A BOUTIQUE OLIVE OIL GROVE IN NEW ZEALAND: FROM INVESTMENT TO CONSUMER SALES

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Abstract

The case describes an opportunity to both invest in and operate a business producing high quality olive oil in New Zealand. The case describes establishing the business, developing the olive grove for production, processing the fruit and creating the appropriate distribution channels for the olive oil. This enables students to derive the general business system, build the appropriate financial model and develop a business plan. In addition, the model can be used to investigate the effects of changing various parameters upon the results of the business. Subsequently, the business plan(s) can be discussed to determine whether the business opportunity is attractive or not.

KEY WORDS: Strategy, business system, business plan, financial analysis, cash flows

INTRODUCTION

Bill and Isla Leslie had visited New Zealand a number of times for both holiday and business and were convinced that it was the place where they wanted to retire. They were now in their mid-50s and Bill's retirement was only a few years away, so they decided to plan their dream. After contacting the New Zealand immigration authorities, he decided that the most appropriate way for him to obtain residence would be the so called "investment category" [New Zealand Government Immigration]; the New Zealand government uses this as a tool to bring private investment into the country and to provide employment for its citizens. Bill fulfilled all the requirements: under 65, at least 3 years business experience and a minimum equivalent of NZ\$1.5 million to invest. What he needed was a business to invest in.

This business proposal is important, as only 300 residence applications are approved each year. The application or "Expression of Interest" requires that a business plan be submitted, which has to be robust for two reasons: firstly it is Bill's own money and secondly, it is the key to gaining residency.

Bill had grown up in an agricultural area and although he had never worked in the agriculture sector, he maintained a lifelong interest in it. It appears obvious that his business venture should be agricultural and after further thought, he decided to investigate the prospect of growing olives and possibly producing olive oil.

Bill realised that effectively two business plans need to be prepared; one plan for the NZ government to demonstrate the operating success of the business he intends to start; and a second one for himself, demonstrating the success of his investment in developing the business. Naturally, the investment plan depends to a large degree upon the success of the operational plan. He also recognised that to create such business plans a large amount of data will be have to be identified, collected and validated; and subsequently placed in each business model for analysis and discussion.

After careful consideration Bill identified a number of areas where detailed information was necessary. The end user product "olive oil" needs to be defined; the potential of the New Zealand market to sell the

product needs to be understood; and as olives are an agricultural product, information about the climate and soil conditions will be required to determine an appropriate location for the grove. In addition, the operational business system consisting principally of production and sales/distribution will also need to be designed. For the production, information will be required regarding preparing the grove for production as well as the annual processes required when the grove has been established. A further significant issue will be the way in which the processed olives will be sold/distributed, i.e. which alternatives are available for consideration and what degree of flexibility to adapt the business to demand changes do they allow.

It is apparent that many items of data from many varied sources will be required, and the amount of time and effort required for data collection will be considerable. The result of Bills efforts to collect and validate information is presented in the following sections.

OLIVE OIL

Olive oil is a fat obtained by pressing whole olives, the fruit of Olea europaea (family Oleaceae), a traditional tree crop of the Mediterranean. Archaeological evidence suggests that olives were grown on the island of Crete as long ago as 3500 BC (Early Minoan times).

Most of the global production is clustered around the Mediterranean (96%), with Spain (43.8%), Italy and Greece accounting for over 73%. These three countries are also the major consumers of olive oil with a share of 60% of the world market, which is growing at an annual rate of approximately 2.6% p.a. In 2011, global consumption was 3,137,000 tonnes or approximately 3.5bn litres.

The drivers for olive oil consumption are diverse. The strong link between the production and consumption in Mediterranean countries has obvious cultural and dietary heritage reasons. The Mediterranean Diet, based on fruits, vegetables, whole grains and olive oil, was recognised by UNESCO in 2010 as an "Intangible Cultural Heritage" of Italy, Greece, Spain and Morocco and is often cited as being healthy, as it is low in saturated fats and high in mono-unsaturated fats and dietary fibre.

Olive oil is frequently labelled according to the International Olive Council (IOC)'s quality structure, with extra virgin olive oil achieving a price premium in the marketplace [International Olive Council (IOC)]:

- Extra-virgin olive oil (EVOO), comes from virgin oil production only, contains no more than 0.8% acidity, and is judged to have a superior taste.
- Virgin olive oil (VOO), comes from virgin oil production only, has an acidity less than 1.5%, and is judged to have a good taste.
- Pure olive oil, oils labelled as Pure olive oil or Olive oil are usually a blend of refined and virgin
 production oil.
- Olive oil, is a blend of virgin and refined production oil, of no more than 2% acidity. It commonly lacks a strong flavour.

