

Answers to Questions

Table of Contents

Answers to Question No 1	3
I. Disruptive Technology.....	3
II. Examples of Disruptive Technology.....	3
Answers to Question No 2	4
III. Time Series Line Chart	4
IV. Pattern and Trend of Both Time Series	4
I. Pattern Comparison of USA and UK E-Commerce Sales as Percentage of Total Sales.....	5
Answers to Question No 3	5
II. Market Structure before and After Disruptive Technology	5
I. Disruptive Technology Introduction and Existing Market Structure	6
Answers to Question No 4	6
II. Demand and Supply Diagram before Disruptive Technology	6
III. Demand and Supply Diagram after Disruptive Technology	7
I. Change in Consumer and Producer Surplus	7
References	9

Answers to Question No 1

I. Disruptive Technology

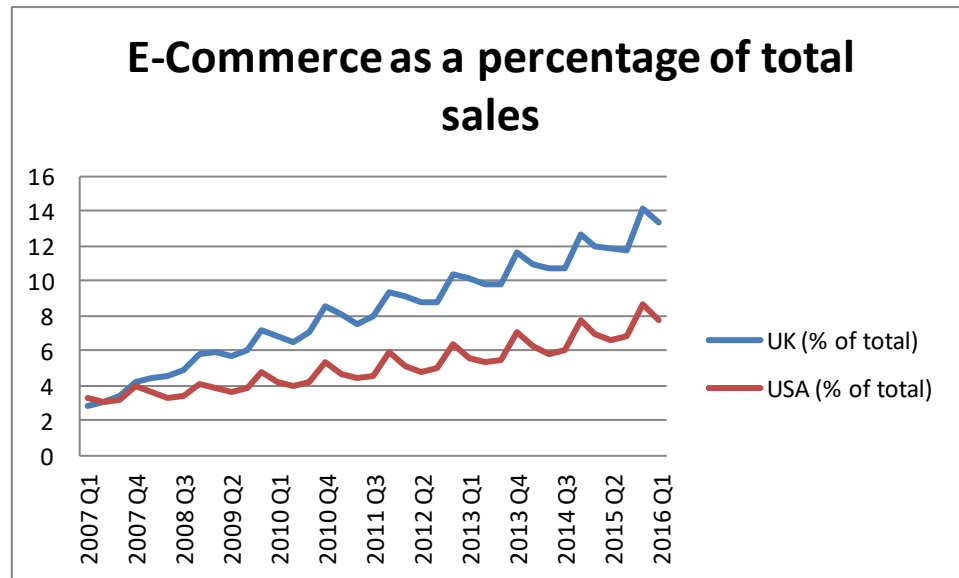
The term disruptive technology, which is also known as disruptive innovation, expresses the meaning of replacing an existing or an established technology from market that changes the technological usage pattern of associates either being consumer, corporate, commercial or corporate. The replacement of technology expresses the creation of new industry. Some of prominent disruptive technologies that have created new industries in an efficient manner include smart phones, mobile and laptop computer as well as cloud computing in services. These inventions have transformed new industries as well as have motivated business performers in terms of initiating business activities in these sectors. Disruptive Technology is based on a phenomena, which is based on initiation of technology followed by persists, mutates stagnates and final stage of this phase is declines. It means that innovation also follows the phenomena as humans. The only difference between these two phenomena is that technology decline is initiation for another technology.

II. Examples of Disruptive Technology

The most prominent example of disruptive technology is related to automotive industry. Initially, the usage of gas has been the primary dependency for transportation. Invention of hybrid was an efficient disruptive transformation, which transformed entire industry. The invention of hydrogen fuel for automobiles is another disruptive technology that had changed entire industry. The second prominent example of disruptive technology is related to health and fitness sector. An application named by The Quantified Self is one of the most prominent applications that collects information of the user and transmits to the concerned positions (Baldwin, 2015). The sending of information assists medical centres in terms of managing an efficient record of the patient. The third disruptive technology is related to manufacturing sector. The manufacturing of 3D printers and robotics is an example of disruptive technology as people can easily develop a 3D model for any concept (Baldwin, 2015).

