

THE FEASIBILITY OF AN ONLINE LOG AND LUMBER EXCHANGE IN THE KOOTENAY BOUNDARY

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Executive Summary

Introduction

The Small Forest Tenure Capacity Building in the Kootenay-Boundary Region, a report issued in May 2022 by local small-scale forestry stakeholders, provided insights into the challenges faced by small forest operators in the current market. It found that small wood manufacturers stated that the lack of consistent fibre was a barrier to increasing capacity. They additionally stated that they would like to see an online marketplace featuring wood product sales from small wood manufacturers.

Purpose

This study explores the concept of a web-based Log and Lumber Exchange (the Exchange) platform to facilitate log sales from small tenure holders to small wood manufacturers, thus building the capacity of small wood manufacturers.

Desired Solution

This study explores what is required to develop, implement and sustain the Exchange in order to build the capacity of small wood manufacturers. Our proposed solution would:

- provide a fibre distribution channel to be utilized by fibre suppliers, sawmills, small wood manufacturers and retailers;
- connect these players to an extensive network of potential buyers and sellers, allowing clients to make informed decisions about log, lumber and wood product pricing on a business-to-business and business-to-customer basis;
- act as an online marketplace with listings to include:
 - product and quality characteristics,
 - volume and location data, and,
 - the ability to converse and carry out transactions through placing bids and execute trades.

The Exchange has the potential to:

- manage payment clearing between buyers and sellers
- post buyer payments to secured escrow accounts to be released to sellers pending the quality and safe delivery of the product
- reduce the risk for sellers
- simplify the process for buyers.

Once operational, site operators could add features to the basic site such as:

- 1) a knowledge base for users seeking support in wood manufacturing,
- 2) finished wood products for sale to end users,
- 3) tools and equipment, or
- 4) services for bid.

Operators will be able to scaffold services, adding as capacity grows and needs arise and

attracting additional customers to grow the user base as the Exchange becomes an established marketplace.

Sources

Authors relied on data captured from interviews with small tenure holders and small wood manufacturers in the Small Forest Tenure Capacity Building Report to guide the development of this model. They researched similar products and discussed the project with key individuals from the Ministry of Forests, industry stakeholders, similar website owners/operators, and website developers.

Findings

The value provided by the Exchange goes beyond increasing the capacity of small wood manufacturers. The Exchange will:

1. Create and increase sales and distribution channels of high-value forest products to potential buyers and sellers;
2. Enhance demand, drive sales and increase value by creating a marketplace for small saw millers and wood manufacturers and making it easier to specify, purchase and use said wood products; and
3. Increase confidence in fibre supply by strengthening connections between small tenure holders, small wood manufacturers and product end users such as homeowners, builders, contractors and retailers.

Business Explanation

Purpose

The purpose of this project is to explore the creation of an online marketplace (the Exchange) where small wood manufacturers in BC's Southern Interior can consistently access the fibre needed to maintain and grow their businesses.

Target Population

Forest industry demographics skew towards small wood manufacturers nearing the end of their careers. These individuals are typically independent, and many prefer to spend their time outside and active in the bush rather than online.

Product

The Exchange is an online log, lumber and wood product marketplace that facilitates connections between local suppliers (small tenure holders) and small wood manufacturers. Additionally, the Exchange will feature a marketplace for lumber, wood products and speciality products where end-users can find local solutions to meet their construction, retail or home improvement needs.

Features

Information provided on the Exchange will allow users to make informed decisions about log, lumber and wood product pricing. The main services offered will be logs, lumber and wood products for sale. However, it can easily include jobs, projects and services for bid.

As conceived, additional features can be added to enhance and broaden the Exchange's capacity and reach. These include:

- a knowledge base for users seeking support in wood manufacturing,
- finished wood products for sale to end users,
- tools and equipment,
- services for bid, and
- secured escrow accounts for buyer funds to ensure payments.

All online listings will feature:

- 1) product and quality characteristics,
- 2) volume and location data,
- 3) requests for services or products,
- 4) shipping and delivery services, and
- 5) the ability to easily place bids and execute trades.

Strengths

1. Users will be able to transact both spot- and forward-term deals and secure market representative pricing for log, lumber and wood product supply needs.
2. Information on the Exchange will allow users to make informed decisions about log, lumber and wood product pricing.

