

UBC Social, Ecological Economic Development Studies (SEEDS) Student Report

**Alezo Enterprises Inc.: Manufacturer of Wood Products from Small Diameter Douglas Fir Logs**

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## EXECUTIVE SUMMARY

The Alex Fraser Research Forest, located in the central interior of British Columbia, is faced with the issue of creating a viable business opportunity for small diameter Douglas-fir trees. Although costly, the Research Forest, made up almost entirely of densely stocked mule deer winter range, is harvesting these small diameter logs to maintain deer habitat.

Alezo Enterprises Inc. has been created by five successful and interested graduates, with the purpose of manufacturing a high-quality line of log furniture and cabinet door panels. The growth of BC's wood furniture industry has been strongly overshadowed by increases in other Canadian provinces, due to BC's lack of value-added manufacturing facilities. Nonetheless, the company strives to compete and excel in this industry by manufacturing high-quality products. Slow-grown Douglas fir has a tight grain structure, creating structural and aesthetic features, which are desirable for furniture. Although there are a number of existing furniture manufacturers in BC, Alezo will succeed by producing hand-made products which are priced below its competitors'; due to low stumpage rates associated with the small diameter of these logs. Although the furniture industry is highly sensitive to external forces, Alezo has identified a specific marketing plan to successfully promote their products. The creation of a website will be the primary marketing tool, as it will provide customers with detailed product descriptions and contact information. The company will also provide extended warranties to its customers, building a trusting relationship that will benefit both the company and its consumers. Finally, Alezo Enterprises Inc. will be guided by its mission, vision and value statements.

The character furniture line will be manufactured in Alezo's first year of operations; the cabinetry blanks will be produced thereafter. A small production facility, located within the Research Forest, will minimize costs of shipping raw materials. Staffing requirements are minimal during the first year, as the company begins production. A detailed financial plan, outlining capital requirements, its contingency plan, long term cash flow and financial ratios, forecasts Alezo's financial situation over the next 5 years. Preliminary analysis indicates a viable and financially successful business.

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## GLOSSARY

Blanks:	wood board comprised of small pieces of wood which have been glued together to form a larger panel. The wood panels are further manufactured to produce value added products.
Bucking:	cutting felled trees to a specific to length.
Character furniture:	unique furnishing constructed of peeled logs to provide a durable product.
Commercial thinning:	a silviculture treatment implemented in areas where the forest is over stocked with trees, the ‘thinning’ out of theses trees improves the overall health of the remaining trees and wildlife habitat.
Conditioning pond	a reservoir of water used to raise the temperature of frozen logs.
Dehumidification kiln:	a lumber drying facility which controls temperature and humidity of the kiln in order to lowers the moisture content of wood.
Diameter at breast height (DBH):	the diameter of a tree measured 1.3 meters above the forest floor.
Understorey:	herbaceous and shrub vegetation growing under the protection of the forest canopy.
Volatile organic compounds (VOCs):	chemicals that have been deemed hazardous by government legislation.

## 1.0 INTRODUCTION

The Alex Fraser Research Forest, located in the central interior of British Columbia, is currently dealing with the predicament of maintaining mule deer winter habitat. The present structure of these deer winter ranges, in the research forest, is at an undesirable state; which is largely a result of past activities on the land. Fire suppression dating back to the 1960's has created dense stands of small diameter Douglas-fir trees, which are generally unsuitable for mule deer, due to the fact that deer experience difficulty traveling through these stands during winter months. Although the costs associated with this type of forest operation can often be overwhelming, commercial thinning of these trees is essential in maintaining a healthy environment for the deer. The reason for understorey thinning being an expensive operation is that it only produces small volumes of timber per area; therefore its costs exceeds its financial benefits, that comes from selling the recovered timber. In addition, these recovered timbers are often of low value; as a result, there are no current identified markets for this type of wood (Atkins et al., 2003). However, stumpage fees for these small diameter logs are very low, which could be an advantage for a wood products manufacturing company if it was to make use of these timbers. Wherein, in order for a company to utilize these small diameter Douglas-fir trees, a specific, thorough, and profit-driven business plan must first be created to ensure success.

## **2.0 OVERVIEW OF THE INDUSTRY**

For hundreds of years, wood has been the fundamental furniture material in North America, as well as a rest of the world; most early forms of furniture were constructed solely of wood. Although today, with advancing technologies and the lowering prices of other materials such as steel, aluminum, and plastics, residential furniture is no longer made solely from wood. In spite of this, the wood furniture market makes up more than half of the entire residential furniture industry.

### **2.1 Trends in the Industry**

The wood furniture industry has been growing at a constant rate over the past decade due to the strong housing market in North America, low interest rates, and an apparent rebounding economy. In 2002, the residential furniture industry amounted to \$5 billion dollars in Canada, which was a 4% increase from 2001 statistics (Industry Canada, 2003). Although dated, these statistics indicate an upward moving market. More recently, statistics indicate a significant growth in the number of furniture establishments in Canada since 1993, from 858 companies in 1993 to 1,691 in 2002. Total revenues have also been growing, as values have increased from \$2.1 billion in 1993 to nearly \$5.1 billion in 2002, as stated above (Industry Canada, 2004).

### **2.2 Canada's Role in the Industry**

In North America, the United States is Canada's largest trade partner, consuming 95% of Canadian wood exports. Although Canada is not the largest supplier of wood products to the United States (it is third largest next to China and Mexico), it still constitutes a significant portion of the United State's growing wood furniture industry. Thus wood furniture consumption in the United States increased from \$ 24 billion USD in 1996 to nearly \$32 billion USD in 2001 (Wood Markets, 2002).

Within Canada, the British Columbian value added wood products industry has also been increasing over the past decade. However, compared to the growth experienced by the other Canadian provinces, BC's growth is significantly behind; which can be seen by examining BC's share of Canadian value added wood exports, which has been decreasing since the early 1990's (MMS, 2003). This apparent decrease is a direct result of BC's lack of value added production facilities. In 2002, with the exception of Newfoundland and Labrador, BC had the smallest fraction of value added wood exports, as seen in Figure 1.

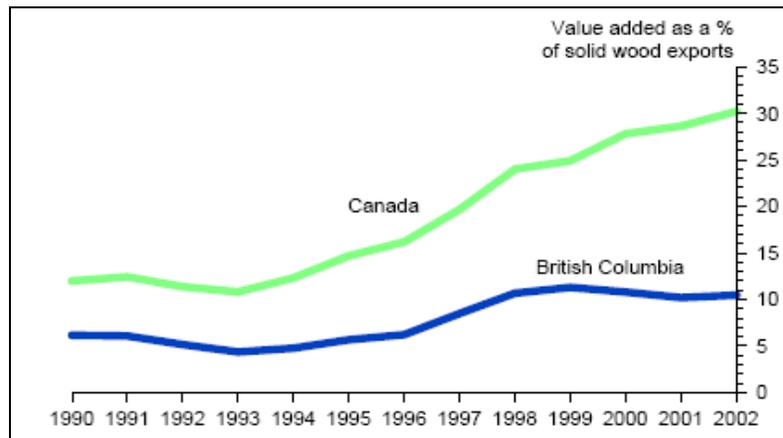


Figure 1: Value Added as a Percent of Solid Wood Exports (MMS, 2003).

Nonetheless, wood furniture manufacturing within BC has increased significantly over the past 10 years. In 1992, wood furniture constituted 8.8 % of BC's value added wood product mix. And in 2002, wood furniture represented 14 % of this same market. Also, BC wood furniture shipments were worth \$ 26 million in 1992 compared to \$ 136 million in 2002. Unfortunately, this dramatic increase has been overshadowed by the explosion of furniture exports from other provinces such as Ontario and Quebec (MMS, 2003). Although, as Canada's wood furniture exports is increasing, British Columbia's share of this increase is minimal. This matter is due to the fact that most of the wood furniture manufactured in BC is of hardwood species, while the majority BC's lumber supply is of softwood species. Therefore, to further contribute to the increasing Canadian wood furniture market, BC manufacturers must explore opportunities in creating value added wood products, such as furniture from softwood species.

### **2.3 Competition in the Industry**

For a company entering and competing in the market, the competitors are the other secondary manufacturing companies currently operating in the cabinet and furniture sectors of British Columbia. More specifically, for a company manufacturing Douglas-fir furniture, there are currently two companies in BC that pose as major competition; being Level Interiors in Vancouver, and High Horse Ranch Furniture in Heffley Creek.

Level Interiors produces 'avant garde and contemporary pieces'. Their product line includes dining room tables, side tables, cabinets, and beds. These products are sold through personal sales from their store at West 2<sup>nd</sup> Avenue Vancouver, BC. In their operations, they currently have approximately five employees (furniturelink.ca, 2005).

High Horse Ranch Furniture produces country and western home furnishings. Their product line includes beds, tables, and chairs. Currently this company also has approximately five employees. In contrast, their products are sold primarily through their website, trade shows, and word of mouth (High Horse Ranch Furniture, 2005).

### **2.4 Key Success Factors in the Industry**

In the value added wood products industry, companies must differ from others in their ability to produce high quality products. Each piece of furniture must be reliable, original, and customer-driven.

### **2.5 Sensitivity in the Industry**

The wood furniture industry is a highly sensitive industry due to the high variable costs associated with production, making it susceptible to economic changes as well as exchange rate movements. In addition, much like the furniture industry, furniture consumers choose their products based on personal tastes, trends, and status; these preferences are prone to change.

### **3.0 DESCRIPTION OF THE COMPANY**

To improve mule deer habitat and utilize small diameter Douglas-fir logs, the establishment of Alezo Enterprises Inc. was set forth. This company was designed to produce log furniture and wood panels from small diameter logs. The collection of log furniture called 'The Character Line' will consist of affordable value added wood products such as beds, sofas, chairs, etc. Also, the wood panels called 'Cabinetry Blanks' will be in the form of edge glued boards to be used for kitchen cabinet doors and drawers. Five successful individuals, who are all graduates in the field of forestry and wood science, founded Alezo Enterprises Inc. Each of these five executives has equally invested in the company. In turn, these individuals will be performing different roles in the company where they will be working; thus any profit from the company's operations will be evenly dividend among them. It is important to note that this company is incorporated, and is therefore its own entity.

In order for the company to achieve high standards of success, mission, vision, and value statements were first created. These statements, listed below, are the basis of the company's daily operations, tactical movements, and strategic decisions.

#### **3.1 Mission Statement**

We are proud to produce affordable, unique, and durable, handcrafted log furniture and cabinetry wood panels; produced from high quality small diameter Douglas-fir trees.

#### **3.2 Vision Statement**

- We will be one of British Columbia's leading value added wood products manufacturers.
- We will create the finest quality character log furniture at an affordable price.
- We will have, as well as continually enhance a large and loyal customer base through exceeding their expectations.