Other lower grades such as olive pomace, lampante and refined olive oils also exist in the IOC quality structure.

The global spread of the culinary use of olive oil frequently has its roots in the introduction of new cuisines to countries through immigrants (Italian and Greek emigrants are prime examples) and the development of mass tourism from Northern European to Mediterranean countries, exposing tourists to a different lifestyle and cuisine.

Excluding Mediterranean countries, Greece (26 litres), and Spain and Italy (close to 14 litres), the current annual per capita consumption generally lies below 2 litres.

THE NEW ZEALAND MARKET

In 2012, New Zealand imported 5,885 tonnes of olive oil, including 2,196 of virgin olive oil. Between 2005 and 2011 (FAOSTAT Food and Agriculture Organization of the United Nations, 2012), the growth of total imports was insignificant, although virgin olive oil has increased its share of total imports. Exports of New Zealand olive oil are insignificant. New Zealand's annual production - almost exclusively extra virgin olive oil (EVOO) - is estimated to be 400 tonnes per year, equivalent to 0.01% of global production [John Burland, 2013b].

The value of the olive oil market in New Zealand was estimated to be \$35m in 2011. This was distributed via supermarket chains (there are two in New Zealand), regional supermarkets, speciality shops, direct sales and farmers' markets.

There is also significant price differentiation in the market. European olive oil, blended from crops from a variety of EU countries and selling as supermarket own brand for under \$10 per litre; varietal, single-grove New Zealand EVOO ranges from \$20 to \$50 (and above) per litre [John Burland, 2013d].

Given the economies of scale and low cost structures enjoyed by the Mediterranean producers, competing at the cheaper end of the market makes no sense for local producers. New Zealand-produced olive oil focuses on a high quality, mid to high price niche market.

There are few national brands of New Zealand EVOO and only producers with large production capacity can take advantage of major supermarkets as distribution channels. Small producers are thus limited to regional markets, selling either directly to the public, to restaurants or via specialist channels, such as gourmet shops and delicatessens [Howard Sutton, 2013].

New Zealanders display a strong preference for "kiwi" products; 80% of New Zealanders say they would buy New Zealand Made in preference to other products, according to Buy Kiwi Made campaign research conducted by Research International in 2007 [Martin Jenkins & Associates, 2009].

The significant quality difference between cheaper imported oils and the more expensive local products was demonstrated on the "Fair Go" program broadcast in May 2012. "Fair Go" is an institutionalised investigative journalism and consumer affairs program in New Zealand. It is consistently one of the most viewed programs in New Zealand with a 14.4% share audience. (Nielsen TAM, 2012, [Stoppress]. The program sampled 14 extra virgin oils from 14 different supermarkets and had them tested using both the IOC test and another more stringent test. All seven European imported extra virgin olive oils failed the sensory test for extra virgin olive oil [Phil Vine, 2012].

New Zealand olive oil, especially, EVOO, was seen as justifying the higher prices and is frequently bought by price-insensitive socio-economic groups with high disposable incomes.

New Zealand cuisine was based on its British roots, an influence that continued throughout the 20th century. The staple family diet was "meat and two veg" and eating out was a limited experience, mostly involving traditional dishes such as steak and chips, fish and chips, baked meats and pies. By the 1970s, affordable air travel allowed New Zealanders to travel more freely and - following the patterns in Northern Europe - New Zealand cuisine began to change as travellers developed a taste for European and Pacific cuisine. This change is evidenced by Cuisine, a leading food and wine magazine, which now provides over 2000 recipes on their website to the search term "olive oil".

Many areas in New Zealand enjoy a near-Mediterranean climate, which promotes outdoor living and a cuisine based on fresh products and simple preparation, which is ideal for using olive oil.

There are assumed links between socio-economic status, high disposable income and health awareness in non-Mediterranean cultures. Luxembourg is considered by some to be an indicator of this relationship, with significantly higher olive oil consumption (2.7 litres per head) than neighbouring countries (an average of 1 litre per head.). In New Zealand, the per capita consumption has grown in recent years to approximately 1.6 litres in 2011, indicating potential for further growth [Butler].

