

### TECH 646 Homework Assignment 3

Assigned date: Sept. 7, 2018

Due date: Thursday, Sept. 13, 2018, before 5 PM, as an email attachment

#### **Assignment 3-A**

Reading Assignment

- Read Ch 5 Clarifying Research Question through Secondary Data & Exploration

#### **Assignment 3-B (from Text book's Discussion/Questions, pp. 71-73);**

**\*\* Prepare your answer with PPT slide**

CH 3-Q3. Below are some terms commonly found in a management setting. Are they concepts or constructs? Give two different operational definitions for each.

- |                          |                      |
|--------------------------|----------------------|
| a) First-line supervisor | e) Line management   |
| b) Employee morale       | f) Leadership        |
| c) Assembly line         | g) Union democracy   |
| d) Overdue account       | h) Ethical standards |

CH3-Q5. An automobile manufacturer observes the demand for its brand increasing as per capita income increases. Sales increases also follow low interest rates, which ease credit conditions. Buyer purchase behavior is seen to be dependent on age and gender. Other factors influencing sales appear to fluctuate almost randomly (competitor advertising, competitor dealer discounts, introductions of new competitive models).

- If sales and per capita income are positively related, classify all variables as dependent, independent, moderating, extraneous, or intervening.
- Comment on the utility of a model based on the hypothesis.

CH3-Q7. You are the office manager of a large firm. Your company prides itself on its high-quality customer service. Lately, complaints have surfaced that an increased number of incoming calls are being misrouted or dropped. Yesterday, when passing by the main reception area, you noticed the receptionist fiddling with his hearing aid. In the process, a call came in and would have gone unanswered if not for your intervention. This particular receptionist had earned an unsatisfactory review three months earlier for tardiness. Your inclination is to urge this 20-year employee to retire or to fire him, if retirement is rejected, but you know the individual is well liked and seen as a fixture in the company.

- Pose several hypotheses that might account for dropped or misrouted incoming calls.
- Using the double movement of reflective thought, show how you would test these hypotheses.

CH3-Q8. Identify and classify all the variables in the Army's dud shell research.

CH3-Q9. What was Myra's hypothesis for the Army's dud shell research? What was the Army's hypothesis?

Be sure to denote all IV, DV, and MV.

#### **Assignment 3C:**

**Watch Cummins Engines, Case Study Video (Answer all questions, and prepare it with Microsoft Word)**

**Abstract:** Cummins Engines makes advanced, fuel-efficient diesel power systems and engine-related components and specializes in customized diesel engine production. Shipping more than

1,000 engines per day to customers and dealers on every continent, Cummins has a long history of innovation, from winning performances at the Indianapolis 500 to the first natural gas–fueled engine to pass California’s tough emissions regulations. This case focuses on the Signature 600 engine, the newest and most advanced diesel engine on the market. (Video duration: 14 minutes)  
**www.cummins.com**

- Watch Case Study video of Business Research Methods, 11/e, Online Learning Center, [http://highered.mcgraw-hill.com/sites/0073373702/information\\_center\\_view0/](http://highered.mcgraw-hill.com/sites/0073373702/information_center_view0/)
- Company URL: [www.cummins.com](http://www.cummins.com)
- Each student is expected to answer the following questions
  - A) What type of data is generated by Cummins statistical quality control program? And what does the collection of this information permit Cummins to do?
  - B) How might employee input influence the creation of a new powerful engine like the Signature 600?
  - C) How could managers of the various strategic business units use tracking of web connections by customers and suppliers?
  - D) How can both Cummins and its competitors (like Caterpillar) use special promotional events, like the Signature 600 tour, to collect information?