Introduction

Oligopoly is a structure that is characterized by few firms owning the market. Economically, oligopoly is defined as a market situation in which a small number of sellers and producers control the supply of a commodity and also influence the pricing of the commodity which directly affects the position of its competitors (Samuelson and Marks, 2003). In this market structure, the oligopolist is aware of his position in the market compared to the others and is in a position to affect the actions of others. According to Earton and Grossman (2006), the decision made by one firm can be affected by the decisions made by the other firms or can affect the decisions of other firms. Strategic planning in an oligopoly market structure, an oligopolist should take into the account the likely response from the other participating firms in the market.

In an oligopolistic competition, a wide range of possible outcomes are prepared for. The firms employ restrictive practices such as market sharing, collusion, so as to control the pricing of goods in the market or even restrict the production of a certain good in the market. Formation of a 'cartel' results when firms decide to collude with other firms in the market and an example of a cartel is the OPEC which has a direct influence on the production and pricing of oil in the market.

Wireless Telecommunication in Canada

According to Selwyn and Weir (2007) most of service providers in Canada are discontent with the main wireless providers that are Rogers, Bell and Telus. Collectively the three companies control almost 94% of Canada's wireless market and they use this to inflate prices in the market. It has been observed that the high wireless prices in Canada affects the country's Gross Domestic Product (GDP). Research conducted on cell phone usage indicated that Canadians are the least likely to have cellphones while those who use it, fall in the fourth position in the world, behind Hong Kong, United States and India. It is also observed the Canadians wireless providers that is the Rogers, Bell and Telus, have the highest profit margins in the developed world. Canada is observed to rank the last in the cellphone penetration among the developed countries. According to Selwyn and Weir (2007), cellphone subscriptions in the year 2007averaged 96% per 100 inhabitants in developed countries and of this, Canada had 60% per 100 inhabitants. Among the 53 developed countries in the world, Canada ranked in the 44th place as seen in the graph below

Diagram 1, Source (Selwyn and Weir, 2007)

According to Samuelson and Marks (2003), the oligopoly markets are characterized by profit maximization conditions in that an oligopoly firm is in a position to maximize its production where the marginal revenue equals the marginal costs. Secondly, it has the ability to set the market price and they are referred to as the price setters and not price takers. Thirdly, the market is characterized by a number of sellers or presence of few sellers in that the action of one firm can affect the decision of another firm in the same market structure. Fourthly, oligopolies have restrictions to entry and exit of a firm and it does this through economies of scale, introducing access to expensive technologies, use of patent rights and forming a strategic plan that is focused on destroying the existence of other firms in the market.

Fifthly, oligopoly markets have the potential of retaining long run abnormal profits for long periods of time and this is because it prohibits entry into and out of the market. They also have product standardization or differentiation depending on the type of firm whether it is an automobile or steel industry. Sixthly, the markets have perfect knowledge pertaining to their position in the market and this also includes knowledge about the demand function and their own costs. They make sure that their markets are kept out of such knowledge. Lastly, these markets are always independent and this forms one of the distinctive features of an oligopolistic firm. The firms are usually large and their actions can influence the actions of the other firms in the region. Crandall and Sidak (2004) indicated that the markets are usually sensitive in that they have to contemplate first about how their action can affect their competitors' moves and actions. If for example a firm wants to reduce its prices, it should first calculate the possibility of other firms following it in the reduction process.

A company's profitability is calculated by diving the company's total revenue, taxes, depreciation, earnings before interest and amortization. In the final quarter of 2007, Canada had the highest profit margin compared to the other developed countries at 49%. The graph below indicates the EBITDA as per cent of revenue

Diagram 2, Source (Selwyn and Weir, 2007)

Information and communication technologies (ICT) are one of the Canadians successes and it represents almost 45% private research developments. The telecommunication firms in Canada include both the wired and the wireless and this are the firms that dominate in the ICT sector of Canada. Several multinational companies have taken the step to invest its resources in the Canadian R&D sector and an example of such a company is the Swedish manufacturer Ericsson. Other than Ericsson, there are other networks that have decided to set their base in Canada and these include the Alcatel, Nokia, Siemens and Motorola (Quigley and Sanderson, 2005).

The Canada market has exhibited the following capabilities that give it an advantage over the other markets in wireless telecommunications. It has innovative cellular firms such as the Nortel Networks and Radian communications which have advance equipments and technologies. It has also proved initiate leadership through its unique and innovative for emails and data communications. In addition, it has been the leader in software defined radios (SDR) which commercializes the radio and communication centers in Canada (Chen and Mintz, 2005). The key Canadian clusters includes; British Columbia (BC), which is concentrated in Vancouver. It has over 240 companies in the wireless sector and this contributes greatly to the countries revenue. According to research conducted by Wall Communications Inc (2005), the company has employed over 5000 people and generates revenue of approximately $1 billion. The top companies in the BC market include Sierra wireless, Vecima Networks, MDSI Mobile Data and Glentel Networks (Martin, 2007).