OLIVE GROWING IN NEW ZEALAND

Although olive trees were originally introduced by European settlers from 1830s, commercial production really began after 1986 when Gideon Blumenfeld imported cuttings into Blenheim on the South Island. New Zealand provides a suitable terrain and climate for olives. Most olives are grown at altitudes up to 200m on flat or hilly land which receives over 2.000 hours of sunshine per year and between 700 to 1349 mm of rainfall annually [Olives New Zealand, 2012]. The harvesting period is between March and June on the North Island and between June and August on the South Island. The South Island is also known for its changeable weather, which can affect the quantity and quality of the olives.

The main olive growing regions (based upon the number of trees) are Hawkes Bay, Auckland, Wairarapa, Northland, Nelson and Canterbury [Sheridan, 2012]. There are over 200 olive groves, the majority of which are small to medium in size (100 - 1000 trees). There is a small number of large groves with more than 5.000 trees. Although more than 10 varieties of olive trees can be used commercially, Frantoio, Leccino and Barnea are the most common varieties and account for approximately 57% of plantings.

The general business system for producing olives can be divided into the following stages: preparation for production, the production process (annual process) and finally, the distribution and sale of the end products.

Bill's role in the business venture will be that of manager, i.e. using his professional commercial experience. For all other activities, he plans to hire sub-contractors, local workers and experts. Bill is a "hands on" manager and will possibly involve himself in some operational activities.

PREPARATION FOR PRODUCTION

Bill decided that the location should be in the Nelson area, because of its favourable climate, access to experienced local workers and sub-contractors, and his affinity with the area. After a long search, a suitable plot of land was found which would provide 10 hectares for planting olive trees. The cost of the plot, including all necessary fees for solicitors, land transfer etc., would be \$550,000 (\$ = New Zealand dollar, for all items in the case).

To enable Bill to run the proposed operations as a business, it needs to be established and registered with the authorities, in particular for Goods and Services Tax (GST), a value added tax, which is currently 15%. The benefits of establishing a limited liability company are that his personal property is protected and that any losses in the early years of the company can be offset in later years to reduce its tax obligation. The current tax rate is 28% for retained earnings. Bill can also pay himself out of operating profits when they are generated, and these will be taxed at his personal tax rate. The costs of establishing the business, named "Kopara Olives", is estimated to cost \$200, including GST [Ministry of Business, 2013].

Bill is the sole owner of the business, and his capital outlay for the business will be initially the land, the title of which he will transfer to the business. His final vision, at the moment, is to grow the business for 10 years and then sell it. He estimates that he will receive ten times the average profit when the business is sold; this appears to be a realistic estimate of the value of the business.

The business will need a considerable amount of working capital, especially in the early years. The company's bank (ANZ) is prepared to supply a line of credit capped at \$275,000 (50% of the unimproved land value) for a 10 year period, secured with the title of the land [John Burland, 2013a]. The conditions for this facility are a monthly account fee of \$12.50 plus an Interest rate of 7% p.a. for the credit used. In addition, Bill is prepared to provide credit to the company if the bank's credit limit is exceeded.

The local authority (Tasman District Council) levies a annual property tax ("rates") for general infrastructure and community services. The rates are based primarily on property value, which is assessed every 5 years by independent surveyors working on behalf of the government. The rates for a property of this value and location are currently \$3700 annually. The rate of increase for the value of farmland of this type was 6% CAGR in the past decade [REINZ]. The average general rate of inflation since 2000 has been approximately 2.7% p.a. [Reserve Bank of New Zealand].

The value of property in New Zealand has increased relatively quickly in the past decade and the rates are expected to continue to rise by an average of 6% annually in the next decade.

After considering the local climate and the actual type of soil of the plot of land with an olive expert, Bill decided to plant equal numbers of Frantoio, Leccino and Barnea olive trees at a density of 420 trees per hectare. Using different types of tree allows more flexibility when blending the olive oil at a later date. The price of each tree is \$10 and the cost of planting each tree when performed by a sub-contractor would be \$5 per tree. However, the sub-contractor mentioned that before planting, the ground needed to be prepared by "ripping" the topsoil to assist root development. This would cost an extra \$445 per hectare.

Unfortunately, not all trees which are planted develop into mature trees. The majority of "rejections" occur in the first year, which means that they need to be replaced in the following year. A rejection rate of 7% per annum should be expected [John Burland, 2013c].