- Our employees will be proud to work for us because we value them as an integral reason for our success, and we provide a sustainable labor source for their community as well as a positive working atmosphere.
- Homes across British Columbia, then Canada, then North America will be furnished with our products.

### **3.3 Value Statement**

Our company values:

- Its employees – they are important for our success.
- Its customers – they have selected us for the quality of our products and service.
- The future – we strive to provide a sustainable and profitable future for our employees, business associates and community.

## 4.0 PRODUCT, SERVICE, AND PROCESS OF THE COMPANY

In its operations, the company will manufacture two product lines; the character furniture line and the cabinetry blanks, in which both are thoroughly described below. With this, the company will produce only the character line in its initial year of operations in order to earn funds for further capital investments. This strategy is due to the relatively low amount of capital required to manufacture the character line products, as detailed below. In turn, the production of cabinetry blanks requires significant capital in the form of equipments and facilities. Thus the company will start production of the cabinetry blanks once sufficient capital has been acquired; this expected time being one year after start-up. From there on, the company plans to produce both product lines.



Figure 2: Chair – Character Line

### 4.1 Description of the Character Line

This product line is an array of various log furniture produced from 4-inch diameter Douglas-fir logs (see figures). These products will provide its consumers with functional everyday furniture for their homes and/or cabins. Wherein, the consumer will take satisfaction from its natural ‘log’ aesthetics, while benefiting from its long-term durability. Also, these products will soothe customers with its consistent and long lasting natural wood aroma, feel, and overall appearance.



Figure 3: Bed – Character Line

Wherein, its appeal comes from the use of whole logs in its design; which is also the reason for its durability. Here, durability comes from the logs' cross section size, being 4 inches in diameter, which is more than sufficient to absorb and withstand constant load and everyday abuse. In which this level of durability is necessary, as the products are intended to be used as everyday functional furniture, for a rather long period of time.



Figure 4: Sofa – Character Line

The product line's intended quality level is relatively high compared to other mass-produced furniture. This degree of quality arises from the hand-made production of this furniture line; thus, every detail such as fit tolerances will be addressed with full attention

and care. As an effect of this first hand person-to-product relationship, the furniture's degree of craftsmanship will easily be apparent to and appreciated by its customers. Normally, these log furnishings have comparatively high price tags associated to them, again compared their mass-produced counterparts. However, due to the expected low raw material costs, which is explained and elaborated in Section 7.0, the company is anticipating prices that are approximately 10 - 20 % below current log furniture market prices. Thus with its performance aspects mentioned above, these products will have a very desirable price-to-performance relationship; which is important in order to competitively enter and stay in the market.



Figure 5: Night Stand – Character Line

#### **4.2 Description of the Cabinetry Blanks**

This product line is an assortment of solid wood panels in different sizes and thicknesses (see figures). Again, these panels will be manufactured from 4-inch diameter Douglas-fir logs. These products will be supplied to numerous (kitchen) cabinet producers both locally and internationally. The advantages of 'blank' boards are that the customers are able to further machine them by adding profiles and other contours to reach their end state; being cabinet doors and drawer fronts.

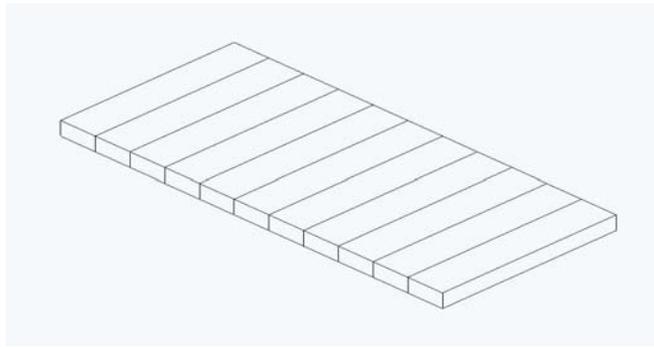


Figure 6: Drawer Front – Cabinetry Blank

With these cabinetry blanks, customers are allowed to maintain low capital assets and investments; because it would not be necessary for them to purchase and install the equipments involved in the production of these ‘blank’ boards. Thus this product line would be beneficial for smaller to medium scale cabinet manufacturers. Another favorable aspect of these products is their beautiful appearance in terms of grain pattern; which comes from the use of slow-grown Douglas-fir. In addition, these panels provide extreme durability and toughness, compared to their counterparts; due to Douglas-fir being denser and stronger than most softwood species.

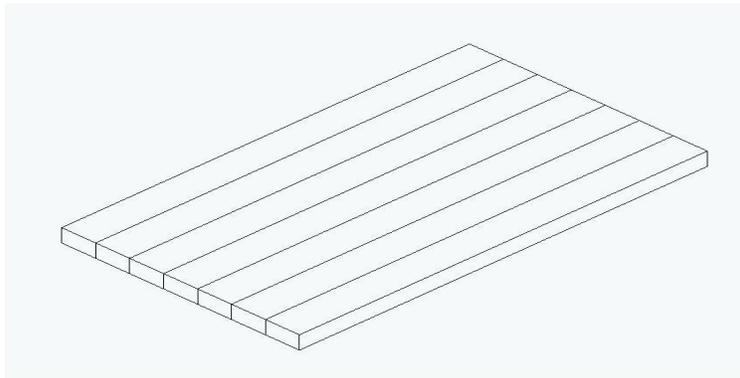


Figure 7: Door – Cabinetry Blank

Following the company mission statement, these boards will be produced with market-leading quality. This level of quality will come from the panel’s production process;

being batch production instead of mass production. This way, more attention will be given to each product.

Much like the character furniture, these products will take full advantage of the expected low raw material costs; meaning they will enter the market with a comparatively low price tag and remain that way. In fact, this is necessary for customers to continue outsourcing their cabinet door and drawer blanks. Therefore, with its level of performance and quality discussed above, these products will have a very attractive price-to-performance relationship; which is important in order to competitively enter and stay in the market.

### **4.3 Description of the Services Provided**

For each purchase of a character log furniture, the company will provide limited warranties. Mainly, these warranties will cover the structural integrity of the products. As examples, wooden joinery detaching and log members rupturing due to stress are acceptable cases of structural failure. Wherein, in an event of a structural failure, the company will replace the broken product, from the customer, with a new unit. All replacement costs such as shipping and handling will be covered by the company. In turn, the retrieved broken product will be repaired and later sold as a discounted item. These courses of actions are essential for maintaining a high quality and customer driven reputation in the market.



Figure 8: Standing Lamp – Character Line

Additionally, warranties will also be provided for purchases of the cabinetry blanks. A warranty in the form of dimensional precision and accuracy will be given to our customers; which are mostly cabinet manufacturers. Here, the customers can take a sample of each load, and test if the product's dimensions are significantly acceptable to their requirements. In cases where a significant difference arises, Alezo Enterprises Inc. will retrieve the entire load of products from the customer, and replace it with a new batch; covering all shipping matters. Another warranty will be in place for the product's dimensional stability throughout the products' service life; encompassing warping, cupping, diamonding, etc. Wherein, the company will take responsibility for 50 % of the replacement costs to the end customer; while the cabinet manufacturer bearing the other half. In addition, Alezo will refund the cabinet producers for the defective blanks. Again, these actions are crucial for maintaining a quality driven reputation in the market.

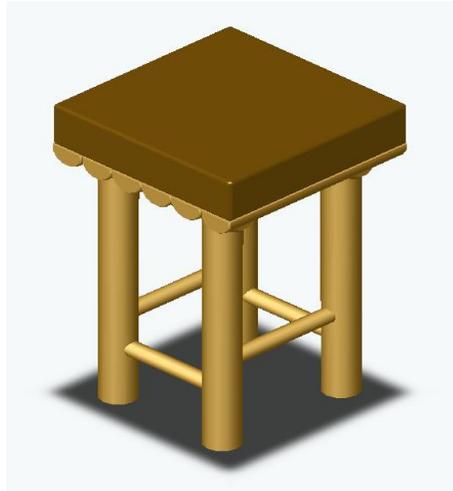


Figure 9: Chopping Block – Character Line

As far as marketing services, a company website, being [www.alezo.com](http://www.alezo.com), will be created. This website will present a brief introduction and overview of the company and its primary personnel. Here, the organization's mission, vision, and value statements are to be posted. Also, the website will showcase all of the company's products individually; in which pictures, prices, overall dimensions, weights, and other important characteristics and properties belonging to the products are to be posted. To gather customer feedback and/or address their concerns, a section of the website will be devoted to supplying customers with the company's contact information; along with a list of e-mail addresses

of the company's managers. Therefore, this website, along with the company's sales/marketing manager, will be the core of the company's technical support system. Another important section of this website will be its 'Order' page; which will allow customers to easily purchase products by entering their payment and shipping information. Lastly, the website must also have a section that displays and links dealer information, once again to make it easier for consumers to purchase the company's products; wherein dealers being retail shops that sell Alezo Enterprises Inc. products.



Figure 10: Lamp – Character Line

#### **4.4 Description of the Character Line Production Process**

Illustrated in Appendix 1 is the production process flowchart for the character furniture line. Here, the bark along with the wood waste (trimmings and sawdust) is to be chipped and/or mulched; and later sold to landscapers for bark mulch. This process provides an efficient yet environmentally friendly way to manufacture log furniture from small diameter logs because the log's by-products are also processed and sold for profit.

In this process, the required equipments are as follows:

- Pressure Washer
- Sawmill
- Hand-held Planer
- Chain Saw
- Hand-held Drill
- Hand-held Router
- Clamps
- Chipper – Mulcher

In this particular process, equipment size/type is independent of the volume to be produced. Here, as production increases, the number of equipments and workers will increase; although the type/size of the equipments will remain the same keeping the first hand person-to-product relationship. In addition, because of the process' hands on nature, product quality is also independent of the equipment's size/type. Here, product quality depends more on worker skill and attention to detail.

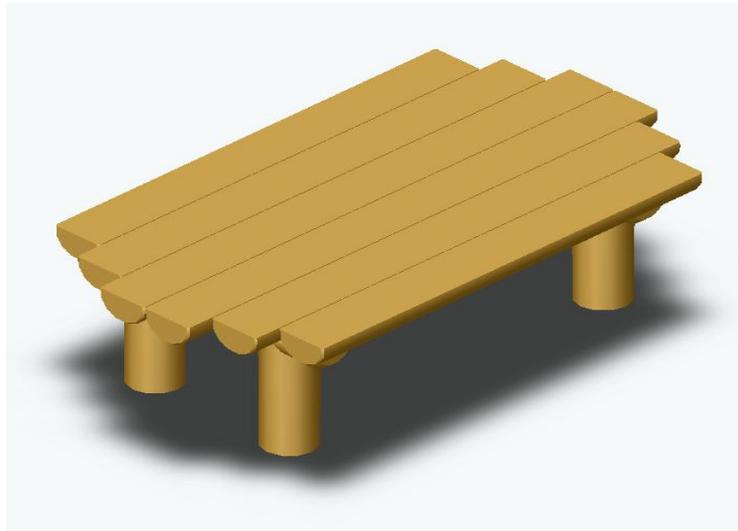


Figure 11: Center Table – Character Line

## 4.5 Description of the Cabinetry Blanks Production Process

Illustrated in Appendix 1 is the production process flowchart for the cabinetry blanks. In which, the log's by-products are caused to undergo the same process as in Section 4.4; again, attaining both an effective and environmentally responsible process.