Weaknesses

1. The site is only effective with a cadre of dedicated users who can both offer products and services as well as purchase the same;
2. Launching the site and recruiting users will require personal connections, consistent advertising, and targeted outreach to the proposed users.

Opportunities

1. The Exchange fills a need for an accessible marketplace featuring local logs, lumber and wood products for sale.
2. Small businesses and individuals can place ads for jobs, forestry projects, roads, bridges, timber harvest and other forestry- and wood-related services for bid.

Threats

1. An online website may prove challenging to small tenure holders, loggers and small wood manufacturers who are typically in their late fifties and early sixties and not typically active on online platforms;
2. Many in the industry are very independent and often prefer to spend their time outside and active in the bush rather than online.
3. Many small tenure holders noted that it was easier to sell their supply to one buyer, particularly large sawmills, to ensure that they would be paid fairly and on time.
4. Thirty-eight percent (38%) of respondents in the Small Forest Tenure Capacity Building study stated that partnerships in the industry don't work out or that they couldn't trust anyone.

Business Model: Private Company

The authors investigated the pros/cons (**Table 1**) of two models of ownership: 1) operated by a non-profit organization; or 2) operated by a private company. This study proposes the Exchange as a for profit venture operated by an individual or private enterprise where the operations, asset, liabilities and all financial obligations would be in the control of an individual or shareholders of an enterprise.

Table 1: Pros and Cons of Different Ownership Models

Business Ownership	Pros	Cons
Private company	<ul style="list-style-type: none"> • More agile & responsive • Vested interest in success • More competitive • Less regulations and paperwork • Quick and easy to set up • Low fees and costs • Easier banking 	<ul style="list-style-type: none"> • Can be difficult to raise capital • No public involvement or direction • Taxes • Lack of government protection –liability • Needs profit to run
Non-profit entity	<ul style="list-style-type: none"> • No taxes • Transparency due to funding requirements • Does not need profit to run 	<ul style="list-style-type: none"> • Lack of ownership • Can lack efficiency and effectiveness • Less responsive to market pressures • Often volunteer dependent • Often slow to adapt due to governance structure • More regulations and paperwork

Stage of Development

The Exchange is currently in the idea stage. The current time frame for completion is twelve months:

Milestone	Completion By:
Complete feasibility study	March 2023
Determine operational structure	April 2023
Apply for start-up funding	May - June 2023
Receive start-up funding	July - September 2023
Issue RFP for website developer	September 2023
Identify forestry professionals to consult with developer	September 2023
Select website developer	October 2023
Website development	November 2023 – January 2024
Website marketing and outreach	November 2023 – ongoing
Beta testing of website	February 2024
Address issues uncovered during beta testing	March 2024
Project launch	April 2024

Legal Restrictions and Rights

Some legal requirements for the site include:

1. Privacy policy;
2. Copyright notice;
3. Website disclaimers; and
4. Website terms of use.

Insurance Requirements

The following types of insurance for the Exchange should be considered:

- Commercial General Liability Policy
- Product Liability
- Professional Liability Policy
- Business Property
- Workers Compensation
- Transit
- Cybersecurity
- Business Interruption

Trends

Critical trends to consider:

- 1) The small forest tenure cadre is an aging population, with many principal operators nearing retirement in their sixties or even seventies
- 2) The forest industry is transitioning from high-volume to high-value production
- 3) Potential users have stated that partnerships in the industry don't work out or that they can't trust anyone.
- 4) The Province is helping the forestry sector retrofit and develop new, sustainable value-added business lines that reduce dependency on old growth logging and make innovative use of biomaterials.

Relationship to geographic area

Economic/social impact

Potential economic/social impacts are of this project are:

- 1) increased jobs in the region; and
- 2) sustainable income for small wood manufacturers.

Environmental impact

Potential environmental impacts are:

- 1) reduced transportation of goods as connections between sellers/buyers are made closer to home; and
- 2) reduced wood waste as online marketplace connects sellers and buyers

Market Analysis

Industry Description

Size, scope

The forest sector in British Columbia (BC) is a foundational industry that supports economic activity in all regions of the province. The industry:

1. Employs more than 50,000 British Columbians directly
2. Supports up to 100,000 jobs throughout the province
 - a. half are located in the Lower Mainland and Southwest Region.

