Percent of work packages adhering to the budget
3	Number of assigned resources versus planned resources
4	Quality of the assigned resources versus plan resources
5	Percent of actual versus planned baselines completed to date
6	Percent of actual versus planned best practices used
7	Project complexity factor
8	Customer satisfaction ratings
9	Number of critical assumptions made
10	Percent of critical assumption that have changed
11	Number of cost revisions
12	Number of schedule revisions
13	Number of scope change control meetings
14	Number of critical constraints
15	Percent of work packages with a critical risk designation
16	Net operating margins
17	Number of unstaffed hours
18	Turnover of key personnel, in number of percent
19	Percent of labour hours on overtime
20	Schedule variance, SV
21	Cost variance, CV
22	Schedule performance index, SPI
23	Cost performance index, CPI

While many of the metrics seemed worthy of consideration, there was a consensus that the list may be too long.

Carol spoke next:

*I agree with Jon's remarks that the list is too long. But playing the devil's advocate, providing too few metrics can be equally as bad. Providing too few metrics can be disastrous if executives overreact to bad news on just a couple of metrics. They may not see the true story. **We may need to educate the executives on how to understand the metrics. If we do not provide the right information, then executives may not be able to make informed decisions in a timely manner.***

Patsy then added her comments to the conversation:

*I was part of the committee that established the financial and business metrics a few years ago. After several meetings, we **established a business metric selection process that stated that whatever metrics we selected had to be worth collecting;** we had to be sure that we would use what we collected; we had to make sure that the metrics were informative; and we eventually had to train our people in the use and value of these metrics.*

It was now apparent that metric selection would be critical. The team knew that no matter how large or how small the final list would be, there would be naysayers that would argue that the benefits do not justify the cost and that metric measurement is a waste of time and useless.

Barry stated that he has friends in other companies that maintain a metrics library the same way that other companies maintain a best practices library. While Barry's contacts were not willing to provide a list of the exact metrics in their library, they were willing to provide the categories of metrics as they appeared in the library. The categories are shown in Exhibit-II.

**Exhibit-II Categories of Metrics**

<b>No</b>	<b>Metric Category</b>
<b>1</b>	Quantitative metrics (planning dollars or hours as a percentage of total labor)
<b>2</b>	Practical Metrics (improved efficiencies)
<b>3</b>	Directional metrics (risk ratings getting better or worse)
<b>4</b>	Actionable metrics (affect change such as the number of unstaffed hours)
<b>5</b>	Financial metrics [profit margins, return on investment (ROI), etc.]
<b>6</b>	Milestone metrics (number of work packages on time)
<b>7</b>	End result or success metrics (customer satisfaction)

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( END )

**QUESTIONS:****Background Assumption:**

Assume that you are the **Customer Support Manager (CSM)** of a **helpdesk system for an IT software house**. The company has several on-going software systems development (i.e. existing project development, maintenance project as well as outsourced projects and/or outsourced services). The Customer Support Manager is to work very closely with the Software Development Project Manager (SDPM) to ensure all correspondence project-related activities are to be tracked, monitored and measured according to the quality manual (i.e. Software Quality Manual and Helpdesk Manual).

1. Assume that Exhibit-I is the metrics listing provided to you as the Customer Support Manager. List **THREE (3)** metrics which you think is meaningful to you as a Customer Support Manager. Support and justify your answer with a **valid example**. (15 marks)

*Hints: Explain how the metrics will help you to manage the helpdesk systems for the company.*

Metrics from Exhibit-I	
Metrics	Support and justify your answer with a <b>valid (relevant) example</b> (5 marks x each metric)
	<b>Answer:</b>  <b>Give example:</b>  (Word Count= ?? ; Max Word Count = 200 words)
	<b>Answer:</b>  <b>Give example:</b>  (Word Count= ?? ; Max Word Count = 200 words)
	<b>Answer:</b>  <b>Give example:</b>  (Word Count= ?? ; Max Word Count = 200 words)

2. For all metrics identified in Q1, revised EACH metric to fulfil **at least THREE(3) attributes of the SMART criteria** (i.e. Smart, Measurable, Attainable, Reliable and Timely). (15 marks)

Metrics from Exhibit-I		Tick ( √ )				
Metrics from Q1	Revised Metrics fulfilling <b>at least THREE(3)</b> attributes of SMART criteria. Underline EACH attribute  (5 marks x each metric)	Specific	Measurable	Attainable	Reliable	Timely

3. For the year 2021, it is the company's directives to provide "World Class Customer Support Services" to its customers. As a Customer Support Manager, you are required to set **FIVE(5) primary metrics for your team** (i.e. other than the metrics specify in Exhibit-I. Refer to Exhibit-II for better category illustration on metrics formation). (60 marks)

For EACH of the metric, provide justification with a valid (i.e. relevant) example how would the metric will help in delivering world class services.

*Hints: EACH metric to fulfil at least THREE(3) attributes of the SMART criteria (i.e. Smart, Measurable, Attainable, Reliable and Timely)*

Metrics NOT from Exhibit-I (10 marks x each metric)		Tick ( √ ) (2 marks)				
SMART Metrics (5 marks)	Support and justify your answer with a <b>valid (relevant) example</b> (5 marks)	Specific	Measurable	Attainable	Reliable	Timely
	<b>Answer:</b>  <b>Give example:</b> (Word Count= ?? ; Max Word Count = 250 words)					
	<b>Answer:</b>  <b>Give example:</b> (Word Count= ?? ; Max Word Count = 250 words)					
	<b>Answer:</b>  <b>Give example:</b> (Word Count= ?? ; Max Word Count = 250 words)					
	<b>Answer:</b>  <b>Give example:</b> (Word Count= ?? ; Max Word Count = 250 words)					
	<b>Answer:</b>  <b>Give example:</b> (Word Count= ?? ; Max Word Count = 250 words)					

4. As a "customer support manager" or "software development project manager", both faces a challenge of "**We may need to educate the executives on how to understand the metrics**".

As a ....., using an example of a "SMART metric" defined in Q3 to elaborate educating the executives (i.e. support staff or technical staff) on how to understand the metrics?

- a) Customer Support Manager (5 marks)  
 b) Software Development Project Manager (5 marks)

(Word Count= ?? ; Max Word Count = 200 words for (a) and 200 words for (b))

**Hand-in date:**

The assignment must be handed-in by **22<sup>nd</sup> February 2021, 4:00 PM, via WBLE** at the latest.

The assignment should be word-processed. Submit both the **DOC and PDF versions** (upload to WBLE).

**Plagiarism**

Plagiarism is seen as a serious cheating issue. Do not do it. Penalties will be applied to all students who plagiarise.

**Assessment criteria:**

The assignment contributes to **10%** of the total marks graded in this unit.

Students who fail to submit their work by the due date will be given a **ZERO**. There will be no extension given unless with prior approval.

**Submission Format**

**Cover Sheet**

- ❖ A cover sheet should be attached and contains the following
  - Students' ID
  - Students' Name
  - Students' Email

**Format**

- ❖ Submitted in **soft-copy via WBLE**
- ❖ Typed material in 1.5 line spacing.
- ❖ Font size 12 and bold for heading.
- ❖ Margin of 1 inch all around.
- ❖ Page numbering except for cover page.