In this process, a number of the equipments in Section 4.4 are also used. In addition, the other required equipments are as follows:

- Drying Weights
- Dehumidifier Unit
- Chop Saw
- Jointer
- Planer
- Table Saw
- Wide Belt Sander
- Edge Sander
- Clamps

Furthermore, a concrete room is needed to house the dehumidifier unit and act as a dehumidification kiln in drying the processed lumber.

In this particular process, equipment size/type is very dependent of the volume to be produced. Here, as production increases, the equipments must be replaced with ones that could handle higher throughput. In addition, product quality is also a function of the equipment's size/type. Here, certain types of machinery, generally the more expensive and technologically advanced models, allow for significantly more precise and accurate operation; thus increasing product quality.

## **5.0 MARKETING PLAN OF THE COMPANY**

The character line produced by Alezo Enterprises Inc. will target homeowners in British Columbia, then Canada, and then North America as a whole. The high structural value and outstanding aesthetic quality of each piece of furniture, combined with its low price, will create a product that will be appreciated and valued by these homeowners. Located in Williams Lake, BC, the production plant is able to reach approximately 20 million people within a 20-hour truck drive ensuring for quick delivery times. It is also important to note that the plant is to be positioned within the premises of The Alex Fraser Research Forest; where its raw material will come from.

### **5.1 Product Strategy**

The company's product strategy is to produce high quality hand crafted Douglas-fir log furniture; more specifically, beds, nightstands, sofas, coffee tables, etc. In addition, cabinetry blanks will also be produced and supplied to (kitchen) cabinet manufacturers and other manufacturers that see the products fit. During the first year, the product strategy will focus on the character line. After our first year of operation, the company will expand its product line to include the cabinetry blanks (as noted in Section 4.0). In order to remain competitive, marketing will focus on the craftsmanship and quality of its products. As demand for affordable, high quality, and unique log furniture and low cost cabinetry blanks rises, opportunities to expand our product line will be created.

### **5.2 Price Strategy**

Most products sold in our market have high price tags affixed to them. For example, a competitor's finished Pine log bed costs \$ 1,000 - \$ 1200 on average. A finished Pine log chair averages around \$ 300; and a finished Pine log coffee table averages around \$ 300 - \$ 400 (Logs Canada, 2005). On the other hand, the company's goal is to achieve significantly lower prices, by at least 10 % - 20 %. Again, this goal is attainable due to our low raw materials cost. During the first year of production, the prices of our products are shown in Appendix 5; which enter the market at a very inexpensive level. Once a

strong and loyal customer base has been established, slight increases in retail prices will be applied throughout the preceding years of production; thus employing price penetration.

### **5.3 Promotion Strategy**

Alezo Enterprises Inc. will promote its products through personal contact with log homebuilders, whose customers are looking for 'a complete package' (i.e. a log home fully furnished with cabinets installed). Also, fine cabinetry makers, owners of specialty homes, and interior furniture shops will be constantly contacted. Products will be further promoted through the company's official website [www.alezo.com](http://www.alezo.com). This website offers a place for various types of customers to view products, place orders, and contact the sales team. In order to introduce our product line, phone, mail, and direct sale calls will be used. Tradeshow, that promote wood products such as the B.C. Home and Garden Show, The Vancouver Home and Interior Design Show, and the Log and Timber Frame Home Show will be used to further highlight our product line. As well, our manufacturing site will also have a small showroom, showcasing our products. As demand increases, opportunities may arise wherein additional showrooms may be established around the country.

### **5.4 Distribution Strategy**

Alezo Enterprises Inc. products will be primarily distributed at our manufacturing facility and through local and province wide specialty stores such as Country Furniture, Creative Home Furnishings, and Country Woods Furniture in Vancouver. They will also be sold using a catalog, through log homebuilders who offer interior decorating. The main form of shipping for those wishing large orders (e.g. specialty furniture shops and log homebuilders) will be by way of transport freight, with the purchaser assuming the costs of shipping. For smaller scale customers, products will be available directly for pick-up at our manufacturing facility, or through courier service providers such as UPS; again with the customer assuming the cost of shipping.

## **5.5 Sales Strategy**

The company's sales/marketing manager will work full time to promote our product line by establishing and maintaining business relationships, maintaining and enhancing the company website, and investigating areas for market development. In addition, the company runs on the principles of continuous improvement; therefore, all staff members are involved in investigating new product designs, furniture trends, and improved production methods. Also, it is important to ensure lower prices compared to other manufacturers, thus competitor's prices will continually be monitored.

## 6.0 ORGANIZATION OF THE COMPANY

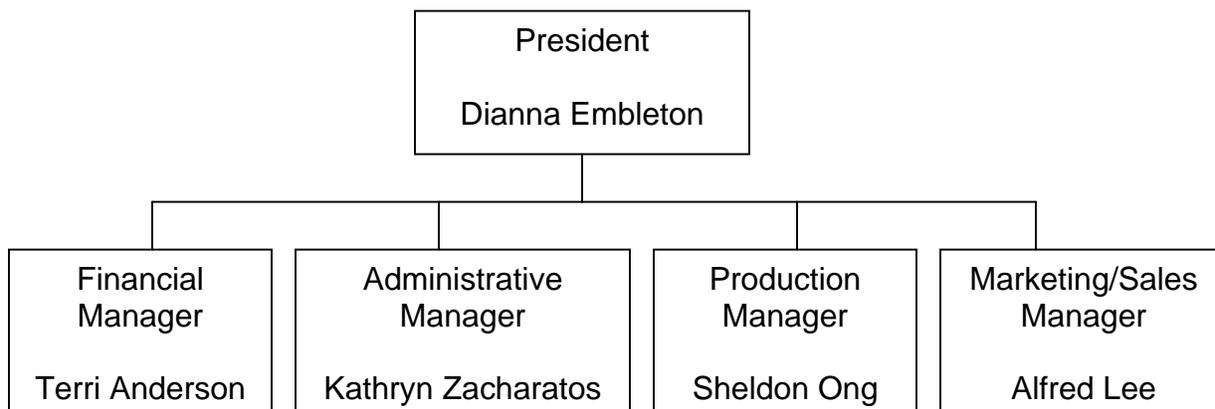


Figure 12: Organizational Structure

Five colleagues, who have same interests in developing and improving the market for small diameter Douglas-fir logs, developed Alezo Enterprises Inc. For efficient communication between the management teams, as well as to enhance the decision-making process, the company was formed as a flat organizational structure (see figure 12). Wherein, each team member of Alezo Enterprises Inc. has substantial knowledge and skills in the field of forestry and wood science; and is committed to bringing the company objective to fruition.

The president, Dianna Embleton, has a Masters Degree in Forestry and Wood Products Processing from The University of British Columbia. This innovative entrepreneur graduated in top of her class, and her leadership ability has gathered many talented individuals to assist her in building the company. Two of the managers, Terri Anderson and Kathryn Zacharatos, are currently completing their Masters in Forestry, while already having a BCom Degree in finance from The University of British Columbia. The other remaining managers are both currently completing their Masters in Wood Science also at The University of British Columbia.

In this structure, the production manager acts as the bridge between the organization and its raw material supplier. His superb negotiation skills result in the best prices for the

needed logs, and great supplier-buyer relationship; he is also responsible for the production schedule. As well, he maintains close communication with the marketing manager in order to obtain important market information. On the other hand, the marketing/sales manager also works closely with a market research company, Ipsos Reid, to obtain a better picture of market demand. The administrative manager in turn, handles most of the managerial details in the company, such as payroll and human resources (HR). Because the company is rather small, a separate department for HR was not implemented. Therefore, the financial manager is to be responsible for efficiently allocating the company's assets. In addition, she analyzes the interest and exchange rates to obtain maximum profitability for the company. As the president of the company, Ms. Embleton is in charge of the overall operation of the company. She continually searches for new and better ways to operate, and serve the customers. There is a great trust among all five executives in the company, and this results in a high level of productivity from all its members.

In addition to the five developers, Alezo Enterprises Inc. will recruit carefully selected employees, with specific the functional skills required to operate the machinery, for the manufacturing process.

As far as segmenting company responsibilities, the senior managers and president are all co-founders; and therefore will manage and control all the aspects of the organization such as financial needs and company operations.

## **7.0 OPERATING PLAN OF THE COMPANY**

Explained below are the methods with which the company executives expect to manage its operations. In doing so, each aspect of the business has been addressed in order to ensure a prosperous future.

### **7.1 Plant Location**

The furniture manufacturing facility will be located at the Alex Fraser Research Forest in Williams Lake, BC to minimize shipping costs of raw materials. The exact location of the facility will be determined after further discussions with the Alex Fraser Research Forest; but will most likely be in the northern section of the research forest, in the Gavin Lake block. For the second year of production, a larger building will be needed to facilitate the company's expansion in the production of its cabinetry blanks. Given its proximity to the research center, the location of the plant will address the need for sufficient power, water supply, and direct highway access for shipping considerations.

### **7.2 Raw Materials**

The Alex Fraser Research Forest will supply wood fiber. The commercial thinning operation implemented to improve the area's deer winter range will supply Douglas-fir logs, with a maximum diameter at breast height of 20 cm and an average diameter of 10 cm. The small diameter of these trees creates challenges, but also provides advantages. The diameter of the trees limits the size of lumber that can be recovered and increases the cost of harvesting. However their small size means that the stumpage rate for the wood fiber is extremely low, at only \$ 0.25 per cubic meter. The variable costs pertaining to these logs can be seen below.

The cost of the wood fiber is as follows:

Thinning contractor	\$ 33/m <sup>3</sup> from standing timber to roadside
Contractor	\$ 12/m <sup>3</sup> layout and administration
To the Province	\$ 0.25/m <sup>3</sup> stumpage fee
Total fiber cost	\$ 45.25/m <sup>3</sup>

### 7.3 Kiln Schedule

The dehumidification kiln-drying schedule will be an approximate one-week rotation, depending on each load's moisture content and grain orientation, as each batch is sorted accordingly. This schedule will be based on the real time average moisture content of the wood. This moisture content based system will ensure that each load will not exceed its target; which is a common problem when using time-based kiln schedules. In doing so, the moisture content of the wood will be checked using a hand held moisture meter. Additionally, their moisture content in the kiln will also be monitored using a probe-based system; this takes readings throughout lumber packages using a series of contact pins placed in the wood. The onsite kiln, being of concrete construction with a volumetric capacity of approximately 36 cubic meters, will be powered by a Nyle L200 model dehumidification system.

