



***A Comprehensive Strategy for Value-Driven Utilisation
of Douglas-fir Small Diameter Roundwood***

Submitted to:

**Rob Kozak, PhD
Ken Day, MF RPF**

Submitted by:

**Dallin Brooks
Anteneh Tesfaye
Lori Sinayov
Conrad Brander
Bryan Davis**

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Executive Summary

In Canada, craft activities are estimated to support some 22,600 individuals, generating \$727 million, with exports approaching \$100 million dollars annually. Craft activity in the United States generated \$13.8 billion US dollars in 1999 (CMAQ, 2003). We intend to penetrate into this market by leveraging the competitive advantage provided by a supply of low cost fibre from the University of British Columbia Alex Fraser Research Forest and the marketing opportunity provided by the Vancouver 2010 Winter Olympics.

Total estimated Olympic retail sales revenue that Sydney and Athens generated was approximately \$500 and \$638 million US (BC 2004). Our goal is to sell \$1.8 Million CDN worth of merchandise in 2010 with our largest market being Olympic licensed merchandise sold during the Olympic Games. We intend to use our crafted souvenirs as a means to create value for the consumer, by processing the material into unique products that will be based on memorabilia and practical application. Estimates for the impact of the 2010 Games located in Vancouver are in the \$3 billion CDN range

Our first action is the purchasing of a facility near Williams Lake for manufacturing, sorting, and bucking. Logs will be optimized for either sales to local sawmills or processing in-house. This will ensure gradual process integration from harvesting to manufacturing and allow for growth at a predictable and manageable rate. Thus moving from outsourced log contracting to in-house harvesting is planned to reinforce our competitive advantage by further reducing material costs and increasing labour flexibility.

The facility is listed at \$255,000 CDN, our other capital expenditures that will be purchased in the next two years is estimated to be \$112,000 CDN. The net working capital for the start up of our operations is calculated to be \$312,000 CDN. Using a discount rate of 16%, the net present value of the cash flow is \$126,000 over a 10 year period. The projected internal rate of return is 19.4% and the return on assets is 37.4%.



Introduction

Purpose and Mission

The Alex Fraser Research Forest operated by the University of British Columbia is responsible for the removal of small diameter Douglas fir that poses a threat to the forest ecology by creating fire hazards and compromising mule deer winter habitat. Therefore a distinct opportunity can be leveraged for the creation of a profitable business with the ability to make an ecological contribution.

The small diameter Douglas fir offers a steady and reliable wood supply that can be used for manufacturing purposes at low cost. This wood fibre has some excellent qualities, including tight grain and small knots. Ken Day, Manager of the Alex Fraser Research Forest states that, “there is no identified market to absorb the significant flow of small pieces from commercial thinning operations. Considering that there are 101 mule deer winter ranges in the Cariboo Forest Region, this volume represents a significant opportunity . . .” (Day et al.2002).

Intreegrated proposes to use the upcoming local opportunity of the 2010 Vancouver Olympic Games as a springboard to enter the world market of wooden souvenirs by creating a sustainably-produced Olympically-licensed line of designer souvenirs that will be exclusively available through local and official Olympic retailers and vendors. The games will provide a reliable high-demand market for a specific period of time the revenue of which will cover our start-up costs for a manufacturing facility.

The use of ecologically sound resources available at the Research Forest will both meet the demands of the Olympic market and ensure we gain a competitive advantage in raw material costs and environmentally green image. Intreegrated will be able to capitalize on these opportunities to create a profitable business – and also create opportunities for significant stakeholders. These stakeholders include the town of Williams Lake, which will be our base of operations, the employees that are trained in complete wood processing and the Research Forest who hope to convert stands to mule deer habitat.



Industry Overview

Craft Industry Size and Make-up

Many manufacturing industries have their origins in crafts, since the craft industry is often categorized by the primary materials used such as wood, metal, clay, leather, fur, or cloth. The craft sector is firmly rooted in traditional products and production methods, but it also changes to reflect advances in processes, materials, and crafts technique (CMAQ 2001).

The industry is comprised of businesses involved in creating, producing, marketing and distributing craft products and services. In Canada, crafts are generally produced in large workshops (20 or more employees) or by artists and artisans in small studios or at home. Contemporary crafts include products ranging from the unique to the decorative to the utilitarian and encompass work in media such as ceramics, fibre, stone, metal, glass, wood, leather and paper (CMAQ 2003).

In Canada, craft activities are estimated to support some 22,600 individuals, generating \$727 million, and exports approaching \$100 million dollars annually. The United States is the largest export market for craft made in Canada. In 2001, the Crafts Organization Development Association (CODA) released the results of the first survey of craft activity in the United States. The results indicated that craft activity in the United States generated \$13.8 billion US dollars in 1999 and employed between 107,000 and 127,000 craftspeople (CMAQ, 2003).

Cultural tourism specifically represents an area of significant economic benefit to local communities as demonstrated by the impact of events such as the Olympics, Commonwealth Games and International gift fairs. The economic impact of the 2000 Sydney Games was approximately \$1.6 billion CDN, estimates for the impact of the 2010 Games located in Vancouver are in the \$3 billion CDN range. In Victoria, at the Commonwealth Games in 1994, \$900,000 was distributed to local arts groups to promote cultural programs in the arts during the games and into the future (CMAQ 2001).



The Craft Sector at a Crossroads

The craft sector in Canada has been building capacity and strength by combining efforts and joining together. Through the Canadian Crafts Federation (CCF), provincial councils have been able to strengthen the understanding of craft within provincial and federal governments, and are beginning to convey a sense of the potential of craft as both cultural expression and a viable means to earn a living (CMAQ 2003). With the emergence of results from recent research into the craft industry, the Canadian government is now aware of the sector's potential for profit and growth. The next step is the choice of a direction at the crossroads: investment or stagnation (DFAIT 2003).