One important issue which needs careful consideration is that of irrigation, normally in the form of "drip feeding". Irrigation is necessary when the soil is granular and cannot store the rainfall for longer periods or during periods of little rainfall. Lack of irrigation can cause a reduction in yield by up to 60%. An additional benefit of irrigation is that the trees reach maturity earlier. Bill decided to install irrigation equipment, which would be used when necessary. The cost of the irrigation system and its installation by the manufacturer is estimated to be \$2,300 per hectare. The yearly maintenance costs are estimated to

be \$100 per hectare per year. Fortunately, the plot has an adequate water supply and the expected water costs per hectare are \$170 per year.

In the Nelson area, experience shows that a drought period occurs every fourth year and that during such a period, the yields are reduced by approximately 25% in that year. Bill decided to account for an expected reduction in yield [John Burland, 2013c].

Protection from wind by "shelter belts" (wind breaks) is also necessary for olive trees for a number of reasons: they reduce moisture loss from the soil, enable pollinators to pollinate more easily, enable younger trees to grow more quickly and prevent wind damage to the trees and fruit. The typical trees for shelter belts on olive plantations are eucalyptus and poplar, both fast growing broad leaf trees. In the Nelson region, the prevailing wind comes from the south, and Bill estimated the length of shelter belt required to be 300 metres. The trees should be planted at a spacing of 1.5 metres and the cost for each tree is expected to be \$5 (volume discount price) including GST for planting it \$1 [Cedar Lodge Nurseries].

PRODUCTION

The production stage consists of the following major activities: preparation for growth, growth and protection and harvesting.

The Nelson area is predominantly agricultural, with no scarcity of experienced farm labour and companies which provide all the services necessary for growing olives. The standard rate for farm labour in the area is \$25 per hour.

When young trees are planted, they need protection from rabbits and support for the first few years until their roots are stable and they can stand on their own. This is provided by stakes, ties and shields. The cost of material and its installation is estimated to be \$1 per tree.

Unfortunately, not only people enjoy olives. New Zealand has a varied and voracious birds population, which can reduce the yield considerably. One effective way to minimise this loss is to use bird scaring devices (BSD), the most common being commercial LPG devices. One device is necessary for every 10 hectares and the initial cost of such a device is estimated to be \$1500 with annual running costs of \$100. Even using BSD, a loss of production due to birds of 6% should be expected. In the first and second year, no protection for birds is necessary, as there will be no or only a very small yield.

After intensive discussions with a number of experts, Bill decided to use a minimum of organic fertiliser. The soil has to be tested each year prior to the growing season to determine the appropriate type and amount of fertiliser to use. In the first two years, the emphasis is on promoting strong tree growth. Later, the emphasis changes to improving the quality of the fruit. The cost of the soil tests will be approximately \$70 per hectare.

In the first year, the land needs to be treated with a standard lime fertiliser at a rate of 2.5 tons per hectare and a cost of \$60 per ton. In the second and subsequent years, the soil will need treating with a special fertiliser ("Olive Tree Mix" for example), which has additives such as boron and magnesium. On average, 300 kg are required per hectare and the cost is \$1000 per ton. These prices are for purchase and application by a fertiliser subcontractor.

Olive trees, like all trees, are subject to attack from pests and diseases, especially the "peacock spot" which is similar to the black spot in apples. Therefore, the trees need to be checked occasionally and treated by spraying, if needed. The estimated cost for checking and treating the trees each year is \$300 per hectare.

Each season, the trees need to be pruned to develop their branch structure which maximises their yields and facilitate access to the fruit. The time required for pruning each tree depends upon the age of the tree. Little or no time is required for trees between 1-2 years of age, for trees 3-4 years old 2 minutes per tree is necessary, for 5-7 years 5 minutes and 10 minutes for trees older than 8 years. Farm labour will be hired to perform this activity [John Burland, 2013c].

To enable the trees to grow strongly, the area between each trees should be kept free of any undergrowth, achieved by regular mowing. The major growth period is from August to April. During this period, the grove should be mowed once a month, except for October till December when it should be mowed twice a month. The cost of an appropriate mowing machine is estimated to be \$8,000. It is estimated that during a season, 2 hours are needed to mow a hectare of land using normal farm labour. The cost of general materials (petrol etc) is estimated to be \$100 per annum.

The cost of electricity, primarily for irrigation and general use, is estimated to be \$85 per hectare.