### 7.4 Labor Force

As the main concern for the first month will be to build up inventory stocks, logs will be pressure washed, and then conditioned until 30 % moisture content. Over the spring and summer seasons, peeled logs will be accumulated to ensure sufficient inventory for the winter months; due to peeling the logs, using a pressure washer, during the winter will be difficult because of freezing temperatures. Additional seasonal workers will be hired as required, to aid in the debarking of the logs during spring and summer. In the first year of operations, the 24 employees of Alezo Enterprises Inc. will work together to produce the character line. After its first year, another 31 positions will be filled in order to supply the additional manpower required in producing the blank panels. A complete breakdown of

the company's employee structure is included in Appendix 5. Listed below is a summary of the required employee positions, and their respective wages.

Positions for the first year:

- Pressure washing – \$10 per hour  
Seasonal position
- Sawmill and Bucking – \$10 per hour  
The company will provide instructional sessions
- Assembly – \$12 to \$14 per hour  
Wood working experience
- Helpers – \$8 per hour  
Clean-up and assist other employees
- Shipping – \$12 per hour  
Pre-paring orders and loading trucks

Positions for the second year:

- Chopper – \$10 per hour  
Will receive on the job training
- Jointer – \$12 per hour  
Wood working experience an asset
- Planner – \$12 per hour  
Wood working experience an asset
- Table Saw – \$12 per hour  
Wood working experience an asset
- Gluing – \$12 per hour  
Will receive on the job training
- Sanding – \$12 per hour  
The company will provide instructional sessions

These workers will receive an additional 4 % holiday pay quarterly, or at the conclusion of their seasonal positions. Benefits including medical and dental, as well as income taxes will be deducted incrementally from each employee's biweekly paycheck.

### **7.5 Work Schedule**

As the focus of the business during its first year will be producing character log furniture, there will be only one shift. The work schedule for this time will be Monday to Friday, 7 am to 3:30 pm, with a thirty-minute break for lunch. In the second year, as production increases and panel production begins, another shift will be added. A new operational schedule will be implemented; the morning shift beginning at 6 am and finishing at 2:30 pm where the afternoon shift begins, this second shift will finish at 10 pm. This double shift will be needed to accommodate the additional production.

### **7.6 Long Range Plan**

A long-range plan is essential to establish a self-sufficient facility. The proposed facility will remain profitable, while utilizing the small diameter Douglas-fir logs, which are commercially thinned to improve deer winter range habitat. In the long run Alezo Enterprises Inc. will gain access to niche markets and employees will become more skilled; causing increases in demand, production output, and product quality. Using the marketing strategy of price penetration the product price will increase in relation to the success of the company; providing revenue to improve and expand production. In the future, as blank panel production increases, the number of equipments and employees will also increase. Wherein, a conditioning pond may be implemented to ensure continuous production throughout the winter months.

## **8.0 FINANCIAL PLAN OF THE COMPANY**

To provide a sense of the company's financial future, the following segments below were created. It is important to note that some of the values used are estimates. Here, all of the business aspects that affect the company's finances were carefully considered and researched. By looking at the financial statements in Appendix 2 to 4, it can be seen that the first year of operations will provide the company with capital to expand its assets as it prepares for its second year.

### **8.1 Capital Requirements**

The pricing information concerning the capital requirement for the business was gathered through internet searching, telephone conversations, and industry forum postings. The production manager used equipment manufacturer sites to find suitable machinery, and then used websites such as Amazon.com to quote equipment prices. As it was difficult to find some of the machinery, the local Home Depot was contacted. Another source that was used was the WoodWeb forum, where questions were posted about appropriate kiln types. A complete list of the capital requirements for Alezo Enterprises Inc. is shown in Appendix 6.

### **8.2 Contingency Plan**

In case of a major financial business problem, which will cause the company bankruptcy, all outstanding debt will be repaid. To liquidate assets, the remaining inventory of raw logs will be sold to the Alex Fraser Research Forest, or the general public, in the form of firewood and garden mulch. All equipment will be sold to private buyers. Most importantly, the company will ensure that all outstanding wages are paid. With this liquidation any remaining cash will be distributed evenly among the owners.

### 8.3 Financing Aid

Since the company's co-founders are limited in funding, they have to turn to outside resources to finance the company. Wherein, various ways of financing were considered including the option of selling shares, however this was unrealistic due to the company's size and history. Therefore, the most obvious choice was to receive a bank loan; even though there will be a high interest rate imposed to this loan, being a new company.

So, the company will be strictly financed by bank loans and personal investment funding from each of the five managers. A proposed \$ 80,000 will be borrowed from the bank with an interest rate of 8 %. Wherein, the company plans to payback the principle over the next five years. Thus, the loan expense will consist of \$ 16,000 per year, as interest expense will decrease each year, based on the residual. In addition, the five managers will invest \$ 1,000 each, totaling to \$ 5,000. With this total financial support, \$ 85,000 will be sufficient funding to get the company off the ground.

### 8.4 Balance Sheet

A beginning balance sheet for Alezo Enterprises Inc.'s first year of operations is given in Appendix 2. Here, the total assets belonging to the company summed-up to \$ 93400; while the company's total liabilities equaled to \$ 88400. Further, the total shareholder's equity is \$ 5000.

In addition, a forecasted balance sheet for the company's second year of operations is also given in Appendix 2. In this case, the total assets belonging to the company summed-up to \$ 402323; while the company's total liabilities equaled to \$ 94120. Further, the total shareholder's equity rose to \$ 308202.

Therefore, it can be seen through these balance sheets that the company expects to obtain a significant increase in assets after its first year of operations. In which, this increase is partly due to the purchase of more equipment for the production of cabinetry blanks; which starts in the second year of operations. Moreover, it can be observed through the

comparison of both balance sheets that the company is forecasted to be in a healthy financial position in the future.

### **8.5 Statement of Operations and Cash Flow**

In Appendix 3, statements of operations for Alezo Enterprises Inc.'s initial five years of operations are posted. These statements serve as forecasting tools, which projects the company's actions and financial positions throughout the future. Furthermore, it can be seen in these statements that the company is expected to be very profitable and prosperous in the future. As well, it can also be observed that the company's net profit is continually increasing at a constant and steady rate as the years progress.

Additionally, a statement of the company's cash flow for its first year of operations is posted in Appendix 4. This statement provides an idea of the movement of cash in and out of the company; wherein in this case, more cash is moving towards the company rather than out. Once again, it shows the favorable position the company expects to attain in the future.

### **8.6 Financial Ratios**

From looking at the financial ratios for the first year of operations, the business seems to be in success. The current ratio and acid test ratio exceeds two. These figures are favorable for the company, representing the ability to pay its debt. The gross profit margins and net operating margins are both showing positive figures. Each dollar of sales is contributing about 56 cents of profit; meaning all the company's assets are great contributions to the company. The asset turnover figure shows 15.38, which means that every dollar of asset contributes to \$ 15 of sales. So, with 56 % gross profit margin, we will be making a \$ 7 profit on every dollar of sales (see Appendix 7).

With our current interest rate of 8 %, the company's operations appear to be successful. If there is an increase in interest rate, the company's break-even point will increase because the cost of debt will increase. Also, the company's net present value will decrease as

well, due to higher interest rate. On the other hand, if the interest rate decreases, a lower amount of products will be needed to be produced in order to break-even, as the net present value of the company will increase. Fluctuation of interest rate will change the ratios as well, because changes in the interest rates result in changes in liabilities. The directions of the changes in these ratios due to moving interest rates are as follows:

	Interest Rate	
	Increase	Decrease
Current Ration	decrease	increase
Acid Test Ratio	decrease	increase
Debt-to-equity	increase	decrease
Gross Profit Margin	N/A	N/A
Net Operating Margin	N/A	N/A
Asset Turnover	N/A	N/A

Table 1: Effect of Interest Rate Fluctuations

## **9.0 LIMITATIONS OF THE COMPANY**

In every industry, there are certain limitations that inhibit companies from attaining survival and prosperity. In the wood products industry, these limitations come in various forms, as stated below. With careful preparation, a company can avoid, and even surpass these limitations; thus further insuring financial survival and longevity.

### **9.1 Future Trends and Market Opportunities**

The furniture industry is a major contributor to the income generated by Canadian exports. In 2002 alone, the value of shipments for wooded furniture was 2.71 billion dollars, accounting of over half of Canada's exported shipments. This dependency on exporting means that the industry, as a whole, is highly sensitive to fluctuations in global economies and exchange rates. As tariffs on wood products are alleviated due to changes in various free trade agreements, new markets could be opened to these products. It is understood however, that lesser tariffs could also pose a threat to Canadian producers, as other foreign companies will be able to gain access to Canadian markets (Industry Canada, 2004).

Globally, China is becoming one of Canada's bigger competitors in this industry; with imports from China increasing from 2 % to 36 %. In order to remain competitive, Alezo Enterprises Inc. must focus on achieving lower than average selling prices and creating high quality hand made products. In addition, various niche markets on a global and local scale must be explored. Industry Canada (2004) has identified some niche markets, which the company will consider over the next 10 years. For example, the company should look into manufacturing environmentally sound products in the future; and become certified under one of the various certifications schemes currently accepted in Canada, e.g. SFI and FSC.

Another limitation, which is unique to the company, is the plant location being remote. Situated at a distance from larger city centers, the company has limited markets.

## **9.2 Standards and Regulations**

This industry is also limited by various standards and regulations relating to air pollution. Although Alezo Enterprises Inc. will be running on a small scale, it must still comply with local, provincial, and federal regulations pertaining to impacts on air quality. According to Industry Canada (2004), the regulations having the greatest impact on this industry are regulations pertaining to volatile organic compounds (VOCs) in solvents and paint coatings.

## **9.3 Human Resources**

Due to its nature, the furniture industry is highly labour intensive. In this case, all the character line products will be 100 % hand made, causing another set of limitations. Specialized skilled labour in the wooden furniture sector is facing a shortage, as is most trade oriented labour sectors. An assumption that this company has made includes employee turnover will be minimal, due to competitive wages.

## **9.4 Sustainable Development**

In order to promote sustainable development, this company will strive to enhance its environmental impact by reducing waste, improving energy efficiency, and using more recycled materials in packaging. A goal of achieving environmental certification, in the future, is proof of Alezo Enterprises Inc.'s commitment to sustainable development. Also, the business will be based on the principles of continuous improvement by continually monitoring its manufacturing process, as well as identifying and implementing opportunities to better its environmental effects.

