

Solutions to version 1:

1. Besides the invention of new technology, what other factors are involved in or contribute to innovation?

Answer: Innovation is influenced (and sometimes caused by) business practices and adoption (diffusion) through social networks.

2. What is sustained innovation? Give an example of sustained innovation?

Answer: Sustained innovation is the gradual and continuous improvement in a technology or business practice. Examples of sustained innovation are (1) annual changes to car models, (2) upgrading business software, (3) changes in the process or procedure to manufacture a product without significantly changing the product, (4) replacing CRT computer monitors with flat panel LCD monitors.

3. List three factors that contribute to or make a situation ripe for disruptive innovation. What is the descriptive title of the company susceptible to disruption?

Answer: The company or organization susceptible to the disruption is called the *incumbent*.

Factors that make a situation ripe for disruptive innovation are (1) an established provider of technology and services – the incumbent – that has improved its product beyond the needs of most customers, (2) the emergence of an alternate technology or service at a lower cost and performance that addresses the needs of a different group of consumers than the consumers served by the incumbent, (3) a rapid increase in the performance (through innovation) of the lower cost product, (4) an inability of the incumbent to respond to the threat posed by the disrupter, (5) eventual increase in performance of the lower cost product such that it either exceeds the incumbent product or offers “good enough” performance and lower cost. There are many reasons for item (4), the inability of the incumbent to respond, including the incumbent’s continued focus on its original population of prime customers.

4. What term is used to describe the spreading of ideas or practices in social communities? (A complete sentence is not required.)

Answer: Diffusion of innovation.

5. Massively open on-line courses (MOOCs) are considered to be what kind of innovation in higher education?

Answer: MOOCs are considered to be a disruptive innovation. The actual and eventual effect of MOOCs is not yet known. At the present we can say that MOOCs (as well as other organizational challenges to existing higher education institutions) fit the pattern of a disruptive innovation. The on-line experience in a MOOC is considered to be inferior to face-to-face instruction in a traditional classroom. However, MOOCs are currently free or substantially less expensive than traditional courses. For many students not well served by existing higher

educational institutions, MOOCs are a sufficient and in some ways superior experience. For example, many MOOCs are offered by famous professors at highly ranked universities. Students who cannot attend those universities would not have any other way of taking a class from those faculty.

If MOOCs truly become disruptive, the on-line mode of course delivery and learning will improve until it is either “good enough” or even (by some measures, anyway) superior to convention modes of teaching and learning. MOOC providers will also need to develop a sustainable business model in which courses that are free or very low cost have a revenue stream to make the MOOC provider profitable. The current assumption is that scale (i.e. reaching very large numbers of students) will lead to profits as MOOCs will charge low fees either for taking the class or for receiving a certificate of completion. If MOOCs survive to become disrupters, the incumbents (traditional providers of higher education) will have to radically change in order to survive.

Solutions to alternative questions in version 2:

2. What is radical innovation? Given an example of radical innovation?

Answer: As defined by Davila, Epstein and Shelton, radical innovation is a significant change to both the technology and business related to a product or service. A radical innovation changes the competitive environment. Examples of radical innovation are (1) introduction of disposable diapers, (2) cell phones, (3) on-line sales of books, (4) introduction of touch-based tablet computers as competition to low cost laptops.

Other definitions of radical innovation are used. For example, focusing on whether the change is sufficiently discontinuous, or whether the innovation “destroys” existing advantages from previous knowledge or competency.

3. When an incumbent industry or company is affected by disruptive innovation, does the incumbent’s focus on their best customers help or hinder the incumbent? Why?

Answer: The incumbent’s focus on existing customers hinders the ability of the incumbent to respond to the threat of disruptive technology. The incumbent has incrementally improved its product or service (i.e. practiced sustained innovation) in an effort to hold its existing customers and win over new customers with similar needs. Meanwhile, the source of the disruptive innovation (the disrupter) provides a product with lower cost and possible inferior performance compared to the product or service offered by the incumbent. The disrupter establishes a foothold by satisfying the needs of a population that is different than the customers of the incumbent. Once established, the disrupter (which may consist of multiple actors) is able to rapidly improve the price/performance of its product, until it is as good as (or good enough) the product or service provided by the incumbent.

4. What title is given to the kind of person who is the first to use a new innovation? (A complete sentence is not required.)

Answer: early adopter