3. Generated \$13.3 billion in GDP in 2019, with:
 - a. \$4.8 billion derived from forestry, logging and support activities,
 - b. \$5.5 billion from wood products manufacturing, and
 - c. \$3 billion from pulp and paper manufacturing.
4. Contributed approximately \$8.4 billion in labour income
Makes up 29% of BC's total exports, equal to \$11.5 billion.¹

The Competition

Major competitor description

Online Log and Lumber Marketplaces: Several online log and lumber marketplaces exist but have limited to no reach among BC businesses. **Table 2** provides competitive analysis of the existing marketplaces and highlights differentiating features of the Exchange which shows that no online BC-based or even Western state-based log/lumber marketplaces exist. Of the three sites listed in **Table 2**, only Fordaq has an active log selling component. However sales appear to be primarily based in Europe and Asia, with no active US- or Canada-based sales reps.

Major Producers: The BC tenure system is dominated by a few large-scale producers. Currently, 77% of the unallocated fibre supply is sold to the major producers with the remaining 23% sold to small sawmills and other manufacturers. Small manufacturers stated that this limits their access to fibre and their ability to increase their capacity. However, small tenure holders in the Small Tenure Capacity Building project noted that selling their supply to a large sawmill ensures that they will be paid fairly and on time and that it was easier and less risky to sell their supply to one large buyer than multiple small buyers. Thus major producers are viewed as a competitor to the Exchange because of the concern that they could routinely and regularly outbid small manufacturers on the site.

Bridges I and II: In response to stakeholder feedback seeking an online forest product marketplace, the BC Community Forests Association (BCCFA) launched WoodSourceBC, a website designed to link buyers and sellers of BC wood products. The project was a complete failure, with virtually no uptake or usage. Reasons for its quick demise include:

1. The project focused solely on woodlots and community forests and did not include small wood manufacturers.
2. Log sellers didn't trust the system and didn't know if they'd be paid or why they should incur costs to ship across the province if they could simply ship locally.
3. Ownership of the site was unclear, and maintenance became a barrier with no designed budget for ongoing costs such as website hosting or troubleshooting.
4. The site was developed by a contractor at a time before wide-scale usage of plug-ins and e-commerce sites and thus couldn't be easily updated or accessed.

¹ 2020 BC Forest Sector – Statistics Summary. Retrieved 02/28/2023 from, [PowerPoint Presentation \(gov.bc.ca\)](#)

Table 2: Current online log/lumber marketplaces

Marketplace/ Location	Strengths	Weaknesses	Revenue Model	Differentiating Features of the Exchange
WoodWeb https://www.woodweb.com/cgi-bin/exchanges/lumber.cgi United States	<ul style="list-style-type: none"> • Active buy/sell forum • Active forums for knowledge sharing • 3 revenue streams • Free for buyers 	<ul style="list-style-type: none"> • no log sales • does not facilitate payments • US-focused, USD only • Only 6 requests for lumber/wood products • Unattractive website 	<ul style="list-style-type: none"> • Advertisements • Sponsors • Buy/sell fees 	<ul style="list-style-type: none"> • Free marketplace for all subscribers • Revenue stream based on fee for service • Log and wood product sales • Facilitates payment • Easy to use website • North American based • CND only • Buy/sell offers in Canada for log and wood products • Offer escrow • Requests for service or product online • Analytics • Historic pricing and transparent pricing • Ability to bid • Blog • Information exchange
Fordaq https://www.fordaq.com/ 191 countries <ul style="list-style-type: none"> • 805 businesses in Canada • 62 in BC 	<ul style="list-style-type: none"> • 11 categories of wood products for sale • Logs for sale • International user base • automatic translation in 14 languages • easy to use website 	<ul style="list-style-type: none"> • No North American sales reps • Expensive memberships • USD or EUR only • Few log offers in Canada (1% of offers) 	<p>Memberships provide bulk of revenues:</p> <ol style="list-style-type: none"> 1. International (ranges from Bronze package at \$1050 USD/year to Gold at \$3190 USD/year and Platinum at 6950 Euros/year) 2. Regional: \$340 USD/year 3. Buyer: Bronze @ \$690 USD/year to Gold @ \$3190 USD/year <p>Ads</p> <ul style="list-style-type: none"> • Possibly brokerage fees 	
WoodPlanet http://www.woodplanet.com/woodplanet_home.cfm International	<ul style="list-style-type: none"> • Free for buyers • Free for sellers up to 10 transactions • 14 product categories 	<ul style="list-style-type: none"> • Few log listings • Unattractive website 	<ul style="list-style-type: none"> • Free for buyers • Free for sellers up to 10 transactions • Membership options for sellers 	

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Barriers to entry of new competitors

The Exchange will meet a distinct need in the region and upon launch will not directly compete with the international- or US-based marketplaces, as they do not have a presence among the targeted small wood manufacturers. Several other possible barriers and solutions to entry are presented in **Table 3**.