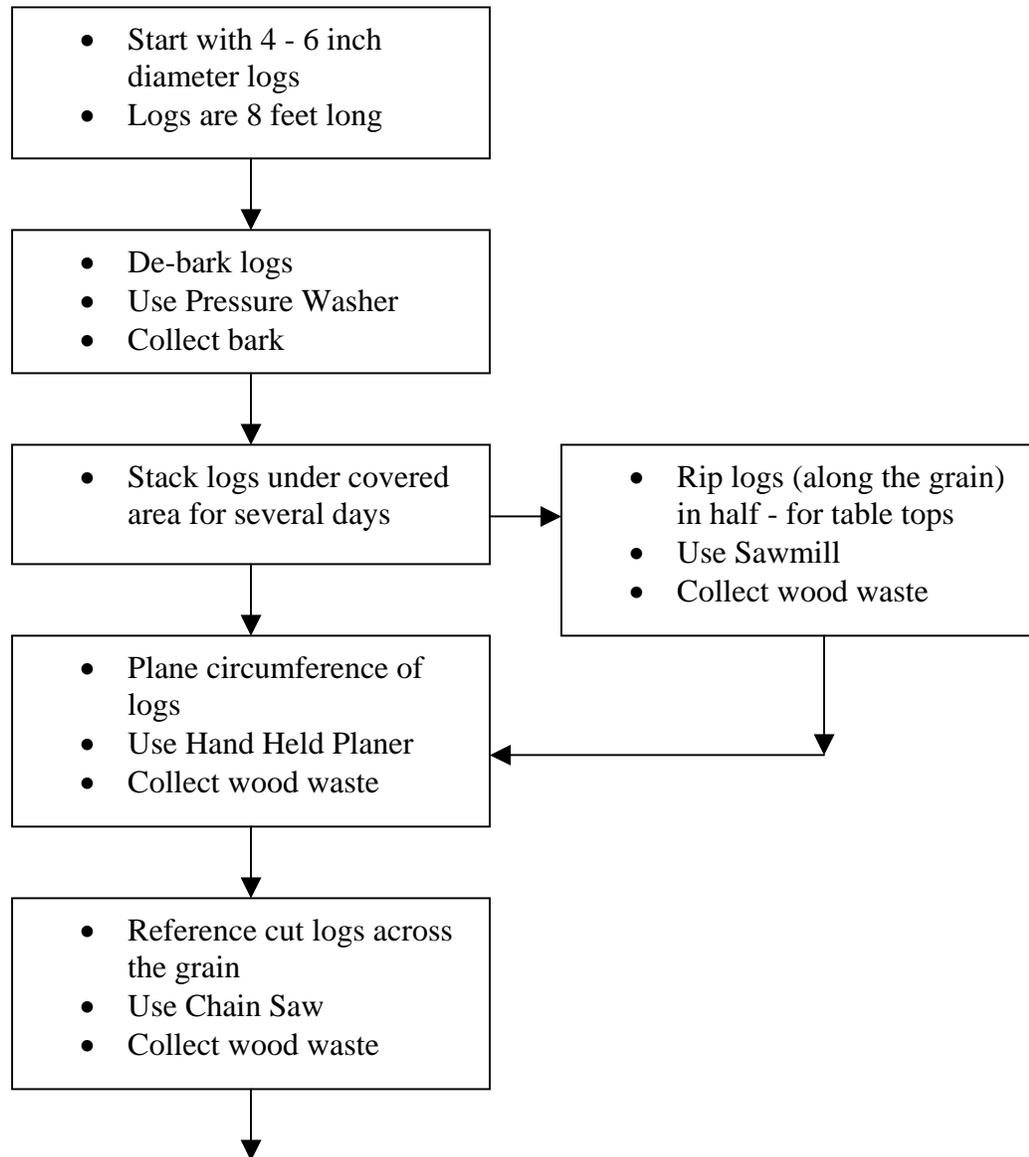
## REFERENCES

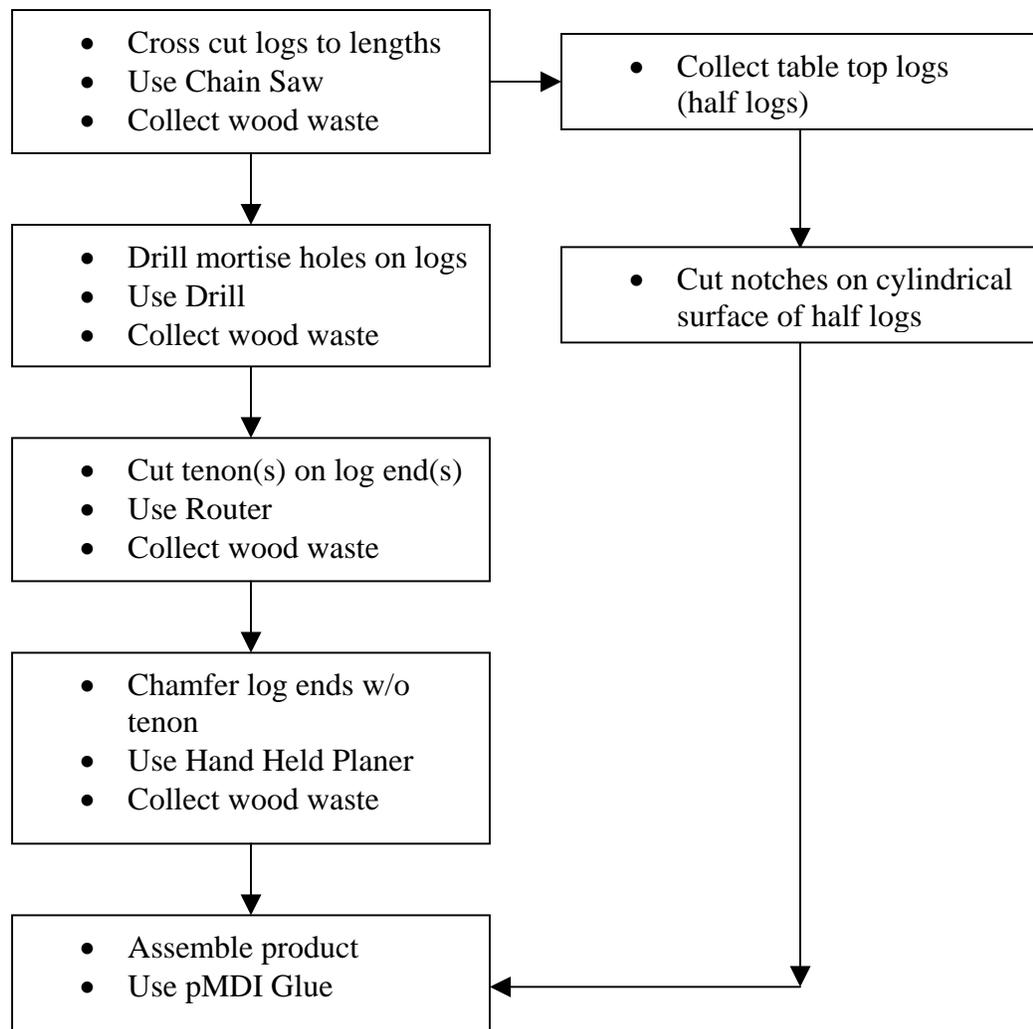
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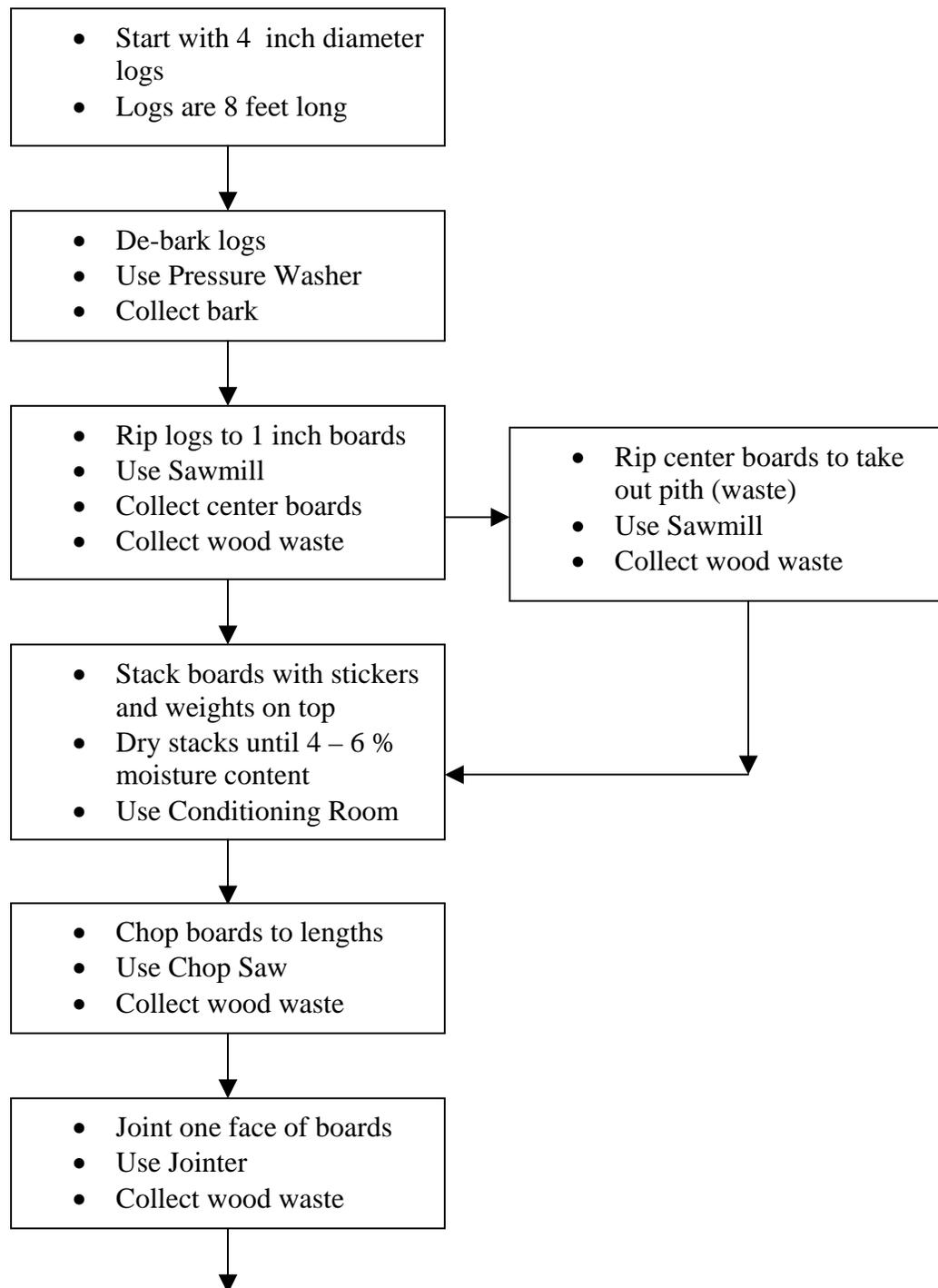
**APPENDICES**