Answers to Question No 2

III. Time Series Line Chart



**Graph 1 E-Commerce as a percentage of total sales (Quarterly) (non-seasonally adjusted)
2007 - 2016**

IV. Pattern and Trend of Both Time Series

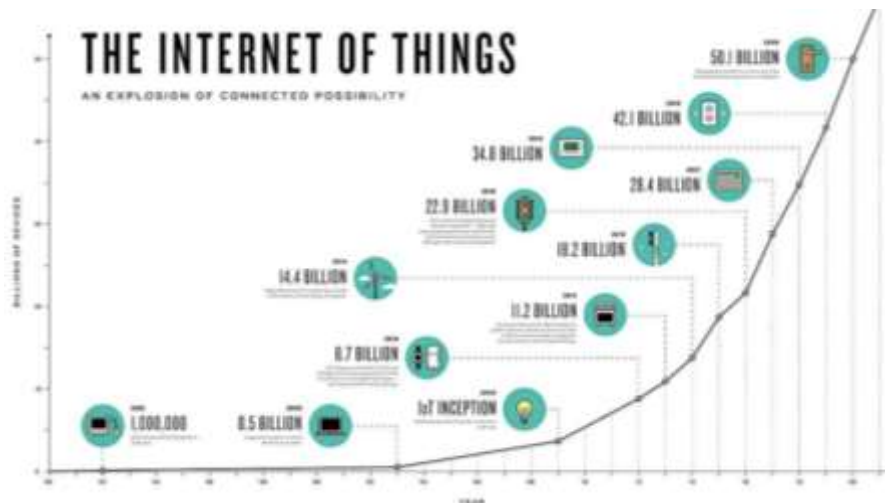
In reference to above presented table, it has been assessed that from the first quarter of year 2007 to the first quarter of year 2016, an increasing trend had been observed of E-commerce as percentage of total sales on quarter basis. In the year 2007, the total percentage of E-commerce sales was almost 3% in the first quarter, which was increased to near 8% for USA and near 13% for UK total sales. A prominent increase in the trend and pattern of E-commerce means that an increased extent of dependency has been expressed by residents of UK as well as to that of USA. The core reason with regard to increase in percentage is expression of prominent dependency upon E-commerce for purchases rather than expressing dependency upon physical stores for purchases.

I. Pattern Comparison of USA and UK E-Commerce Sales as Percentage of Total Sales

In accordance to above illustrated graph, it has been assessed that UK e-commerce sales as percentage of total sales were greater than to that of USA. For the second quarter of the year 2007, an increase of 7% was observed in comparison to previous year. On the other hand, a decrease of 6% was identified for USA in comparison to previous years. Similarly, in the first quarter for the year 2014, a reduction of 6% was identified for UK and a decrease of 11% was observed for USA. Overall, it has been assessed that for both patterns, the first quarter have expressed a negative integer in comparison for previous year yet overall growth rate of UK is greater than to that of USA.

Answers to Question No 3

II. Market Structure before and After Disruptive Technology



Graph 2: Internet of Things Usage

(Source: Solis, 2015).

The above presented image expresses the before and after scenario of Disruptive technology. In 1990, after invent of computer, the maximum number of users were near to 1,000,000. The disruptive technology of laptop increased overall number of users of computable technology

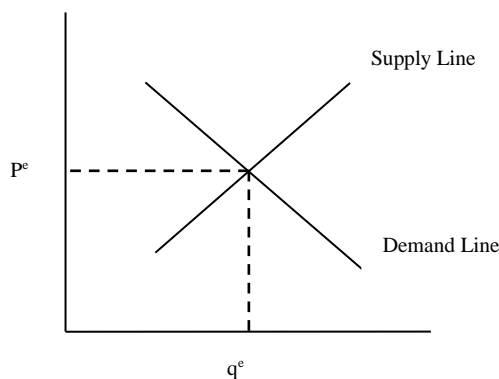
from one million to 0.65 billion. The next disruptive technology of IoT or Internet of Things changed entire planet and synchronized physical and virtual world. Afterwards invention of IoT, total number of users was increased to 14 billion. It means that advent of technology is one of the primary variable with regard to transformation of entire market structure in an appropriate manner. However, disruptive technology encounters primary barrier of previous technology users dependency that if new technology is not perceived by users in appropriate manner then disruptive technology might encounter drastic failure (Source: Solis, 2015).