Trends within the Industry

In Canada, between 1990 and 1995, the number of part-time artisans and craftspersons went from 21,860 to 18,055, a drop of 17% over the period, and average part-time earnings dropped by 21% from \$13,480 to \$10,606. Between 1990 and 1995, the number of full-time artisans and craftspersons dropped by 33% from 8,715 to 5,880 and average earnings of full-time artisans and craftspersons dropped by 17.2% from \$20,452 to \$16,943 (CMAQ 2001). On the other hand during the period 1998 to 2002 the number of establishments in this sector had grown by 2.6%. In the same period there was also a doubling in the revenue generated. The overall picture is comparatively the same for both Canada and British Columbia (Statistics Canada 2005). In addition, one of the trends in the crafts market is the increasing specialization of craftspeople in only one or in a few market segments. This represents a major change, since a large number of artisans have traditionally been generalists. Craftspeople are increasingly focusing on their strengths in creating and producing, while leaving to the retailers the tasks related to sales and promotion. (CMAQ 2001).

Areas of Growth

There are five major market segments in the crafts industry: the tourist segment, the gift segment, the boutiques and galleries segment, the catalogue sales segment and the electronic catalogue segment. The tourist segment, whose demand for high quality,



uniquely Canadian items to use, to wear, or display in their homes, should grow the most in the next ten years due to increased popularity of travel. Electronic catalogue sales or E-commerce is another emerging segment, increasing the geographical scale of activities (DFAIT 2003).

Current Industry Wide Research and Development

In addition to federal initiatives to research the craft industry's potential for profit; provincial crafts councils have developed strategic plans that include goals and objectives for improving crafts marketing opportunities. The Crafts Association of BC recently participated in a mission to the San Francisco International Gift Show hoping to find more information about border policies, pricing, and costs of participating in shows (CMAQ 2001).

Differentiate our Company from the Rest of the Industry

The raw materials used to produce our high quality crafts are extracted from areas where their removal is of benefit to the ecosystem. Making use of wood from dense stands being converted to mule deer habitat is a desirable feature as the wood is not wasted and wildlife habitat is enhanced. In addition, upon entry into the sector, the company's affiliation with the 2010 Olympic Games further promotes its success.

Competitive Advantages

Traditionally, crafts have been produced at small scales due to their hand crafted nature. Changes in technology have affected the crafts sector in at least two significant areas, production and marketing/sales. Though mass production machinery is considered by most to be outside the bounds of the crafts sector, craftspersons are generally open to working with new or improved materials and production techniques that retain the character of handcrafting (CMAQ 2001). Our firm's automated production line gives us the competitive advantage of being able to supply large volumes of our products relatively quickly. These products will be differentiated by the fact that they will have



practical applications in addition to memorabilia value, although some will have memorabilia value exclusively.

In addition to an ecologically sound source for raw materials, the need to convert these forests to mule deer range ensures the timber is supplied at the lowest stumpage rate possible in British Columbia, \$0.25/m³ (Day 2003). This lowers our costs and therefore increases our profit margin.

Lastly, the Olympics are an excellent starting point for a company to begin in the industry, ultimately assuring the ability to set up the infrastructure needed to continue as a leader in the sector into the future. As well the Olympics are far enough away that we can firmly establish ourselves to meet the production quantities required for the event.

Company's Segmentation

Our focus is on the tourist segment of the industry to meet the needs of Olympic retailers, with a change of target markets in the long term. The development of new and more extensive marketing strategies and a differentiation of our product line will enable us to flow from an Olympic-based market to a more general Pacific Northwest souvenir line.

Product, Service and Process

Product Descriptions

Our crafted souvenirs will be divided into two different subsets. We intend to use our crafted souvenirs as a means to create value for the consumer, by processing the material into unique products based on memorabilia and practical application. The original product line will draw inspiration from the events of the upcoming 2010 Olympic Games in Vancouver. The initial progression for all products from the harvesting will be a standard manufacturing process, followed by a mass customization process. These souvenirs will consist of ten base product lines, with a multitude of designs that can be carved during the post-manufacturing process, to further add value to the products and provide additional product differentiation.

Olympic products will include:

Podium boxes: This product is a jewellery-box style design, based on the 2010 Olympic podium. The primary customization will be the image of the Canadian flag, visible when looking down onto the podium box. The centre of the flag, the maple leaf, will be burnt upon the top tier (the gold medal winner's) of the podium. The two vertical bands of the flag will be lightly stained upon the other two tiers of the box. This box has a removable top that covers three small pockets that can serve many practical uses, including storage of jewellery, keys, change or other small objects.

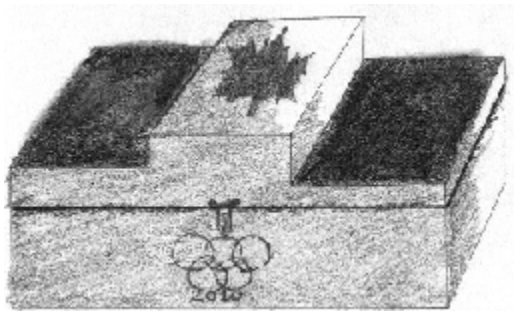


Figure 1: Podium box design



Other customized surface designs will include the Vancouver Olympic Committee's 2010 logo, the ubiquitous five-ringed Olympic symbol and some different Olympic event logos. Limited runs may be done for events in which Canadians win medals with the athlete and event information on the box as well.

Hockey Pucks: This product will be another effective way for Intreegrated to increase recovery, as well as add value. The difference between the coasters and hockey pucks will be that the pucks will be thicker and also have had the bark removed. These will increase our recovery and provide cheap souvenirs and coasters with the Olympic designs again, customized based on events or other related logos.



