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Marketing Strategy for Railing Materials Made of Small Diameter

Douglas Fir

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Introduction

At the UBC / Alex Fraser Research Forest, Williams Lake, BC, the frequency of natural forest fires in dry forests (Douglas-fir) of interior British Columbia has been drastically reduced. As a result, many of the forests accumulated high densities of small trees which are competing for the limited moisture. The lack of large trees, the high amount of forest debris, and the less vigorous trees are suspected of contributing to the problems such as outbreaks of bark beetle, higher risks of catastrophic wildfire, and decreasing supply of winter ranges for mule deer. Similar problems also exist in other dry forests in North America (Leven-Green and Livingston, 2001).

Commercial thinning is being carried out in these forests to remove the overstocked small trees. If cost-effective and value-added uses for the thinned small-diameter Douglas-fir (SDDF) could be found, forest management costs would be offset, economic opportunities would be created for rural forest-dependent communities, and catastrophic wildfires would be prevented or minimized. With the consideration of wood quality, there are many options for exploring the small-diameter Douglas fir, such as lumber, engineered wood products, structural roundwood, woodfiber, pulp chips and energy material. However, efficient and profitable business possibilities haven't been explored yet. In this paper, we proposed a product line--railing material, and a brief analysis on the marketing strategy.

Basic conditions

Wood quality

There is a perception that the wood from small-diameter trees is inferior in quality. This is not necessarily true. Preliminary research results have shown that much of the Douglas-fir that occurs as understory is suppressed growth and has fairly good quality that contains a large number of rings per inch and small, tight knots Wagner (2000, 2001) found that most of the lumber sawn from SDDF was of high quality with small knots and little warp. A majority of this lumber graded Select Structural or #1 in the Western Wood Products Association Structural Joists and Planks category. Except the size, SDDF can potentially be used for quite large range of products.

Location and transportation

The UBC / Alex Fraser Research Forest, located near Williams (Appendix 1), is about 500 km from Vancouver, and farther to other major market and transportation ports. As comparing with large logs, small diameter logs are relatively low-valued. Long distance transportation will greatly increase the cost of the products from the small diameter logs.

There are quite large variations in SDDF in terms of size and grade. It is a practical barrier to utilize SDDF material for high-value products. Therefore, the material must be sorted into its best and highest-value use according to their physical quality, such as number of rings per inch, size of knots, and straightness (Leven-Green and Livingston, 2001). It is necessary for us to avoid long distance transportation before processing. Local manufacturing is the most ideal approach, or at least primary sorting and processing should be done in local mills.

Reliability of supply

Constant and reliable supply is an important factor in the processes of product exploring and marketing strategy making. There are substantial concerns about the reliability of stable supply of SDDF. Small amount of supply can only support local and small-scale enterprises, whereas large and stable supply will provide potential for local or distant, diverse and large-scale manufacturing opportunities. It is assumed that there will be stable and enough raw material supply in this case.

Possible product choices

When well sorted and processed without caring about the cost, SDDF can theoretically be used for the manufacturing of many products, such as dimension and nondimension softwood lumber, engineered wood products, glued-laminated timber, structural roundwood, wood composites, woodfiber/plastic composites, woodfiber products, pulp chips, compost, mulch, and biological energy (Myers, 1999; Reeb, 2000; Pau and Jackson, 2000, Wolf, 2000).

There are some practical factors which obstacle economical utilization of SDDF. For instance, their diameters usually limits the grade and recovery rate for lumber production; lack of engineered wood product manufacturers near the raw material region, relative high transportation cost, and the size limitation make this material difficult to be used for engineered wood products; the low availability of water resources in dry forest region usually limits the operation of pulp mill in these areas; low economical return of compost, mulch, and energy transformation of this material is also a problem for consistent exploration.

Market segmentation

It is very important to segment the future market during the making of marketing strategy. SDDF can either be processed into some products for the commodity market or

the specialty market. Generally, the specialty market are more profitable and the producers have more control on the marketing mix (Sinclair, 1992).

What market to go

Construction market is traditionally the largest market for softwood. It consumes most of the softwood production in North American. Many kinds of products can be designed for construction purpose. The SDDF could be more suitable for the construction market that also would provide larger market volume.

Based the log size, ease of processing, investment required, and job creation ability, we proposed that SDDF could be used to manufacture railing products posts, such as rail posts, balusters, handrail, and so on, both in the forms of less processed round-wood style for log houses and deep processed style for ornamental purposes. Although the diameters of the raw material seem good for railing material manufacturing, there are some competitive products in the market.