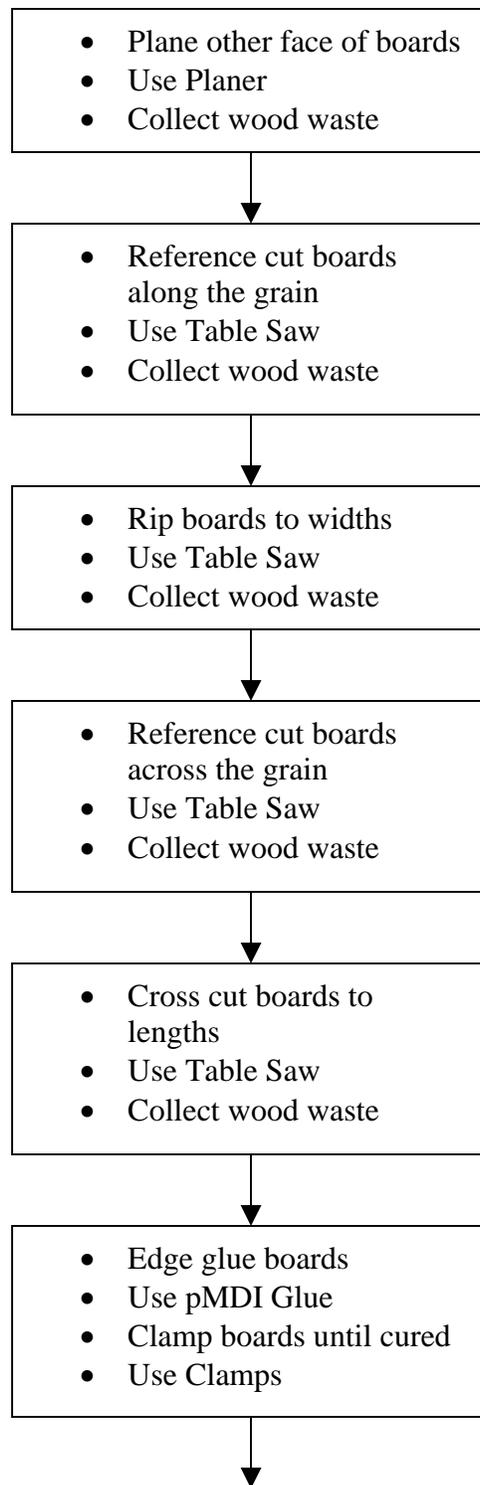
**APPENDIX I:**  
**Process Flowchart for Manufacture of**  
**Character Furniture Line**

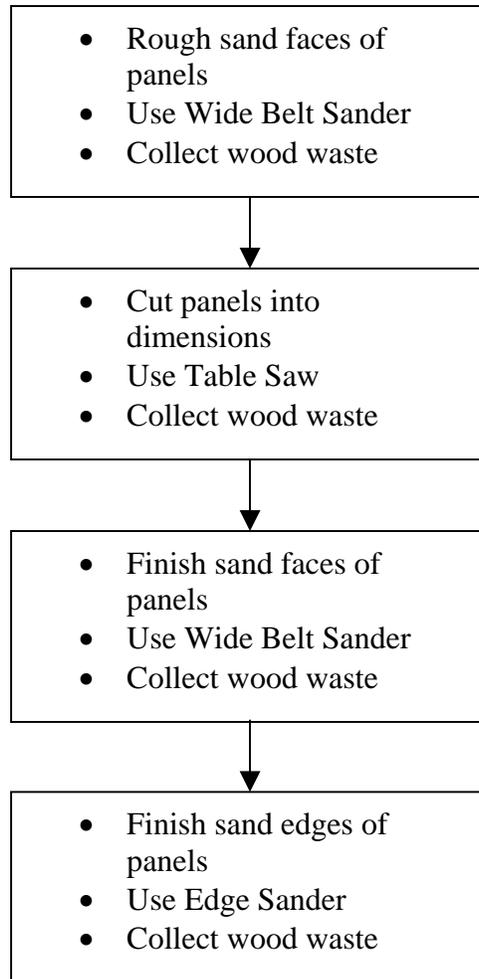




## Process Flowchart for Manufacture of False Drawer Front Blanks and Cabinet Door Blanks







## APPENDIX II: Alezo Enterprise Inc. Balance Sheets

Balance Sheet (Beginning - Pro Forma)  
June 01 2005  
(in Canadian dollars)

Assets	
Current assets:	
Cash	40000
Accounts receivable	0
Inventories (a)	6075
Supplies	3506
Prepaid expenses (b)	<u>13500</u>
	63081
Long-Term assets:	
Machinery equipment (c)	26819
Office equipment	<u>3500</u>
	30319
Total assets:	<u>93400</u>
Liabilities and Shareholder's Equity	
Current liabilities:	
Accounts payable	2000
Interest payable (d)	6400
Current portion of long-term debt (e)	<u>16000</u>
	24400
Long-Term liabilities:	
Long-term debt	<u>64000</u>
	64000
Total liabilities:	<u>88400</u>
Shareholder's equity:	
Owner's equity (f)	5000
Retained earnings	<u>0</u>
	5000
Total liabilities and shareholder's equity:	<u>93400</u>

(a) one week worth of logs

(b) three months worth of rent

(c) equipment for first year

(d) 8 % annual interest

(e) 20 % of \$ 80000 bank loan

(f) \$ 1000 from president each manager

Balance Sheet (Year 2)  
June 01 2006  
(in Canadian dollars)

Assets	
Current assets:	
Cash	99579
Accounts receivable	60375
Inventories	55000
Supplies	13000
Prepaid expenses (a)	54000
	281954
Long-Term assets:	
Machinery equipment (b)	113750
Office equipment	10000
Depreciation - machinery	(2682)
Depreciation - office	(700)
	120368
Total assets:	402323
Liabilities and Shareholder's Equity	
Current liabilities:	
Accounts payable	25000
Interest payable (c)	5120
Current portion of long-term debt (d)	16000
	46120
Long-Term liabilities:	
Long-term debt	48000
	48000
Total liabilities:	94120
Shareholder's equity:	
Owner's equity	146618
Retained earnings	161584
	308202
Total liabilities and shareholder's equity:	402322

- (a) one year worth of rent  
 (b) added equipment for second year  
 (c) 8 % annual interest  
 (d) 20 % of \$ 80000 bank loan

### APPENDIX III: Alezo Enterprise Inc. Statements of Operations

Statement of Operations  
Year Ended May 31 2006  
(in Canadian dollars)

Gross sales	1437500
Warranty returns (a)	<u>(650)</u>
Net sales	1436850
Cost of sales	
Materials	28787
Labour	<u>607360</u>
	636147
Earnings (EBITDA)	<u>800703</u>
Selling, general, and administrative expense	
Depreciation – machinery (b)	2682
Depreciation – office (c)	700
Rent and utilities	<u>24000</u>
	27382
Operating earnings	<u>773321</u>
Interest expense	6400
Income taxes (d)	305462
Loan expense	16000
Net earnings	<u>445459</u>

- (a) return of bed and night stand
- (b) used 10-year straight line
- (c) used 5-year straight line
- (d) used 39.5 % income tax

Statement of Operations  
Year Ended May 31 2007  
(in Canadian dollars)

Gross sales	3396875
Warranty returns (a)	<u>(735)</u>
Net sales	3396140
Cost of sales	
Materials	126222
Labour	<u>1289600</u>
	1415822
Earnings (EBITDA)	<u>1980318</u>
Selling, general, and administrative expense	
Depreciation – machinery (b)	11375
Depreciation – office (c)	2000
Rent and utilities	<u>54000</u>
	67375
Operating earnings	<u>1912943</u>
Interest expense	5120
Income taxes (d)	755613
Loan expenses	16000
Net earnings	<u>1136211</u>

- (a) return of bed, chair, and lamp
- (b) used 10-year straight line
- (c) used 5-year straight line
- (d) used 39.5 % income tax

Statement of Operations  
Year Ended May 31 2008  
(in Canadian dollars)

Gross sales	3528984
Warranty returns (a)	<u>(646)</u>
Net sales	3528339
Cost of sales	
Materials	126836
Labour	<u>1289600</u>
	1416436
Earnings (EBITDA)	<u>2111903</u>
Selling, general, and administrative expense	
Depreciation – machinery (b)	11375
Depreciation – office (c)	2000
Rent and utilities	<u>54000</u>
	67375
Operating earnings	<u>2044528</u>
Interest expense	3840
Income taxes (d)	807588
Loan expense	16000
Net earnings	<u>1217099</u>

(a) return of sofa, chopping block, and coffee table

(b) used 10-year straight line

(c) used 5-year straight line

(d) used 39.5 % income tax

Statement of Operations  
Year Ended May 31 2009  
(in Canadian dollars)

Gross sales	3666756
Warranty returns (a)	<u>(419)</u>
Net sales	3666337
Cost of sales	
Materials	127757
Labour	<u>1289600</u>
	1417357
Earnings (EBITDA)	<u>2248980</u>
Selling, general, and administrative expense	
Depreciation – machinery (b)	11375
Depreciation – office (c)	2000
Rent and utilities	<u>54000</u>
	67375
Operating earnings	<u>2181605</u>
Interest expense	2560
Income taxes (d)	861734
Loan expense	16000
Net earnings	<u>1301311</u>

(a) return of night stand, chair, standing lamp, night stand

(b) used 10-year straight line

(c) used 5-year straight line

(d) used 39.5 % income tax

Statement of Operations  
Year Ended May 31 2010  
(in Canadian dollars)

Gross sales	3810449
Warranty returns (a)	<u>(283)</u>
Net sales	3810166
Cost of sales	
Materials	129292
Labour	<u>1289600</u>
	1418892
Earnings (EBITDA)	<u>2391275</u>
Selling, general, and administrative expense	
Depreciation – machinery (b)	11375
Depreciation – office (c)	2000
Rent and utilities	<u>54000</u>
	67375
Operating earnings	<u>2323900</u>
Interest expense	1280
Income taxes (d)	917940
Loan expenses	16000
Net earnings	<u>1388679</u>

(a) return of chair, lamp, chopping block

(b) used 10-year straight line

(c) used 5-year straight line

(d) used 39.5 % income tax

**APPENDIX IV: Alezo Enterprise Inc. Statements of Cash-Flow**

Statement of Cash Flow  
Year Ended May 31 2006  
(in Canadian dollars)