Figure 2: Hockey puck design

Olympic wooden game boards: This line will include games such as chess, crib, checkers and backgammon as well as the relevant game pieces for each. This line will be our high end product, and will serve to be our most value-added manufacturing.



Figure 5: Downhill skiing figurine design

Given the magnitude of the business associated by the Olympics, we expect that this event be the major focus at Intreegrated. Nevertheless, non-Olympic products will be developed and produced. In fact, it is expected that these will be critical for the financial health of the business until late 2008, when major Olympic production can begin. This department will focus on being able to win medium sized contracts for Douglas-fir based products and on limited run artistic representations. This department will be for the local tourist community and art dealer locations.

Drink Coasters: This product is very rustic; it features a very straightforward manufacturing process. This will allow us to increase our overall recovery, as the recover target for the lengths of the log that we are using for coasters will be 90%. Given the similarities between this product and hockey pucks, product will be essentially interchangeable. When not producing hockey pucks, Intreegrated will seek to produce coasters featuring the names of local establishments and the logo of beverage companies. The coasters will be decorated by burning or staining in customer's logos and phrases.



Figure 6: Simple coaster design

First Nations designs will also be able to be worked into the drink coaster designs that will be an attractive item both during and after the Olympics.



Figure 7: Coastal First Nations Drink Coaster

Coastal First Nations Totem poles: Intregrated will look to the expertise of local indigenous craftspeople in creating totem pole designs that are compatible with industrial manufacturing. This item along with our masks will represent our higher end products and will be painted by hand either with brushes or spray equipment according to trials. Each approved item designed by an employee will be manufactured on a limited run to a maximum of 500 and the profit will be shared with the employee up to 10%.



Figure 8: Coastal First Nations Totem Poles

Coastal First Nations Masks: Local indigenous craftspeople will also be involved in the creation of a limited number of masks. These masks will also be hand painted and of a limited edition with profit sharing with the artists.



Figure 9: Coastal First Nations Masks

All First Nations designs were obtained from: www.douglasreynoldsgallery.com/

Gilded Masks and Totem Poles: There is a possibility that we could introduce specifically for the Olympics a very Limited Edition numbered run of gold and silver gilded masks and totem poles to be marketed and displayed in exclusive locations for the purpose of promoting the Intreegrated name and goods to a wealthier clientele. This could potentially lead to future contracts and diversification of markets based on our current manufacturing facilities. Other customized products and contract work will also be done upon request if the price is worth the effort. The equipment to do such work will be available to all employees.

Product Quality

The overall quality level is intended to be mid-range for the higher volume products. This will facilitate lower cost production and in turn will drive higher sales volumes, and also allow for effective mass production. The trade-off between the two variables will not necessarily have to be so stark because of the intended interaction between use of advanced automated processes and human customization. Intreegrated intends to have



two general classes of goods. The first class is goods that are manufactured using strictly automated processes and consequently will forego some quality aspects such as subtle intricacies for ease of manufacturing. The second class is goods that will be much more labour intensive to manufacture, such as mask and totem poles. These require significant human customisation and more elaborate manufacturing processes which complicate manufacturing.

The intended use is primarily decorative. There is no mechanical stress placed on the product by its intended use, and the day-to-day wear and tear will likely be minimal. The price performance ratio will be assessed qualitatively. Some products will be designed for higher end uses and quality will be taken into account, however, the primary focus of Intreegrated over the forthcoming five year period will be on low cost, high volume mass customization.

Technology

Additional technological development is unnecessary for the Intreegrated venture. Conventional and established means of processing will be used in the log breakdown process. Initially, this includes using hand tools and labour to remove the bark and cambium layers and using a thickness planer to establish an initial flat surface on the log (a 'reference plane': used to ensure the precision of subsequent processing.) Subsequent processing will be dependant upon the item sought – in some cases the log will be squared on the remaining three sides using an industrial table saw, left as is, cut transversely ('bucked') to shorter lengths, or any combination of the three. Flexibility to counterbalance the maximization of both product value and fibre recovery will be a critical element in Intreegrated's success.

Nevertheless, the key to the operation will be the computer-numerically-controlled (CNC) router. This machine is very flexible and will facilitate Intreegrated's ability to receive custom orders in addition to being able to mass produce intricate and high-precision products.



Process Flows

The beginning of Intreegrated's manufacturing process will be different from that of many other value-added lumber manufacturers. First, the Intreegrated manufacturing process is designed to bring the highest levels of satisfaction to the employees by involving them in all stages of manufacturing, from harvest of timber to the final product. Consequently, we will consider moving from outsourced log contracting to in-house harvesting. Our venture would benefit by reinforcing our competitive advantage by reducing material costs and increasing labour flexibility. At present, 90% of our fibre costs are directly attributable to hauling and harvesting costs and hence leaves room for improvement. Nevertheless, Intreegrated does not commit itself to using this method immediately or indefinitely. In the event of a more economical third party becoming available, this will be likely pursued.

Another advantage that will be realized by in-house harvesting is labour flexibility. Intreegrated's management will optimize the labour utilization so that when manufacturing rates are slow, employees will be able replenish inventories rather than spending unproductive time in-shop. We are confident that using our own tractor (that has been modified with extra-wide tires so as to minimize ecological impact) to skid trees to the landing area will be more cost efficient. This tractor will have to be purchased for use around the facility in any case, and so using it in this manner does not require additional capital costs. Upon reaching the landing, logs will be transported by rental logging truck to the manufacturing site at Mcleese Lake.