Table 1. General types of railing material

Non-wood products	Vinyl railing
	Steel railing
	Fiber plastic composite railing products
Wood products	Hardwood railing
	Softwood railing

In the wood railing market, we use a multiple segments strategy, the round-wood railing and the ornamental railing. The round-wood railing is mostly dominant by products made from softwoods. In this niche market, our new products have to compete with the products made from other species and from other materials (Table 1). The ornamental railing market is traditionally dominated by hardwood products. There are some companies using softwood as railing materials (Anon., 2003). The wood properties of the thinned small-diameter Douglas fir such as its high density, narrow growth ring, small and tight knots, high hardness makes it a good material for ornamental railing products. Because of the low price of the raw material, the products might be quite competitive in the market. Additionally, the investment of this production line is relatively low, and this industry can create many jobs, it might be a good opportunity for local communities.

When we analysis the class and characteristics of the potential customers, we find the possible customers of our products could be log house owners and builders, residential house owners and builders, other building owners and builders.

We evaluated our products in the product-market matrix. Assuming that our products will be produced in an existing wood product manufacturer, our market strategy is “product-development” type. This is the best option in our strategy. The manufacturer can adapt and add the railing product line to their existing production capacity, and market them to existing customers using the existing channels of distribution. If the

manufacturer is new for these products, then it will be more challenging for them to success.

Market attractiveness

The market growth of railing materials is relatively small because these products are quite mature. For a company which is new in this market, whether it is a totally new company or a company which expanded their product line, their market share is very low at the beginning. This is a “dog” market, it has small share in a stable markets. General speaking, it seems difficult to earn great profits in this market. Nevertheless, this is a mature and rather stable market, it can provide a reliable outlet for our SDDF in a long time. The low raw material price could make them quite competitive in this market.

Product

Considering the properties of small-diameter Douglas fir, geographic location of the Research Forest, and management costs, there are some principles in product developing and selecting.

- The products should take advantages of the small diameters wood, or at least producing cost would not be increased because of their small diameters.
- Comparing to large logs, the relative transportation cost for small logs is quite high. When possible, the production should be completed locally. Therefore, the transportation cost could be reduced, and local communities can benefit.
- If there are manufacturers like pulp mill, panel mill, and engineering product mill near the raw material location, and the raw material supply volume is very large, these products could be reasonable choices.
- Otherwise, new products must be developed. They should be specialty products and focus on certain niche markets. In this case, investment should be relatively small.

Based on above principles, wood railing products are thought to be a good choice. These products include balusters (or spindle and pickets), rail banisters, newel posts for log houses, residential houses. Besides the fact that small-diameter logs are suitable for these products, this business needs small investment, and can create many jobs.

There are two types of railing materials, one is ornamental railing products, the other type includes round-wood railing materials, which are generally used in log-houses. Other wood railing materials, such as square wood sticks (Fig. 1), will not be discussed because many commodity lumbers are available for this purpose.

These two kind of products have different requirements for wood quality. The SDDF logs with tight growth rings, small knots, and relative straightness could be used for the more value-added ornamental railing products. The relative lower graded logs can be used for round-wood railing products.

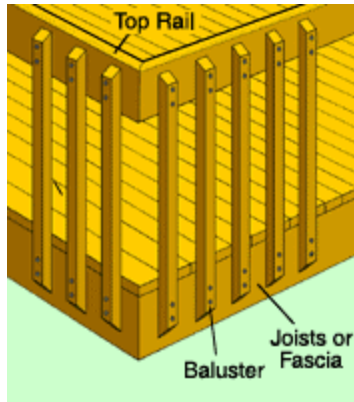


Figure 1 Square shaped simple railing balusters

From: http://www.homestore.ca/tabs/homeimprovement/how_to/Creativeaddbalustersandtoprail.asp

Round-wood railing materials

Upon the diameters of the supplied logs, they can be processed in to rood wood of different diameters (Fig. 2). These products can be used for staircase rail, deck rail, and bridge rail, as well as highway posts, fence, playground instruments, etc. Log houses could consume large volumes of these products, while other buildings are important market forces. Most of the times, the materials for log railing can be prepared and sold as round posts or poles at diverse diameters.

This type of products is simple and easy to manufacture. The added value won't be high. The advantage is these can be used for many purposes. When proper marketing strategy is developed, a rather large sales volume can be expected.



Figure 2 Round-wood railings and posts

From: <http://www.cedarsaunas.com/Railings.htm>

Ornamental railing materials

Ornamental railing materials are widely used in residential and non-residential buildings. They include machined or handcrafted balusters (or spindle and pickets), rail banisters, and newel posts. The balusters and posts in following figures (Fig. 3) are some examples of the product. In fact, we can and should design more products of diverse

dimensions and styles. The small-diameter logs are suitable for these products. Moreover, this business needs small investment, and can create many jobs.