I. Disruptive Technology Introduction and Existing Market Structure

Internet of Things has changed entire market structure of UK technology sector prominently and underlying principle with regard to this prominent change was ease of users in terms of performing day to day activities. For example, applications that keep and efficient record of patient pulse rate as well as blood pressure keeps the concerned doctor as well as patient updated regarding health condition and on the basis of such initiative, the patient prescriptions might be changed accordingly (Ruthven, 2015). This scenario has reduced the efforts of patient in terms of using different applications as well as other supportive equipments for keeping a track record as well as highlighting the news to the doctor for change in his medical conditions. Similarly doctor automatically changes the pattern of medication of patient according to his medical conditions (Nunes and Downes, 2015).

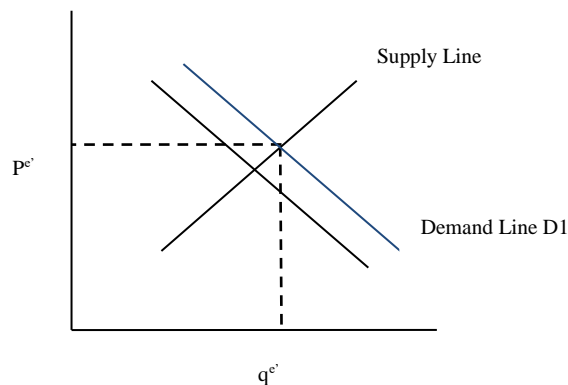
Answers to Question No 4

II. Demand and Supply Diagram before Disruptive Technology



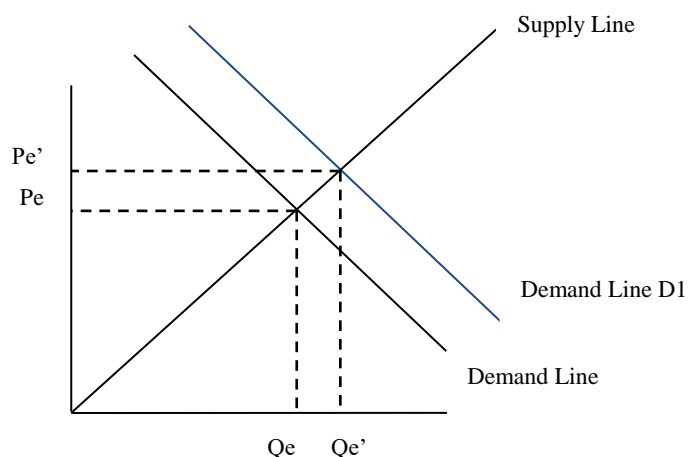
In reference to above drawn diagram, it has been assessed that before introduction of disruptive technology, the demand and supply line curve identified an average price and quantity supply into open market. In accordance to above, it has been assessed that a hypothetical increase in either demand or price changes either the price or quantity of that technology in respective manner.

III. Demand and Supply Diagram after Disruptive Technology



The introduction of the disruptive technology has shifted the demand line for new technology. However, supply line for disruptive technology remained constant. This change has increased overall quantity as well as overall price of technology. The above presented table has elaborated the view that the increase in price and quantity of technological devices is dependent upon demand rather than supply. Moreover, an increase in prices of technology is based on shifting of equilibrium position of technology based on either shifting of demand or supply line.

I. Change in Consumer and Producer Surplus



In accordance to above drawn diagram, it has been assessed that shift in overall demand due to introduction of disruptive technology express increase in producer surplus rather than consumer surplus. In other words, the increase in consumer surplus is based on increase of quantity and increase in quantity is stated as primary outcome of shift in demand.

References

- Baldwin, J. G. (2015). The Five Most Disruptive Technologies of 2015 [Online] Available at <<http://www.investopedia.com/articles/investing/100515/five-most-disruptive-technologies-2015.asp>> [Accessed on 3rd of September, 2016]
- Nunes, P and Downes, L. (2015). The Five Most Disruptive Innovations At CES 2015 [Online] Available at <<http://www.forbes.com/sites/bigbangdisruption/2015/01/09/the-five-most-disruptive-innovations-at-ces-2015/#3900aca51faf>> [Accessed on 3rd of September, 2016]
- Ruthven, H. (2015). 50 of the most disruptive British businesses in 2015 [Online] Available at <http://realbusiness.co.uk/article/29499-50-of-the-most-disruptive-british-businesses-in-2015_29499> [Accessed on 3rd of September, 2016]
- Solis, B. (2015). 25 Disruptive Technology Trends for 2015 – 2016 [Online] Available at <<http://www.briansolis.com/2015/01/25-disruptive-technology-trends-2015-2016/>> [Accessed on 3rd of September, 2016]