The 51.9 acres at the manufacturing site will also be used as a log yard and there logs would remain up to one year for drying. This will include a sort by small end diameter which will open the possibility of selling larger logs to local sawmills. Small ends that are to be used for rough coasters would be measured and bucked off by a chain saw to be processed separately. Once the bark has been removed the logs would then be hauled into the shop where they would be visually graded for best possible products. Once in the shop, the manufacturing processes listed in Appendix C will be followed.



Customer Guarantee

Given that Intreegrated's products are non-structural, have limited moving parts and are relatively inexpensive, warranties will not add enough value to be worth implementing. For low cost souvenirs, methods of augmentation such as warranties, elaborate packaging, accessories are not value-added pursuits. By the same logic, there will be no technical support.



Marketing Plan

Market Share

The total estimated Olympic retail sales revenue for Athens 2004 was \$638 million US, and the Sydney 2000 games generated ~ \$500 million US “in retail sales of Olympic merchandise, becoming a retail phenomenon by the time of the Games and one of the most powerful brands in the Australian marketplace.” (IOC 2000) Historically, demand for merchandise has been increasing with each Olympics and it is not unreasonable to assume this will continue.

The Sydney 2000 licensed merchandise generated retail revenue of approximately \$30 US per person in Australia. An average of 45,000 customers passed through the doors of the Olympic retail Superstore in Sydney Olympic Park per day. The Superstore surpassed its budget of \$7 million US by Day 9 of the Games.

The Economic Impact of the 2010 Winter Olympic and Paralympic Games report found that the average length of stay will be for 7 nights in 2010 and 5 nights in other years (IC Inc. 2002). Spending per day will be between \$200 and \$329 per day with an average of \$63 per day allocated to retail expenditure. The total retail merchandising expenditure excluding coin sales is expected to be \$981 million CDN.

Our goal is to sell \$ 1.8 Million CDN worth of merchandise in 2010 which is 0.2% of the overall Olympic licensed retail market share. We are confident this is a reasonable target.

Promotional Objectives

We will primarily try to promote our goods through sustainable Olympic literature, websites and information boards located with our merchandise. The 2010 Winter Olympics will be a highly branded and competitive marketing environment and we do not have the resources to try to promote our name in a way that could compete with the major sponsors. However, while we intend not to do any significant paid advertising, all available opportunities for free publicity will be sought.



Our efforts to promote Intreegrated's brand will be limited to retail areas and when possible, official Olympic publications. Otherwise, marketing will be of limited scope at Integrated, as we will function as a producer and wholesaler, and elect to leave consumer marketing to the retailers carrying our products.

Glossy, attractive 3"x3" information squares affixed to our products will provide promotional information about the progressive policies and responsible stewardship at Intreegrated.

Distribution Channel Objectives

Intreegrated's goal is to have some part of our merchandise line available in every official Olympic sales venue. However, our largest market during the Olympic Games will be in the Olympic Superstore where we will have a booth to display and sell all our goods. In addition our goods will be available through our sales website and the Olympic retail sales website. Our higher end goods will be targeted through retail stores in five-star hotels such as the Four Seasons, Hotel Vancouver and Chateau Whistler. We will also target partners of Olympic merchandise such as Roots to display our merchandise to raise our visibility as well as create a dynamic and interesting shopping environment for partner shop customers.

Order processing and delivery

Our product will be delivered to Vancouver and Whistler from our facilities located in Williams Lake. Travel time between the destinations is approximately six hours so we will have a targeted delivery time of no more than two days for large runs. With overnight delivery on specialty items such as podium boxes with athletes names when they win a gold medal. We will coordinate shipping direct to retailers and keep in contact with them on a regular basis so extra stock can be delivered before it runs out in-store. Product distribution will be done via truck, with appreciable volume discounts and premiums, if orders are above or below average, respectively.



Research and Development Objectives

Production is scheduled to begin in 2008. When the first round of products is turned out management will carry out targeted focus group sessions on the willingness of the public to buy our products for the listed prices. This will result in either a change of tactics or an affirmation of our chosen strategies and allow us to evaluate our standing in the local souvenir markets.

We will have a limited edition high-end product line of gold and silver gilded totem poles and masks. We will create two or three prototypes and have them displayed in art galleries and Hotel display cases open to offers. Based on interest solicited, feedback and offers made, we will determine if such a product line is feasible and profitable and decide pricing based on our findings.

Competitive Advantages

Intreegrated will be able to gain competitive advantage through both tangible and intangible factors. The tangible factors will be obvious; we offer aesthetically appealing, quality products in select Olympic-branded markets that will be available at reasonable prices. However, perhaps the key advantage is in how the management team intends to actively seek-out Olympic retailers and other distributors. We intend to combine our already strong products with the 'green' sustainable background that accompanies Intreegrated. More specifically, we intend to educate suppliers as to the origins and founding principles of Intreegrated. Additionally, these principles also reconcile very well with the sustainability principles enconced by the BC Provincial government in their strategy guide (GovBC 2004).

Advantage can also be gained through marketable environmental, economic and social benefits such as:

- Encouraging recognition about the leadership role taken by Intreegrated in reclaiming the foraging grounds of mule deer by removing waste wood.



- Sustainably stimulating economic growth by through value-added wood processing.
- Seeking involvement and engaging in partnerships with First Nations people in all levels of the company. As an additional benefit, this will make Intreegrated more attractive to future investors by hedging against some of the ethno-economic instability that is currently a factor in British Columbia.

Material Costs

The chief benefit would be realized through minimized harvesting costs. Currently, the fibre acquisition cost structure is unfavourable, essentially negating the advantage of lower stumpage. The cost projections of approximately 66% of fibre costs being attributable to logging to roadside is something Intreegrated will assertively investigate in the near future. Locating the manufacturing facility as close as possible to the fibre source serves to minimize log hauling costs.