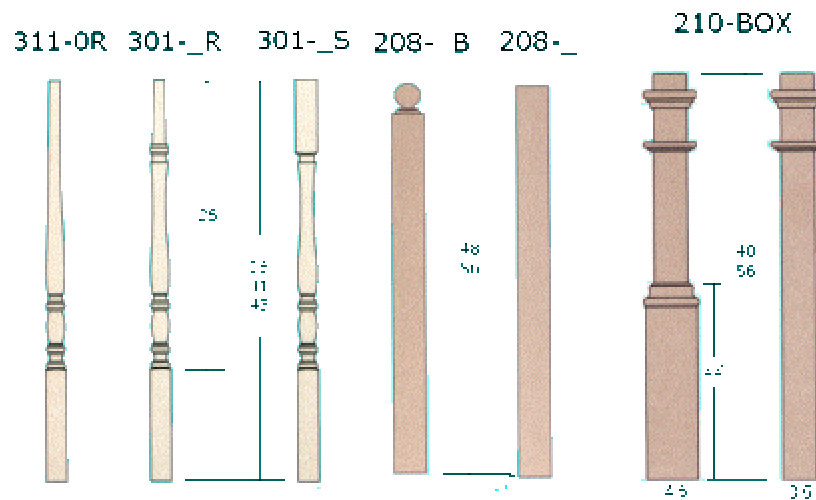


Figure 3 Some samples of ornamental railing materials

From: <http://woodstairs.com/parts/balnew.html>

Product life cycle, positioning, and branding

The wood railing products are at the mature stage of its life cycle. Although wood railing was the dominant product for railing in the past, it had lost quite a lot market shares to vinyl, steel, and other composite railing materials. Now, wood products keep a relatively stable market share, but producers of other railing material are still trying to grab market shares from wood products. The whole market for wood railing products wouldn't grow much. If we want to expand the whole market, strong and effective educations must be conveyed to the customers.

Traditionally, most wood railing materials are made of hardwood species. Softwood ornamental materials are relatively new. If the railing materials manufactured from SDDF are comparable with the hardwood products in properties such as splitting, checking, warping, grain, and texture, they can be quite competitive because the raw material is ample and cheap. By well designed marketing campaign, they could obtain some market share from hardwood products. If we can successfully send the information to the consumers that these products are from forest-protecting thinning, they might attract some consumers who care about environmental protection.

It will be a great help if these new products are produced by an existing wood product manufacturer who has a good brand name. If the manufacturer is a new firm, it will be an expensive procedure, in terms of money and time, to establish a new brand name. In this case, using intermediate's or retailer's brand name could be a possible option. Another choice is to establish joint venture with a manufacturer already in this area and use the partner's brand name.

Physical distribution

If the manufacturer is new in this area, it would be better to use intermediaries. Otherwise, the producer's existing distribution channel should be utilized as much as possible. At the beginning, intensive distribution, instead of exclusive distribution, method should be employed, because it can fully expose the products to the customers and intermediaries.

The round-wood railing materials and posts can be distributed by log-house builders, lumberyards, and home centers. The ornamental railing material can be distributed through home centers, specialty stores, etc. The manufacturer can distribute part of its products directly to some large customers. Internet is also a good way for direct distribution.

Physical distribution

From the location of the forests and as we suggested local producing, trucks are the most possible way to transport the products to west coastal Canada and northern west US.

To the east coastal regions in Canada and US, or other regions in North America, railway transportation will be the most economical choice. For other international markets, such as Asia and Europe, seaway transportation is the best choice.

Pricing

The round poles for railing are more like commodity products, so the single manufacturers have little control on the price. The ornamental wood railing products are specialty products. Generally speaking, the price elasticity for specialty products is quite small. That means the sales volume is not obviously affected by price. They have relatively larger profit margin as comparing with commodity products. To push the products from Douglas fir and attract customers from hardwood products, we need to keep our prices at competitive levels, as comparing with most hardwood products.

At early stage, sales oriented pricing policy can be employed to expand market share. To keep the price competitive, breakeven pricing strategy is suggested to guarantee that the price is as low as possible while a certain profit is expected. This pricing strategy will also help the price at the customer perceived level as most customers believed that hardwood-railing product should be more expensive. Table 3 showed some prices for some hardwood railing products, which can be used as references when we determine prices for our products.