Table 3: Potential barriers and solutions to entry into market

Potential barriers	Solutions
Lack of start-up funding	Explore assistance through government grants, small business loans, personal financing
Lack of consensus on site development	Clarify site content, operational configuration or ownership, and other aspects prior to development
Lack of interest by local tenure holders or wood manufacturers	Concerted marketing and outreach efforts to this population
Not enough participation by buyers, sellers and end-users	Concerted outreach and marketing, consider incentives
Lack of supply and transactional float	Begin efforts to recruit/engage local participants prior to start-up

Concentration and competitiveness

Lacking direct online competitors, the success or failure of the Exchange will rely on its engagement of log sellers and buyers, wood product manufacturers and end-users. To address competition for log supply via traditional sales routes, the Exchange demands major investments in outreach and marketing to:

1. create awareness of the marketplace among small tenure holders across the region;
2. outreach to small wood manufactures and end-users throughout BC;
3. build connections between small tenure holders, small wood manufactures and end-users; and
4. encourage use of the Exchange marketplace.

Bargaining power of suppliers: Suppliers, both small tenure holders (logs) and small wood manufacturers (lumber, wood products) will have bargaining power when the following conditions exist:

1. the Exchange provides access to a market with few other suppliers; and
2. the Exchange has market reach, giving suppliers access to many buyers.

There is a risk that once small tenure holders are connected to the Exchange and thus small manufacturers, they can bypass the online marketplace and sell directly to them. The benefits of staying in the Exchange should outweigh the benefits of leaving it.

Bargaining power of buyers: The Exchange addresses small wood manufacturers' specific needs for fibre and opens up the market to those who can't meet their needs through the existing system. The bargaining power of small manufacturers as buyers is likely to be higher when these conditions exist:

1. They buy large volumes and there is a concentration of buyers.
2. The supplying industry operates with high fixed costs.

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3. End-users of small wood manufacturer products have low margins and are price sensitive.
4. End-users of small wood manufacturer products have access to and are able to evaluate market information

Price Competitiveness

Two factors are critical to the project:

- 1) price competitiveness; and
- 2) trust that payment will be forthcoming.

Small wood manufacturers do not have the capacity to outbid the major producers for fibre and do not always have the large cash reserves to pay for log supply up front. Small tenure holders want guarantee of payment and turn most often to the major producers who can provide it.

The Exchange will address these concerns through:

1. A fully integrated wholesale sales exchange with the ability to transact both spot and term deals and secure market-representation pricing.
2. A streamlined transaction process.
3. A clear, transparent system.
4. Facilitation of payments at market-value where:
 - a. pricing is not controlled by the site itself and
 - b. is listed for all users
5. Payment facilitation that reduces the risk for sellers and simplifies the process for buyers.

Second or third phases of growth: a secure shipping system with trusted partners to alleviate constraints on log sales outside the region.

Exchange pricing must provide value over the current system that favors the major producers. Competitor pricing (**Table 2**) shows varying methods of revenue generation that include:

- Memberships or transaction-based user fees;
- Advertisements; and
- Sponsorships.

Market Potential

Product market

The Exchange offers:

- a venue of product exchange with at least one buyer and seller;
- a competitive venue for sellers, buyers and end-users of logs, timber and wood products;
- a listing/display of available logs, products and requests for services or products;
- a fully integrated online exchange; and
- secure market-representation pricing for any listed wood product or needed supply.

Demand and usage trends

The Small Forest Tenures Capacity Building Report reported that:

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- 50% of small wood manufacturers are not reaching potential buyers.
- One-third of small wood manufacturers would like to see a lumber/log exchange/marketing board website to facilitate sales and collaboration.
- 14% of small tenure holders believe that competition on an open market or website for prices would create connections and cooperation between small players in the industry.

Within the online log and lumber marketplaces reviewed for this study, lumber and wood product sales seem to be the least used feature of the site. Woodweb.com, for example, offers five different categories for buying and selling on the site, with lumber the least active commodity (Table 4).