Creativity

Intreegrated will benefit from having a vibrant and creative management team and our hourly employees will also be encouraged to provide their input and insight. We intend to facilitate this by making employee stocks available at a 40% discount along with profit sharing on the most labour intensive and value-added employee projects.

Workforce

Intreegrated intends to maximise its profitability through forging strong, genuine relationships with its employees. Human Resources and Skill Development Canada offers a Labour Market Partnership to worthy businesses that actively seek to create employment and human resources growth and stability. We feel that Intreegrated will be able to make a strong case for this \$1.0 million fund (HRSDC).



Market Segmentation

Intreegrated will have two temporally differentiated market segments. The Olympic souvenir line followed by a generic souvenir line and the limited addition artistic pieces. The Intreegrated product family is designed to be appealing to as wide a range of Olympic visitors as possible, thus the wide range in design customization and product line pricing. Products will only be physically marketed in Vancouver and Whistler, yet these products will also be available through on-line retailers for people in all areas of the world.

As shown in Figure 10, geographic variables, rather than demographic variables, will further segment customers from the general population. Goods will be physically marketed in Whistler and Vancouver, both before and during the 2010 Olympics. This will allow freight costs to be minimal, as shipping will be confined to within the province of BC. Goods will be marketed on-line, before, during and after the 2010 Olympics through independent firms, such as Amazon.com and Ebay.com. This puts the burden of shipping onto the customer, making international breadth possible for a young firm like Intreegrated.

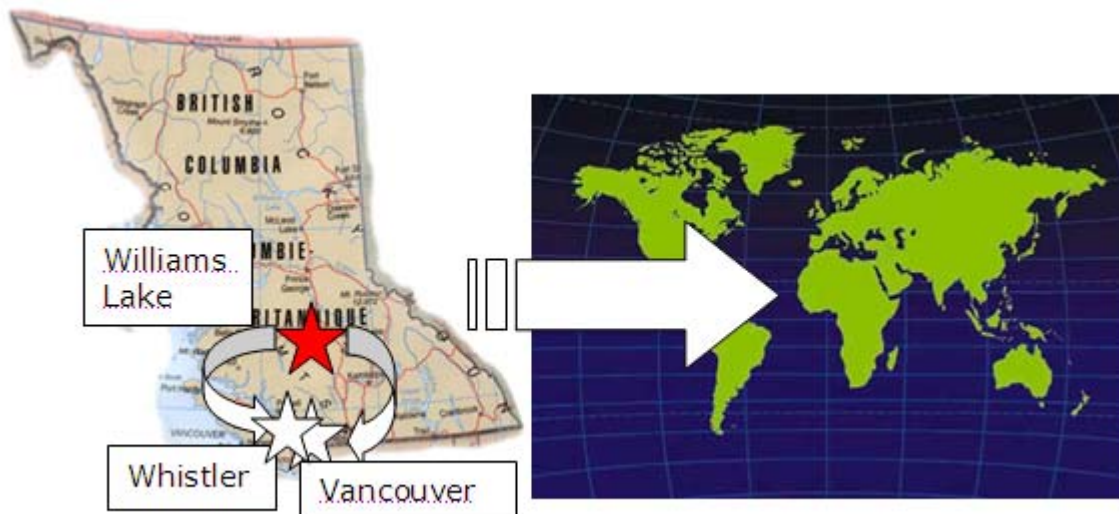


Figure 10: Geographical variables



Psychographic variables will be used to a lesser extent to further segment the Olympic market. Intreegrated is sensitive to its customer's Olympic enthusiasm, thus, their needs will be well served by products that will:

1. Be a memento of the 2010 Games
2. Serve a functional purpose
3. Embody 'Canadian' authenticity – featuring solid wood designs, with highlighted grain patterns and a warm aura

Potential Opportunities and Problems

Social Objectives

The fire risk is such that the Auditor General of British Columbia wrote a report assessing the management of interface fire risk in which he states that BC has the highest risk of injury and property loss from interface fires in Canada (2001). Yet the imperative of managing the urban interface fuel hazard is jeopardized by the economic reality of the small log size that exists in much of the forests of the dry interior. Our plan supports the proper management of small diameter logs in the manner that is best for wildlife values and the thinning of forest density.

Cultural

It is our intent to support First Nations development through our project by finding willing partners for the design of some of our products, as well as recruiting people from local First Nations communities in the Williams Lake area to help run our operations. In this way we will support the advancement of First Nations economic, business and artistic skills.

Political

The current climate of BC is very supportive of both sustainable initiatives as well as bids that support the Olympics. We are confident that the current government will be



supportive of our efforts and we will have no unusual obstacles to overcome in a political sense.

Legal and Ethical

Our position from both a legal and ethical standpoint is sound. We will be supporting local communities through job creation and investment as well as creating sustainable and certifiable products.

Marketing Strategy and Objectives

- **Marketing Strategy**

Our marketing strategy has two main components: exclusivity and certification.

Exclusivity

We plan on positioning ourselves as one of the main suppliers of official Olympic souvenir merchandise. By becoming an official Olympic goods creator, we will be able to tap into a market that already has worldwide brand recognition, a brand that will be sought after as a link to the emotions and events that mark the Olympics. This will give us a distinct advantage over non-Olympic goods as well as superior product placement throughout Vancouver and Whistler.

We will differentiate ourselves from the other types of official merchandise by specializing in wood created products that will be distinctly Canadian, original and of high quality. Our products will be displayed together in merchandizing stores and the cohesive line-up of related but distinct goods will stand apart from other stand-alone souvenirs.

Certification

We plan on seeking the creation of an Olympically branded certification scheme for sustainable products sold at the Olympics. If accomplished this will give our products a



market advantage over other Olympic merchandise and help to ensure the sustainability of all products and services utilized by and for the Olympics.