Table 3. Price list for some railing products

Part #	Product Description	Price
B501-PO	36" Style #5 Plain	\$11.55
B502-PO	42" Style #5 Plain	\$12.75
B601-F4	36" Style #6 4 Flutes	\$15.86

B602-F4

42" Style #6 4 Flutes

\$17.58

From: <http://woodstairs.com/lights/balusterprice.html>

Promotion

In term of marketing, promotion is any of communication that creates a favorable disposition toward a goods or service in the recipients. Here, we want to tell the information about our railing products, our service to the customers in the target market, and create a desire of buying or future buying. The information includes that about product characteristics, quality, pricing, reliability, status, etc. To send the information to the targeted customers efficiently, we need a well-planned promotion mix.

Promotion target and advertising strategies

Advertising and publicity are important steps to establish awareness of our products in the minds of customers and distribution channels. The railing products are specialty products. The demand volumes for these products are not as large as commodity products. Massive advertising tools, such as TV and radio, might be too expensive and inefficient for our products. We need to focus our advertising campaign precisely on the right market segment and customers.

The target market for our products is people who love natural-style housing (for log house railing products), wood products, classic styles, and environment protection. Most of these people are relative elder, wealthy, and nature loving. The young consumers who love these product could be well educated, environment-caring, and classic style loving. Beside the end users in do-it-yourself market and family innovation market, specifiers (engineers and architects) are also important marketing targets, for they have substantial impacts on building material selection. To these market segments, advertising in home-innovation magazines, furniture magazines, professional journals, in-store brochures, and internet advertising could be effective methods.

Promoting of product image

It is very important to convey correct product information in an effective way to create a positive public image of our products, the “whole products”, not only the physical products.

Product style and status We should try to establish an elegant, warm, comfort, environment-friendly image of our products. These features will bring the consumers a feeling or proud of social status, education level, and life style, which will help to attract and encourage the potential customers in the target market.

Warranty, delivery, and reliability These are important information about the products. We must do our best to set up a policy, based on the features of our products, about these issues and give practical and achievable promises. To help the do-it-yourself customers, an installation manual must be provided for ornamental railing products.

Pricing We estimate that the prices of our products should be lower than their counterpart hardwood products. Nevertheless, as the strategy of promotion, we should not

emphasis the low cost of our product to avoid the quality price association in consumer's mind. What we need to emphasize is the special taste different from hardwood products.

Other promotion tactics

Selective or exclusive distribution usually requires more personal selling. Although personal selling can effectively communicate with consumers and increase sales in a given store, it is so expensive that it is unaffordable to the not-so-expensive products like railing materials. We suggest that intensive distribution strategy be used for our products. We should try to distribute our products into every possible channel and make them exposed to as many customers as possible. On the other hand, consumers may need quite a lot of information about style, wood species, properties, and installation for ornamental railings, we suggest that manufacturers should provide as much information as possible in written forms. Therefore the salesmen or the consumers themselves can get information from these written materials.

The do-it-yourself market is also an import market for the railing product. To provide necessary information of installation and maintenance, a detailed description about installation must be developed for the customers (Anon.).

We suggest the manufacturer pay attention to product publicity such as display their products on trade shows. To set up a sample rail in the store is a good idea, which gives the consumers a real feeling about what the products really look like and help them to make the decision of buying.

Pros and cons

There are some advantages of these products and make them good options to explore. The small size SDDF is suitable for the railing products. The required investment for these product lines is quite low. The processing technology is rather simple. The railing products made of SDDF could be lower than their hardwood counterparts. There is a good chance that these products can attract some consumers.

On the other hand, there are some drawbacks of investing in these products. We are not sure that if the quality of ornamental railing materials made of SDDF are comparable with hardwood products. The total market is not very large, and as a mature market, there is little potential of market growth. Though the price of the SDDF products could be cheaper than the hardwood products, it takes time for people to accept them. That means, if want to see fast sales growth, we have to spend a lot of money in advertising and education campaign.

Recommendation to UBC/Alex Fraser Research Forest

In fact, the round-wood railing products and the ornamental railing products are two different product lines. For potential manufacturers, they can choose both or either of the two product lines based on their financial, technical, and management reasons. The

round-wood railing materials are easy to produce and have low profit margin, and also could meet strong competitions from similar products that are not made of SDDF. The ornamental rail products need more investment, higher requirement on wood quality. They could have larger profit margin as comparing with round wood products. It might take quite a long time for the market to accept these products. Some advertising and publicity are necessary for the products.

Before large-scale production, a complete product test and evaluation must be carried out for a clear understanding about the product features and qualities.

In this proposal, we only give some brief idea about what the products are. As a matter of fact, product design plays a very important role in product development and following marketing movement. Even when some product lines have been set up, great effort should be made to product innovation and upgrading.

The SDDF has high ratio of bark and sapwood. Large amount of wood residues will be created during the production. This waste material can be used for compost, mulch, and energy.

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