Harvesting the fruit is performed by machines, which gather the fruit by shaking the tree and collecting the fallen fruit in a special flexible membrane. The cost for harvesting is not dependent upon the yield, although the yield is dependent upon the age and of the tree and the climatic conditions in that season. The price for sub-contractors to perform this is expected to be \$5 per tree. In the first year, harvesting does not need to be considered. In subsequent years, even though the yield is small at the beginning, harvesting is needed to promote the production of fruit in the next year.

The yield of an olive tree depends upon its age, with a tree normally achieving a stable maximum yield in its ninth year. Table 1 indicates the expected yields of an olive tree for the first 10 years, after which the yield remains stable. It is generally assumed in the industry that for good quality oil, 1 kg of fruit will yield 150 ml of olive oil [John Burland, 2013c].

 TABLE 1

 MAXIMUM YIELD PER TREE (KG) WITH RESPECT TO ITS AGE (YEARS)

Age (years)	1	2	3	4	5	6	7	8	9	10
Yield (kg/tree)	0,0	0,5	1	3	8	15	20	25	30	30

Source: [John Burland, 2013c]

DISTRIBUTION AND SALES

Olive grove owners have a number of options to sell their harvest:

- 1. Olives can be sold unprocessed in bulk to a commercial olive pressing plant (COPP), which is then responsible for processing and selling it.
- 2. Olives can be commercially pressed and the olive oil sold in bulk to a wholesaler or cooperative.
- 3. Olives can be pressed, the olive oil bottled and sold under the grove's own brand, either directly to the public, to restaurants or via specialist channels.
- 4. A grower might decide on a hybrid marketing model, combining 2 or more of these options.

(1) Olives can be sold in bulk to a commercial olive pressing plant (COPP)

Selling the olives in bulk immediately after harvest has the advantage of lower costs, an immediate cash return and no further involvement in the process. The grower harvests the olives and then sells them immediately to a buyer directly from the grove at the current (spot) market price.

The disadvantage is that a grower is selling a low-value commodity and is exposed to the risks of extreme supply and demand swings of a climate-dependent and predator-vulnerable crop, with typical prices ranging from \$0.25 - \$0.50/kg. In order to mitigate this risk, a grower can close a forward contract to sell his crop at a future date at a guaranteed price.

A forward contract is an agreement between a producer and a buyer to deliver a defined quantity and quality of goods at a defined time in the future. The fruit quality is dependent on the following attributes: variety, stage of ripeness, size, percentage of oil, extent of bruising and the time lapse between harvesting and delivery to processor. It has advantages for both parties: the buyer has a guarantee of supply and purchase price stability and the seller has a guaranteed income. There are also disadvantages for both parties: the buyer must accept the contracted quantity even if the demand for his product declines. A glut on the supply market might also mean that the product is available on the spot market at a lower price. The producer also has a potential disadvantage of lost opportunity income if the spot price at harvest time is higher than the contracted price. The producer is also required to fulfil the minimum quantities defined in the contract, even if his production does not cover this. Buyers protect themselves by defining a bandwidth in the contract. In this case, they will purchase, for example, between 75 and 100 tonnes for \$0.50/kg and accept excess production i.e. anything over 100 tonnes (known as "overage") at a discounted price of \$0.40/kg. In a poor year, the producer might only harvest 70 tonnes and is still required to supply 75 tonnes, meaning that the 5 tonnes difference has to be bought from another producer at a spot price of \$0.60 - obviously higher due to the smaller overall harvest. For these

reasons, sellers often take a hybrid approach, selling a proportion of their production on a forward contract and hoping for higher prices for the remainder of their crop at harvest time.

(2) Olives can be pressed and the oil sold in bulk to a wholesaler or cooperative.

In this option, the growers adds value by having the olives pressed and selling the bulk oil to either wholesalers or cooperatives, who then bottle and market the product under their own brands. The value-added component is derived from the quality of the pressed oil, which influences the selling price to the bottler. The grower has the same costs as for Option 1, with additional costs for transport to the press (\$40/ton) and the cost of pressing the olives (\$0.55/kg). The oil is sold as a commodity at a variable price (between \$10 and \$15/litre) according to quality, sensory and chemical composition and the current supply and demand.

(3) Olive oil is sold under the grove's own brand.

Bill could register "Kopara Extra Virgin Olive Oil" as his brand name. "Kopora" is the Maori name for a New Zealand native bird with olive green plumage. The costs for brand registration are \$220 including GST [Olives New Zealand, 2012].

This option positions the business firmly in the high-value/discerning consumer market segment. This will require bottling the "Kopara" olive oil and selling to a local customer base via the local farmers' markets, directly from the grove and to restaurants and delicatessens.