The principals of sustainability have already been embraced by the Olympic committee as demonstrated by their adoption of the LEED building certification scheme adopted for all Olympic venues being built. We believe that it is likely they would consider such a proposal which would put our products in a superior market placement. Failing that initiative, we could seek a recognizable brand of third party certification such as the Forest Stewardship Council (FSC) through special application to obtain a certification advantage.

- **Marketing Objectives**

Price

Our pricing strategy is essentially medium-to-high volume and medium-to-low margin. The goods will be affordable, but the low material costs and efficient production process will allow for low cost manufacturing. Thus, our affordable goods will generate strong margins. The prices for our products have been set according to what we feel the market will be willing to absorb during the Olympics for our special product types. Price adjusting will occur in 2008 following the focus group attitudes towards our products and their pricing levels. Pricing is a flexible issue when we can stay competitive and profitable.



Organization of the Business

Formal structure of the company

Tax Status- Our business qualifies as a Canadian Controlled Private Corporation (CCPC) and therefore can claim a Small business deduction (SBD).

Legal attributes- A corporation is a legal entity that is separate from its owners (shareholders). No shareholder of a corporation is personally liable for the debts, obligations or acts of the corporation. A private corporation cannot sell shares or securities to the general public.

Management Team and Staff

Our shareholders will elect a board of directors, the body that will govern our corporation. The primary responsibility of the board of directors is to protect the shareholders' assets and ensure they receive a decent return on their investment. Initially the board of directors is listed as those who have financial ties to the operations. The board of advisors is a volunteer body for the encouragement of the start up operations.

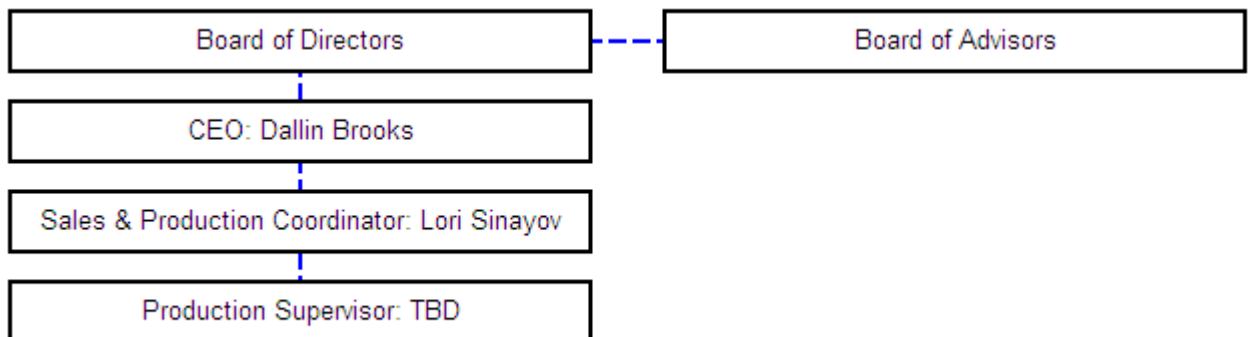


Figure 11: Organizational Chart



Board of Advisors

Rob Kozak Phd.

Ken Day RPF

Dorothy Paun Phd.

2010 Olympic Committee Member

Rick Gibson, Mayor Williams Lake

Board of Directors

CEO: Dallin Brooks

Director: Bryan Davis

Director: Anteneh Tesfaye

Production and Sales Manager: Lori Sinayov

Venture Capitalist: TBA

The salaries of the board of directors and other managers would be based on a profit sharing ratio with the reduction in the amount of salary due to initial start up and to increase as Intreegrated becomes self sustaining and profitable.

Operating plan

Facilities

The proposed McLeese lake shop is 69 km from Quesnel and 51 km from Williams Lake. Thus making it 39 km from the Gavin Lake cut block and 83 km from the Knife creek cut block. This site has a 4806 square foot shop, three storage sheds, a gravel pit and a chain link fence on 51.9 acres of land. The shop includes hot water, radiant heat, air compressor, a 17-ton hoist and lunchroom and office space. The cost of the facility is listed at \$255,000 CDN and annual operating costs are estimated to run approximately \$3500.00/month. The large purchases for the operations will be the tractor and equipment for harvesting which will also duplicate roles as the yard tractor at the shop; this is estimated to cost \$37,000 CDN. Furthermore the purchase of equipment mentioned in the production plan along with a dust collection and hand tools will cost an estimated \$58,000 CDN.



Figure 12: Facility

This location was chosen due to the proximity to the cut blocks with the capability to act as a log yard so that the operations could include the harvesting of our own trees as a cost reduction and limit the transportation of raw material.

Harvesting

No special abilities are required for employment, in fact we will be looking to train all employees on how to fell the tree in the forest through the manufacturing and give them



experience selling the final product in the Olympic superstore and to other retailers in BC. Due to the vast flexibility for which we will be operating and the need for all personal to be trained on all equipment and to be involved in the entire process the labour force will be very dependent on the management decision making. When sales are slow and just in time, manufacturing is limited then the management focus will adjust from in shop to in the forest. The crews will harvest and build up inventory in the yard in preparation for future orders. When manufacturing is in complete utilization the harvesting will be reduced to minimal or all together left until such times as needed or slow. This flexibility will help us ensure job security for the employees and also that employee work time will be productive for us.

Local wages in Williams Lake and Quesnel area are around \$40,000 CDN per year for unskilled labour. The approximate labour force for year one and two in the manufacturing facility will be 2 with that increasing in year three by another 2 and production begins to amass. This first year of harvesting will be the build up of the log yard and the organization and sorting of the logs for selling to other operations, along with the training on equipment and the installation and setup of our equipment. The variation in job description will vary from manual labour of de-barking the logs by hand to the technical operation of the CNC router.