Cash flows from operating activities:	
Net earnings	138828
Adjustments for:	
Depreciation	3382
Changes in non-cash working capital:	
Accounts receivable	30375
Inventories	28925
Prepaid expenses	20500
Accounts payable	-53000
Cash flows from investing activities:	
Additions to fixed assets	-93431
Cash flows from financing activities:	
Repayments of long-term debt	-16000
Net increase in cash	59579
Cash, beginning of year	<u>40000</u>
Cash, end of year	99579

**APPENDIX V: Cost Analysis**  
**Year Ending May 31, 2006**

**Raw Materials**

	Volume m <sup>3</sup>
Total Annual Wood Fiber	636.172512

**Overall Costs**

	Price/m <sup>3</sup>	Price/yr
Commercial Thinning	\$33.00	\$20,993.69
Layout and Administration	\$12.00	\$7,634.07
Stumpage	\$0.25	\$159.04
		\$28,786.81
Total Annual Wages		\$607,360.00
Facility Rent and Utilities(a)		\$24,000.00
		\$631,360.00
Total Yearly Costs		\$660,146.81
Total Average Cost per Month		\$55,012.23
Cost per m3		\$1,037.69

**Character Furniture:**

**Production**

	# of logs	Volume (m3)	Units/Day	Volume/Day	Volume/Year
Bed	10	0.188495559	4	0.753982237	188.4955592
Sofa	8	0.150796447	4	0.603185789	150.7964474
Chair	3	0.056548668	8	0.452389342	113.0973355
Lamp	0.25	0.004712389	8	0.037699112	9.424777961
Standing Lamp	1.25	0.023561945	4	0.09424778	23.5619449
Chopping Block	4	0.075398224	1	0.075398224	18.84955592
Coffee Table	5	0.09424778	4	0.376991118	94.24777961
Night Stand	1	0.018849556	8	0.150796447	37.69911184
Volume per Average Log				Total Volume per Year	636.1725124
Diameter	0.1			Volume per Day	2.544690049
Area	0.007854				
Length	2.4			Total Logs per Year	33750
Volume	0.0188496			Total Logs per Day	135

**Unit Prices**

	Units/Day	Price/Unit
Bed	4	\$600
Sofa	4	\$250
Chair	8	\$80
Lamp	8	\$20
Standing Lamp	4	\$50
Chopping Block	1	\$150
Coffee Table	4	\$200
Night Stand	8	\$50
Total Sale per Day		\$5,750
Total Sales per Year		\$1,437,500

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	3	\$60,000	\$62,400
Sawmill/Bucking	\$10	2000	\$20,000	3	\$60,000	\$62,400
Pre Assembly	\$12	2000	\$24,000	2	\$48,000	\$49,920
Assembler	\$14	2000	\$28,000	12	\$336,000	\$349,440
Helper	\$8	2000	\$16,000	2	\$32,000	\$33,280
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				24	\$584,000	\$607,360

(a) Rent is based on the assumption that we will be paying \$2000 monthly for the first year.

## Cost Analysis Year Ending May 31, 2007

### Raw Materials

	Volume m <sup>3</sup>
Total Annual Wood Fiber	2789.43272

### Overall Costs

	Price/m <sup>3</sup>	Price/yr
Commercial Thinning	\$33.00	\$92,051.28
Layout and Administration	\$12.00	\$33,473.19
Stumpage	\$0.25	\$697.36
		\$126,221.83
Total Annual Wages		\$1,289,600.00
Facility Rent and Utilities(b)		\$54,000.00
		\$1,343,600.00
Total Yearly Costs		\$1,469,821.83
Total Average Cost per Month		\$122,485.15
Cost per m3		\$526.92

### Character Furniture:

#### Production

	# of logs	Volume (m3)	Units/Day	Volume/Day	Volume/Year
Bed	10	0.188495559	4	0.753982237	188.4955592
Sofa	8	0.150796447	4	0.603185789	150.7964474
Chair	3	0.056548668	8	0.452389342	113.0973355
Lamp	0.25	0.004712389	8	0.037699112	9.424777961
Standing Lamp	1.25	0.023561945	4	0.09424778	23.5619449
Chopping Block	4	0.075398224	1	0.075398224	18.84955592
Coffee Table	5	0.09424778	4	0.376991118	94.24777961
Night Stand	1	0.018849556	8	0.150796447	37.69911184
Volume per Average Log				Total Volume per Year	636.1725124
Diameter	0.1			Volume per Day	2.544690049
Area	0.007853982			Total Logs per Year	33750
Length	2.4			Total Logs per Day	135
Volume	0.018849556				

**Unit Prices**

	Units/Day	Price/Unit
Bed	4	\$630
Sofa	4	\$263
Chair	8	\$84
Lamp	8	\$21
Standing Lamp	4	\$53
Chopping Block	1	\$158
Coffee Table	4	\$210
Night Stand	8	\$53
Total Sale per Day		\$6,038
Total Sales per Year		\$1,509,375

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	3	\$60,000	\$62,400
Sawmill/Bucking	\$10	2000	\$20,000	3	\$60,000	\$62,400
Pre Assembly	\$12	2000	\$24,000	2	\$48,000	\$49,920
Assembler	\$14	2000	\$28,000	12	\$336,000	\$349,440
Helper	\$8	2000	\$16,000	2	\$32,000	\$33,280
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				24	\$584,000	\$607,360

(b) Rent is based on the assumption that we will be paying \$4500 monthly after the first year.

**Blank Panel:****Production**

	Unit Size in3	Unit Size m3	Units per Day	Waste Factor	Volume per Day	Volume per Year
Door Blanks	864	0.01415842	350	0.5	7.43317223	1858.293058
Drawer Blanks	240	0.0039329	200	0.5	1.179868608	294.967152
					Total Volume Per Year	2153.26021
					Volume per Log (in3)	1206.371579
					Volume per Log (m3)	0.019768888
					Number of Logs per Year	108922
					Number of Logs per Day	436

**Unit Prices**

	Units per Day	Unit Price	Total Price per Day
Door Blanks	350	17	\$5,950
Drawer Blanks	200	8	\$1,600
		Total Sales per Year	\$1,887,500

**Labour Forces**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	8	\$160,000	\$166,400
Sawmill	\$10	2000	\$20,000	4	\$80,000	\$83,200
Chopper	\$10	2000	\$20,000	2	\$40,000	\$41,600
Jointer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Planer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Table saw	\$12	2000	\$24,000	2	\$48,000	\$49,920
Gluing	\$12	2000	\$24,000	3	\$72,000	\$74,880
Sander	\$12	2000	\$24,000	2	\$48,000	\$49,920
Helper	\$8	2000	\$16,000	4	\$64,000	\$66,560
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				31	\$656,000	\$682,240

Overall Total Sales	\$3,396,875.00
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## Cost Analysis Year Ending May 31, 2008

### Raw Materials

	Volume m <sup>3</sup>
Total Annual Wood Fiber	2803.00121

### Overall Costs

	Price/m3	Price/yr
Commercial Thinning	\$33.00	\$92,499.04
Layout and Administration	\$12.00	\$33,636.01
Stumpage	\$0.25	\$700.75
		\$126,835.80
Total Annual Wages		\$1,289,600.00
Facility Rent and Utilities		\$54,000.00
		\$1,343,600.00
Total Yearly Costs		\$1,470,435.80
Total Average Cost per Month		\$122,536.32
Cost per m3		\$524.59

### Character Furniture: Production

	# of logs	Volume (m3)	Units/Day	Volume/Day	Volume/Year
Bed	10	0.188495559	4	0.753982237	188.4955592
Sofa	8	0.150796447	4	0.603185789	150.7964474
Chair	3	0.056548668	8	0.452389342	113.0973355
Lamp	0.25	0.004712389	8	0.037699112	9.424777961
Standing Lamp	1.25	0.023561945	4	0.09424778	23.5619449
Chopping Block	4	0.075398224	1	0.075398224	18.84955592
Coffee Table	5	0.09424778	4	0.376991118	94.24777961
Night Stand	1	0.018849556	8	0.150796447	37.69911184
Volume per Average Log				Total Volume per Year	636.1725124
Diameter	0.1			Volume per Day	2.544690049
Area	0.007853982			Total Logs per Year	33750
Length	2.4			Total Logs per Day	135
Volume	0.018849556				

**Unit Prices**

	Units/Day	Price/Unit
Bed	4	\$646
Sofa	4	\$269
Chair	8	\$86
Lamp	8	\$22
Standing Lamp	4	\$54
Chopping Block	1	\$161
Coffee Table	4	\$215
Night Stand	8	\$54
Total Sale per Day		\$6,188
Total Sales per Year		\$1,547,109

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	3	\$60,000	\$62,400
Sawmill/Bucking	\$10	2000	\$20,000	3	\$60,000	\$62,400
Pre Assembly	\$12	2000	\$24,000	2	\$48,000	\$49,920
Assembler	\$14	2000	\$28,000	12	\$336,000	\$349,440
Helper	\$8	2000	\$16,000	2	\$32,000	\$33,280
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				24	\$584,000	\$607,360

**Blank Panels:  
Volume**

	Unit Size in3	Unit Size m3	Units per Day	Waste Factor	Volume per Day	Volume per Year
Door Blanks	864	0.01415842	352	0.5	7.4756475	1868.911875
Drawer Blanks	240	0.0039329	202	0.5	1.191667294	297.9168235
					Total Volume Per Year	2166.828699
					Volume per Log (in3)	1206.371579
					Volume per Log (m3)	0.019768888
					Number of Logs per Year	109608
					Number of Logs per Day	438

**Unit Prices**

	Units per Day	Unit Price	Total Price per Day
Door Blanks	350	17.85	\$6,248
Drawer Blanks	200	8.4	\$1,680
		Total Sales per Year	\$1,981,875

**Labour Forces**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	8	\$160,000	\$166,400
Sawmill	\$10	2000	\$20,000	4	\$80,000	\$83,200
Chopper	\$10	2000	\$20,000	2	\$40,000	\$41,600
Jointer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Planer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Table saw	\$12	2000	\$24,000	2	\$48,000	\$49,920
Gluing	\$12	2000	\$24,000	3	\$72,000	\$74,880
Sander	\$12	2000	\$24,000	2	\$48,000	\$49,920
Helper	\$8	2000	\$16,000	4	\$64,000	\$66,560
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				31	\$656,000	\$682,240

<b>Overall Total Sales</b>	<b>\$3,528,984.38</b>
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## Cost Analysis Year Ending May 31, 2009

### Raw Materials

	Volume m <sup>3</sup>
Total Annual Wood Fiber	2823.35394

### Overall Costs

	Price/m <sup>3</sup>	Price/yr
Commercial Thinning	\$33.00	\$93,170.68
Layout and Administration	\$12.00	\$33,880.25
Stumpage	\$0.25	\$705.84
		\$127,756.77
Total Annual Wages		\$1,289,600.00
Facility Rent and Utilities		\$54,000.00
		\$1,343,600.00
Total Yearly Costs		\$1,471,356.77
Total Average Cost per Month		\$122,613.06
Cost per m3		\$521.14