It also has Alberta wireless networks which comprises of over 300 companies that employed over 15000 people and generating revenue of over $3.4 billion. Another Canadian cluster point is in Ontario which holds over 3000 high tech companies. This sector contributes to over $24 billion of revenue to the country's economy while at the same time employing over 140 000 people in the ICT sector. Other Canadians key clusters is the Quebec which employs over 130 000 people.

Canada is made up of three major wireless telecommunications which provide data services and mobile phones in the country. These are Rogers wireless, TELUS mobility and Bell mobility. The Rogers wireless provides its mobile services using modern and advance technologies such as the GSM (Global System for Mobile communications) and UMTS technologies. Initially the sector was referred to as Rogers AT &T Wireless. According to Wilson (2006), the company became one of the largest in the wireless telecommunications in Canada in the year 2004 after purchasing of Fido which gave it an advantage over Bell mobility which at the time had purchased Virgin mobile

Canada (2009). The packet purchased by Rogers wireless operated at a High Speed Packet Access (HSPA) and GSM.

Rogers wireless claims to be the only Canadian wireless provider that has offered services that are complete and independent on the providence of network n all regions of Canada irrespective of the territories. As one of the main cellular providers of Canada, Rogers wireless has been criticized of having high data rates and high voice compared to the other providers in the market. It was alleged that the company used its power to change its operational terms without giving the firms any notice.

Bell Canada is another provider of Canada's wireless telecommunications and it has subsidiaries such as Bell Aliant, Northern Tel, Telebec and Northwestel. It provides its services to most parts of the country in the east of Manitoba and in the northern areas and this gives it an advantage over the other providers. Its main competitor in the market is the Rogers communication. It has its headquarters in Montreal, Quebec and it currently services over 12 million phone lines in the country. The firm's main focus was three main territories namely Ontario, Quebec and Maritime provinces. The firm developed as a result but later faced competition from the growth of Telus mobility in the regions of British Columbia.

The Bell system is made up of two main companies; Bell Canada and Northern Electric. The Bell Canada is comprised of AT &T which has ownership stake of approximately 35% while Northern Electric is an equipment manufacturer which is affiliated with the western electric and owns a stake of approximately 43%. Samuelson and Marks (2003), noted that the firm extended its ownership of the virgin mobile Canada from 50%- 100% in the year 2009 and this meant development of the Bell Canada systems in Canada.

Telus mobility is a national telecommunications company in Canada that which provides a variety of services including entertainment, videos and internet protocol. It also offers a wide a range of communications too. The company is located in Burnaby, British Columbia. It is a member of the British Columbia Technology Industry Association and this enables it get advanced technologies. In the year 1995, Telus Company acquired ownership of Edmonton Telephones (Ed Tel) which was located in the city of Edmonton. It was the introduced as a consumer brand but it later merged with the BC Tel Company. This merging of the two companies gave Telus mobility an advantage to become the Canada's second largest telcom. The market share of Telus Company became 22% which can be compared to Bells Canada market share of 42% as observed by Quigley and Sanderson (2005).

The oligopolistic markets exhibits different models and this model include the dominant firm model, Bertrand model, kinked demand model and lastly the cournot-nash model. The dominant firm model is seen in a firm that controls the prices of the products in the market. The demand curve of the dominant firm model is calculated by supply curves of other small industries from the industry supply curve. The cournot- nash model assumes that there are only two major firms in the market and it competes against quantity rather than on the price of goods. The decision made by one firm assumes that the other firm will be fixed and won't change its decision (Earton and Grossman, 2006). The demand curve assumes that the linear and the marginal costs are equal. According to Samuelson and Marks (2003), the Bertrand model is the same as the Cournot –Nash except that its variable is the price and not the quantity.

Every firm that exhibits the kinked model has its demand curve kinked at the present price in the market. The model assumes that when a firm tries to raise its price above the normal price in the market, the other firms will not follow it in the raising and so the firm will lose the market share but when the firm reduces its prices the other firms will follow suit in order to maintain their market share. The graph below shows a kinked curve model.

(Samuelson and Marks, 2003)

Conclusion

From the above observations, it is noted that Canada wireless telecommunications has three main competitors and these are the Bell mobility, Rogers mobility and the Telus Mobility. The three companies compete for the same market in Canada and form a market structure known as oligopoly. Hoping that more competition in the Canadian market would lower the wireless prices, the federal government decided to set aside 40% of the spectrum license for companies that were willing to enter the market. The government got concerned that the three main providers –Rogers, Bell and Telus- would prevent the new entrants in the market. However, other analysts said the Canadian market was too small to support additional companies, and therefore, the new companies may soon exit the market, leaving the Canadians to dominance of Rogers, Bell and Telus.