One position will remain open for interns/co-op students at \$13.00/hour. These students would range from conservationists and wood products processing in the UBC faculty of forestry to other students from BCIT and UNBC who would look to improve our performance and gain experience through the entire process.

Our raw material list will be small diameter round wood harvested from the Gavin Lake and Knife creek cut blocks. With the stumpage cost of the logs being \$0.25/m³ and the in-house ability to reduce the costs to logging to the roadside, loading and hauling we anticipate that it will cost approximately \$25.00/m³ to get the raw material to the shop. There it will be sorted and the tall straight larger logs will be sent to other operations that will provide an immediate profit to us. Large irregular shaped logs and logs with a



diameter under 20cm will be sorted and left in the yard for 1 year to dry. After the log has dried sufficiently and a product has been determined then the tree will be debarked by hand peelers. The bark will be picked up by the tractor and placed in containers for shipping to the cogeneration plant, dumped in our on site landfill or mulched for cattle feed. The peeled logs will then be sent inside to be bucked and surfaced on one or two sides.

Inventory

Inventory will be controlled on site for logs and finished goods though the aim is to be a manufacture with the ability to respond quickly to ordered goods and supplement other time by the manufacturing of higher end artistic goods. Thus these goods will be stocked on site with the long range plan of having a store set up in tourist areas such as Vancouver's, Granville Island and Seattle's Pikes Market for the selling of goods directly. The long range goal is to contribute meaningfully to the small diameter round wood production by continual expanding of products and encouraging innovation.



Financial Plan

Initial capital requirements have been estimated as follows:

Capital Acquisitions

Office	\$	10,000
Dust collection	\$	3,000
Tractor	\$	37,000
Property	\$	255,000
CNC router	\$	13,000
Duplicator	\$	4,000
Table saw	\$	11,000
Misc. shop	\$	10,000
Jointer	\$	7,000
Planer	\$	7,000
Spray Booth + System	\$	15,000
Total	\$	(372,000)

Intreegrated intends to seek the majority of the funding from venture capital firms. Nevertheless, the five founders – Bryan Davis, Dallin Brooks, Lori Sinayov, Conrad Brander and Anteneh Tesfaye – will contribute \$20,000 each. Thus, the total sum sought from venture capital will be \$272,000.

Our financing plan is included in Appendix A. Additional details about specific aspects and assumptions made by Intreegrated are as follows:

A **discount rate** of 16% has been used in financial calculations. This is derived from a risk free rate of 4%, a market return of 12% and a beta (an approximate quantitative measure of the inherent volatility of the endeavour) of 1.5. Thus, the discount rate is calculated as:

$$(12\% - 4\%) * 1.5 + 4\% = 16\%$$

Recovery for products is approximated based on theoretical fibre output in product divided by fibre input. This was calculated using a hypothetical 3.0” diameter, non-tapered section of log that is perfectly circular.



Fibre required is approximated based on the dimensions we believe our products will have. Resultantly, total fibre required per product is the 'fibre required' column divided by the 'recovery' column.

Product measures are in inches. This readily converts to the volume unit of board feet. One board foot is 144 cubic inches of material, measuring 12" by 12" by 1". There are 423.78 board feet in each cubic meter of fibre.

Additional labour hours are hours expended that are 'above and beyond', for products requiring hand customization. This measure is merely used to better allocate fixed costs to products. Labour cost is based on 'loaded labour'. The base rate is \$20 per hour, and the 'loading' factor is 1.6. This takes into account Canadian Pension Plan premiums, Workers Compensation Board premiums and Employment Insurance premiums that are paid by the employer. Total loaded labour is \$32 per hour.

Fixed costs include both wages of both salaried and hourly employees. We have classes them as fixed so as we do not have to unitize them. Depending on the period, there are either one or two management personnel and three to six hourly personnel.

Depreciation is calculated using the capital cost allowance for manufacturing equipment (class 30.) This class allows capital equipment to be depreciated at 30% per year. The CCA 'allowance' in the financials is the present value (PV) of the stream of tax savings generated by the depreciation of capital equipment.

The **tax rates** used was 17.62%. This is comprised of 4.5% tax for British Columbia, and 13.12% for Canada. Both rates are for small businesses.

By 2009 Intreegrated will be profitable. From this time to 2018 strong financial performance is projected. Brief details follow, with further information available in Appendix A.



Risks and Assumptions

Start-up

The delays to start up are going to be the most difficult to deal with especially with the limited time to the Olympics and the need to negotiate the licensing agreements with the 2010 committee. With an expected two years until complete start up is finalized we are taking a two step approach. Step one to begin immediately will be the harvest optimization with the purchasing of the facilities with which to carry forth the logs for sorting and building up of inventory. The possible delay to this will be the purchasing of the site at McLeese Lake as mentioned above. If the ability to purchase is not possible then the delay in finding another suitable site will be time consuming and should be avoided. Step one is viewed as a necessary step no matter which business plan is chosen.

The second step, to begin one year after the completion of step one, will be the implementation of the manufacturing. This will involve the licensing of products with the 2010 Olympic committee and may be delayed and even prohibited. Either case the ability to manufacture other goods should provide immediate additional revenue or thus the only impact would be the speed of the return and not the return itself.

The inception of the business itself has come out from the existing marketing and waste fibre utilization opportunity. Even though it is very hard to rule out, risks that are going to cause a serious hostile business environment are not vividly formable. We expect the establishment of more and more craft and small business due to the rising government interest to support and promote them. However, we are targeting a climax marketing opportunity that is to be brought by the rare Olympic occasion and hence it will not be a risk rather we are well prepared for the challenge to produce and market our products

We expect a rise in cost of electric energy due to the existing trend to shift power generation from BC hydro to the private ones. For the last 10 years the price of private electric energy has increased by 77%. We have accounted for this energy cost elevation and this negative trend would also again be off-set by a positive macroeconomic support from the government.