Gaining certification from a recognized authority such as Olives New Zealand is imperative for new entrants in this market segment. The ability to brand the product with the Olives New Zealand logo combined with strict labeling and packaging requirements demonstrates the oil's quality attributes to consumers. For certification, the oil undergoes both chemical tests to stricter standards than those applied by the International Olive Council (IOC), and a sensory analysis is performed by an IOC-approved Sensory Panel.

The first 3 years of operation do not generate sufficient harvest to make commercial sales viable. The olives will be pressed and bottled for own use and to provide samples to local retailers and restaurants. Once the grove is producing sufficient fruit quantities, the oil will sold directly to the public at local farmers' markets. Farmers' markets in New Zealand differ significantly from the European markets which have a long tradition as a place of interaction between producers in the countryside and townspeople, a place where people do their "normal" fruit, vegetable, meat or cheese shopping. In New Zealand, they tend to be more focused on value-added products and target a more affluent consumer segment with a high disposable income [Matakana Village Tourism Website].

The usual method of selling olive oil is to provide cubes of ciabatta or baguette and a variety of olive oils for visitors to taste and hopefully convert them to regular customers.

This distribution channel delivers higher prices, but also generates higher costs. The business will need to buy a bottling plant (\$5000) and bottles (\$1.50 for 250ml, \$1.75 for 500ml and \$2.00 for 1000ml), and manpower will be needed to fill and label the bottles. The bottling plant manufacturer claims that 2 Full Time Equivalents (FTE) can fill 200 bottles per hour.

There will also be costs for selling the oil on the market. The cost to buy a market stall is \$1500 and the company running the market charges \$45 rent per day. The stall is staffed with 1.5 FTE for 6 hours per day. The transport costs for the stall and products to and from the market are estimated to be \$20 per event. The market operates on Saturdays for 50 weeks a year.

40% of production is sold in bottles of 250ml, 500ml and 1000ml at the respective GST-inclusive prices of \$12, \$16 and \$30. The sales distribution per bottle size will be 30%, 50% and 20% respectively. 50% of the bottle sales are direct market sales, with the remaining 50% being sold to restaurants and delicatessens at a 30% discount.

The recycling ethic in New Zealand is strong and customers have their bottles refilled at the market or at the grove. Approximately 60% of production will be used to refill customers' own bottles, cutting out the bottling process step and is discounted by \$2 per litre.

(4) A hybrid option approach.

From his previous commercial experience, Bill is aware that it takes time to build a stable customer base and that a secondary distribution channel for the oil that he cannot sell directly to customers will be needed. A local co-operative is interested in purchasing his excess production and Bill could sign a

contract with the co-operative, although the price has not yet been negotiated. To account for this, Bill proposes a distribution of production usage as given in Table 2.

Year	1	2	3	4	5	6	7	8	9	10
Yield	0	0	0	50	50	50	45	40	35	30
for co-										
op (%)										
Yield	0	0	0	50	50	50	55	60	65	70
for own										
brand										
(%)										

TABLE 2DISTRIBUTION OF PRODUCTION WITH RESPECT TO OPERATING YEAR

Source: Authors own forecast

BILL'S DECISION

After collecting and validation the information Bill recognised that he now understands the olive oil business much better than he did before he started thinking about it as a business option – indeed he appears to have become an expert in it. In particular, he has been able to limit his options for sales and distribution, and at the same time keeping a certain amount of flexibility for possible changes in the environment in the future (hybrid model).

There are, however, a number of questions which Bill needs to answer to be certain that he can realize the business, generate a reasonable return on his investment, and propose a convincing business model to the NZ government.

- I. Which of the operational models should be selected as the final operative business plan, and subsequently submitted to the NZ government?
- II. A major issue is whether Bill has enough financial resources to implement this plan. For this he will need to know whether the agreed credit limit is sufficient for developing the operative business, or whether he will need to place more money at the disposal of the business during its development.
- III. It is probable that in the initial years the operational business will not yield an operational profit and Bill will have to live on his own resources. To determine how much he will need depends upon how long this period of time is, i.e. he needs to be able to estimate the duration of this period.
- IV. The final question to be answered is whether his investment, assuming an investment period of 10 years, will be financially worthwhile? This depends to a large degree upon the value of the operational business when it is sold, a difficult item to quantify exactly, none the less an estimate can be made.

Based upon the information given, should Bill decide to continue with the project?

ENDNOTES

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