### Character Furniture: Production

	# of logs	Volume (m3)	Units/Day	Volume/Day	Volume/Year
Bed	10	0.188495559	4	0.753982237	188.4955592
Sofa	8	0.150796447	4	0.603185789	150.7964474
Chair	3	0.056548668	8	0.452389342	113.0973355
Lamp	0.25	0.004712389	8	0.037699112	9.424777961
Standing Lamp	1.25	0.023561945	4	0.09424778	23.5619449
Chopping Block	4	0.075398224	1	0.075398224	18.84955592
Coffee Table	5	0.09424778	4	0.376991118	94.24777961
Night Stand	1	0.018849556	8	0.150796447	37.69911184
Volume per Average Log				Total Volume per Year	636.1725124
Diameter	0.1			Volume per Day	2.544690049
Area	0.007853982				
Length	2.4			Total Logs per Year	33750
Volume	0.018849556			Total Logs per Day	135

**Unit Cost**

	Units/Day	Price/Unit
Bed	4	\$662
Sofa	4	\$276
Chair	8	\$88
Lamp	8	\$22
Standing Lamp	4	\$55
Chopping Block	1	\$165
Coffee Table	4	\$221
Night Stand	8	\$55
Total Sale per Day		\$6,343
Total Sales per Year		\$1,585,787

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	3	\$60,000	\$62,400
Sawmill/Bucking	\$10	2000	\$20,000	3	\$60,000	\$62,400
Pre Assembly	\$12	2000	\$24,000	2	\$48,000	\$49,920
Assembler	\$14	2000	\$28,000	12	\$336,000	\$349,440
Helper	\$8	2000	\$16,000	2	\$32,000	\$33,280
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				24	\$584,000	\$607,360

**Blank Panel:  
Production**

	Unit Size in3	Unit Size m3	Units per Day	Waste Factor	Volume per Day	Volume per Year
Door Blanks	864	0.01415842	355	0.5	7.539360405	1884.840101
Drawer Blanks	240	0.0039329	205	0.5	1.209365323	302.3413308
					Total Volume Per Year	2187.181432
					Volume per Log (in3)	1206.371579
					Volume per Log (m3)	0.019768888
					Number of Logs per Year	110638
					Number of Logs per Day	443

**Unit Cost**

	Units per Day	Unit Price	Total Price per Day
Door Blanks	350	18.7425	\$6,560
Drawer Blanks	200	8.82	\$1,764
		Total Sales per Year	\$2,080,969

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	8	\$160,000	\$166,400
Sawmill	\$10	2000	\$20,000	4	\$80,000	\$83,200
Chopper	\$10	2000	\$20,000	2	\$40,000	\$41,600
Jointer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Planer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Table saw	\$12	2000	\$24,000	2	\$48,000	\$49,920
Gluing	\$12	2000	\$24,000	3	\$72,000	\$74,880
Sander	\$12	2000	\$24,000	2	\$48,000	\$49,920
Helper	\$8	2000	\$16,000	4	\$64,000	\$66,560
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				31	\$656,000	\$682,240

**Overall Total Sales** | \$3,666,755.86

## Cost Analysis Year Ending May 31, 2010

### Raw Materials

	Volume m <sup>3</sup>
Total Annual Wood Fiber	2857.27517

### Overall Costs

	Price/m <sup>3</sup>	Price/yr
Commercial Thinning	\$33.00	\$94,290.08
Layout and Administration	\$12.00	\$34,287.30
Stumpage	\$0.25	\$714.32
		\$129,291.70
Total Annual Wages		\$1,289,600.00
Facility Rent and Utilities		\$54,000.00
		\$1,343,600.00
Total Yearly Costs		\$1,472,891.70
Total Average Cost per Month		\$122,740.98
Cost per m3		\$515.49

### Character Furniture: Production

	# of logs	Volume (m3)	Units/Day	Volume/Day	Volume/Year
Bed	10	0.188495559	4	0.753982237	188.4955592
Sofa	8	0.150796447	4	0.603185789	150.7964474
Chair	3	0.056548668	8	0.452389342	113.0973355
Lamp	0.25	0.004712389	8	0.037699112	9.424777961
Standing Lamp	1.25	0.023561945	4	0.09424778	23.5619449
Chopping Block	4	0.075398224	1	0.075398224	18.84955592
Coffee Table	5	0.09424778	4	0.376991118	94.24777961
Night Stand	1	0.018849556	8	0.150796447	37.69911184
Volume per Average Log				Total Volume per Year	636.1725124
Diameter	0.1			Volume per Day	2.544690049
Area	0.007853982				
Length	2.4			Total Logs per Year	33750
Volume	0.018849556			Total Logs per Day	135

**Unit Cost**

	Units/Day	Price/Unit
Bed	4	\$678
Sofa	4	\$283
Chair	8	\$90
Lamp	8	\$23
Standing Lamp	4	\$57
Chopping Block	1	\$170
Coffee Table	4	\$226
Night Stand	8	\$57
Total Sale per Day		\$6,502
Total Sales per Year		\$1,625,432
Profit per Year		\$152,540

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	3	\$60,000	\$62,400
Sawmill/Bucking	\$10	2000	\$20,000	3	\$60,000	\$62,400
Pre Assembly	\$12	2000	\$24,000	2	\$48,000	\$49,920
Assembler	\$14	2000	\$28,000	12	\$336,000	\$349,440
Helper	\$8	2000	\$16,000	2	\$32,000	\$33,280
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				24	\$584,000	\$607,360

**Blank Panel:  
Production**

	Unit Size in3	Unit Size m3	Units per Day	Waste Factor	Volume per Day	Volume per Year
Door Blanks	864	0.01415842	360	0.5	7.64554858	1911.387145
Drawer Blanks	240	0.0039329	210	0.5	1.238862038	309.7155096
					Total Volume Per Year	2221.102655
					Volume per Log (in3)	1206.371579
					Volume per Log (m3)	0.019768888
					Number of Logs per Year	112353
					Number of Logs per Day	449

**Unit Cost**

	Units per Day	Unit Price	Total Price per Day
Door Blanks	350	19.68	\$6,888
Drawer Blanks	200	9.261	\$1,852
		Total Sales per Year	\$2,185,017

**Labour Force**

	Hourly Wage	Hours/Year	Salary	# of Workers	Total Wages/Year	Incl. Holiday Pay
Pressure washer	\$10	2000	\$20,000	8	\$160,000	\$166,400
Sawmill	\$10	2000	\$20,000	4	\$80,000	\$83,200
Chopper	\$10	2000	\$20,000	2	\$40,000	\$41,600
Jointer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Planer	\$12	2000	\$24,000	2	\$48,000	\$49,920
Table saw	\$12	2000	\$24,000	2	\$48,000	\$49,920
Gluing	\$12	2000	\$24,000	3	\$72,000	\$74,880
Sander	\$12	2000	\$24,000	2	\$48,000	\$49,920
Helper	\$8	2000	\$16,000	4	\$64,000	\$66,560
Shipping	\$12	2000	\$24,000	2	\$48,000	\$49,920
				31	\$656,000	\$682,240

Overall Total Sales	\$3,810,448.97
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## APPENDIX VI: Equipment

Equipment	Price		Year End May 2006		Year End May 2007	
	US	Can	Units	Total	Units	Total
<i>Pressure washer</i>						
Porter-Cable PCH3740 3700psi 13HP	\$1,350.00	\$1,620.00	3	\$4,860.00	8	\$12,960.00
<i>Hand adze</i>						
Enxo (Lee Valley)	\$49.50	\$59.40	2	\$118.80	0	
<i>Electric Chainsaw</i>						
Makita 5012B 12" bar	\$169.99	\$203.99	2	\$407.98	0	
<i>Power Cord</i>						
Outdoor Colman Cable 100' 125-v rating	\$29.99	\$35.99	2	\$71.98		
<i>Planner</i>						
Makita Handheld N1900B 15000rpm	\$139.99	\$167.99	1	\$167.99		
<i>Trim Router</i>						
Dewalt DW673K	\$199.00	\$238.80	4	\$955.20	0	
<i>Hand Drill</i>						
Dewalt DW132 1/2" spade	\$204.75	\$245.70	4	\$982.80	0	
<i>Vacuum</i>						
Shop-Vac Quiet Super Power 925-43-10	\$99.95	\$119.94	2	\$239.88	2	\$239.88
<i>Chipper</i>						
Patriot Model 10F-CSV Gas	\$1,174.00	\$1,408.80	1	\$1,408.80		
<i>Ratchet Clamps</i>						
Sportough		\$20.00	20	\$400.00	0	
<i>Pallet Jack</i>						
Cascade Quick Lift Fork 27"x48" CPJ2748Q	\$219.00	\$262.80	1	\$262.80	1	\$262.80
<i>Sawmill</i>						
Woodmizer LT15 125 bdf/hr	\$5,785.00	\$6,942.00	1	\$6,942.00	2	\$13,884.00
<i>Chop Saw</i>						
Delta		\$600.00	0		2	\$1,200.00
<i>Jointer</i>						
Delta X5 Professional Jointer 6"	\$578.99	\$694.79	0		2	\$1,389.58
Jointer Knives	\$54.99	\$65.99	0		2	\$131.98
Mobile base	\$95.99	\$115.19	0		2	\$230.38
<i>Planer</i>						
Powermatic 179 1209 15"	\$1,199.99	\$1,439.99	0		2	\$2,879.98
<i>Table Saw</i>						
Dewalt DW746X	\$1,000.00	\$1,200.00	0		2	\$2,400.00
<i>Drum Sander</i>						
Performax	\$10,099.99	\$12,119.99	0		1	\$12,119.99
<i>Clamps</i>						
Quick Ratchet Bar clamp 96"	\$50.00	\$60.00	0		60	\$3,600.00
<i>Edge Sander</i>						
Ridgid Oscialting Edge/Spindle EB4424	\$199.00	\$238.80	0		1	\$238.80
<i>Dehumidification Kiln</i>						
Nyle Model L200	\$4,495.00	\$5,394.00	0		1	\$5,394.00
<i>Concrete kiln room</i>						
Concrete pumping, forming, and sealing		\$10,000.00	0		1	\$10,000.00
<i>Other Supplies</i>		\$10,000.00	1	\$10,000.00	2	\$20,000.00
<b>Total</b>				<b>\$26,818.22</b>		<b>\$86,931.37</b>

**APPENDIX VII: Financial Ratios****Year Ending May 2006**

Financial Ratios	
Liquidity Ratios	
Current Ratio	2.585287
Acid Test Ratio	2.336311
Leverage Ratios	
Debt-to-Equity	0.685225
Total Debt to asset ratio	0.946467
Profitability Ratios	
Gross Profit Margin	0.557263
Net Operating Margin	0.559617
Asset Turnover	15.38383