Appendix A: Financial Analysis

Appendix B: Capital Acquisitions

Radial arm saw: A powerful radial arm saw will allow for logs of varying widths, species and temperatures to be crosscut. A 14' Delta 33-400 model (3 hp) is available for \$5875 CDN.



Figure 13: Radial arm saw

A **CNC router** is critical to have in the shop. It is a truly multi-functional piece of equipment that can both break down stock and customize products. Intreegrated is looking at acquiring a 2 axis router. The price is approximately \$12,750 CDN.



Figure 14: CNC router

Table-saw: A quality sliding table-saw is important so stock can be cut to length with precision during the manufacturing process. A larger saw allows for more options, thus a 12" blade has been selected. The price is approximately \$11,125 CDN.



Figure 15: Table-saw

Appearance burning on some of the wood will be another process that we will invest in as the capital investment of such equipment is relatively inexpensive and will be unique on some of the products. For instance we can burn in the Olympic rings on different products. The hand burning of artistic pieces will also add character to the work and will be used as needed. The cost of the electric burning iron set will run \$85.99 and the Excalibur generator is \$193.99, Custom irons will be made for customers who wish to burn their own logo on products and the price of such will be added into the selling price of the goods.



Figure 16: Electric burning iron set

The *jointer* is a machine used to surface the face of the log once the reference angle has been established. The machine Intreegrated will acquire is large, powerful Bridgewood model with a 16” cutting head and a 5hp motor that is priced at approximately \$5500 CDN.



Figure 17: Bridgewood jointer

The *planer* is used to establish a reference edge which will allow the log to be run through the jointer. The machine that Intreegrated will acquire is made by Delta and uses a 3-knife, 5hp 20” cutterhead. The price is approximately \$4400 CDN.



Figure 18: Planer

The spray booth will be used to finish products with designs and protective coatings or both based on the application. The painting of designs such as the Olympic rings will be done with stencils and brush in the booth as well. The cost of the booth finishing supplies along with the set up is approximately \$11000 CDN.

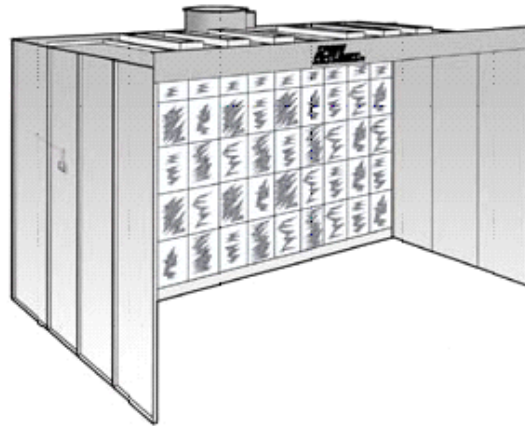


Figure 19: Spray booth (finishing)

In addition to burning, finishing and routing, a duplicator will be used to further make new designs and to copy other designs of non wood products cheaply and accurately. After a product has been duplicated the worker will chisel and sand to their liking.

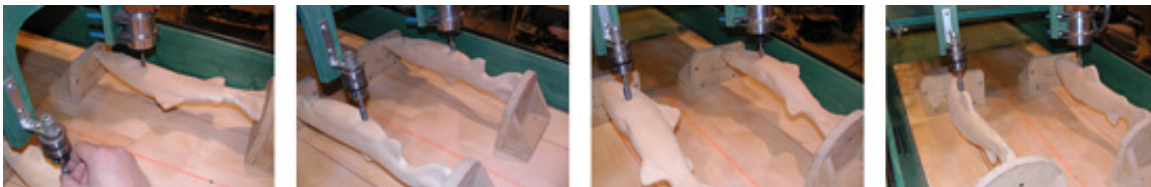


Figure 20: Duplicator at work

The cost of the duplicator is \$3,969.00 and it will be used to copy non-wood products as well as wood products alike.

In our proposed 4806 sq. ft. Williams Lake location we will predominately include routing and burning designs onto the wood, yet we will retain the ability to do hand carvings as well. Hand peeling of the logs will be an opportunity to examine the work ethic of employees. Once they have done this then they will be trained on the CNC and other equipment. This processing will rely heavily on unique features to gain value and with the finishing of the wood also being an important part of the process.

Appendix C: Sample Process Flows

Cutting blanks for **podium boxes** and **game boards** (generic process):

1. Establish reference edge;
2. Joint edge;
3. Joint face;
4. Rip to length on table-saw;
5. Cut to length;
6. Cut 1" or 2" thick blanks depending on product;
7. Glue; and
8. Machine to product specifications and affix additional hardware

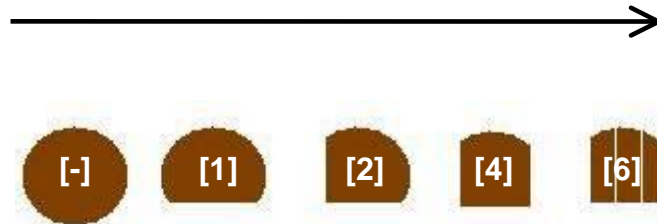


Figure 21: Log breakdown

Podium boxes finishing touches:

1. Use generic process, in addition to:
2. Machine one blank as a lid (use the router to machine a spigot);
3. Machine the box; and
4. Machine the design on the top of the lid

Coaster sets:

1. crosscut with radial arm saw
2. burn in design
3. Finish the wood



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