Table 4: Active buy/sell listings on WoodWeb.com

Buy/Sell Commodity	# of active postings since January 2023
Machinery	282
Jobs	200
Services	31
Classifieds	8
Lumber	6

Table 5 shows that there are many more buyers than sellers for all commodities other than flooring on WoodPlanet.com. For example, the site lists 230 potential buyers for hardwood lumber with only 16 offers to sell; for softwood lumber, there are 96 potential buyers with only 6 listed sellers. Despite having 27 buyers seeking wood waste, there are no sellers. Table 5 provides a summary of the WoodPlanet commodity listings and the ratio of buyers to sellers. The WoodPlanet site is offered free to buyers and at a cost to sellers, which could be presumed to affect the data below.

Table 5: Buy/sell commodity offerings and ratio of buyers to sellers on WoodPlanet.com

Buy/Sell Commodity	# of buy postings	# of sell postings	Ratio of buyers to sellers
Logs	256	1	256:1
Hardwood lumber	230	16	38:1
Wood Components	17	1	17:1
Softwood lumber	96	6	16:1
Engineered wood products	9	1	9:1
For Woodworkers	17	2	9:1
Plywood & Veneer	13	6	7:1
Other Wood Products	16	3	5:1
Reclaimed Wood	106	26	4:1
Milled lumber/lumber for construction	29	9	3:1
Flooring	15	17	1:1
Wood Waste	27	0	n/a

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Within North America,² the Fordaq.com marketplace shows that sellers are more active on the site than buyers. **Table 6** provides this data.

Table 6: Canadian wood commodities listed on Fordaq.com

Buy/Sell Commodity	# of buy postings	# of sell postings	Ratio of buyers to sellers
Logs	2	7	1:4
Sawn & structural timber	0	29	n/a
Firewood, pellets & residues	0	2	n/a
Pallets, packaging and packaging timber	2	3	1:2
Veneer and Panels	0	2	n/a
Wood components, mouldings, doors, windows, houses	0	2	n/a
Flooring & exterior decking	1	1	1:1
Furniture & Garden Products	0	0	n/a
Software	0	0	n/a
Machinery, hardware & chemicals	0	5	n/a
Services and jobs	0	1	n/a

Differences in demand and usage within these sites can be attributed to:

- 1) the type of wood species;
- 2) site/user location; and
- 3) business maturity.

All sites primarily offer Hardwoods which are:

- significantly more expensive than softwoods,
- typically less readily available, and
- made into higher value products such as flooring, furniture and cabinets.

Softwoods, more common in BC's interior, are:

- flexible, lighter in weight and less dense than most hardwoods
- commonly used for interior mouldings, the manufacturing of windows, construction framing and generating sheet goods such as plywood and fibreboard, and
- more abundant in North America than hardwoods making them more readily available.

These businesses have been built around hardwood lumber, which is scarcer and more expensive than softwood lumber. Because lumber shipping costs are a function of weight and size and not value, shipping costs are consequently a large component of the total costs for inexpensive wood and a small component of the total costs for expensive wood. Accordingly, there is a broad geographic market for high-end hardwoods or wood availability.

When all other factors are equal, businesses and end-users should source the wood they need from their closest wood supplier. In reality however, other factors are rarely equal. These

² The Exchange is focused on the southern interior of BC and surrounding provinces/US states and thus will not be compared to markets outside of North America.

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websites are built on an offer of unique or rare wood that is not available in local retail lumber stores. For these sorts of wood products, these websites act as the closest supplier, regardless of the buyer's location.

In this regard, the Exchange will be no different. It will not serve the commodity lumber market, nor will it compete with the major producers as it will be focused on value over volume.

Emerging market opportunities

Many wood products produced by small wood manufacturers are not easily accessible through retail lumber yards. The Exchange can facilitate business-to-business or business-to-consumer transactions, allowing small wood manufacturers to:

- tailor their services or products to the specific needs of a business or consumer, and
- offer consumers access to hard-to-find wood products.

Branded product opportunity or potential

At this point, it is unclear who or what will be operating the site thus difficult to identify branded product opportunities though the potential exists.

Market usage and potential market segment

Potential market segment in Kootenay Boundary region:

- 72 small tenure holders
- approximately 46 small wood manufacturers and
- at least 12 small logging contractors
- endless number of end users, including contractors, landscapers and general homeowners

Potential market usage:

- 100% of small wood manufacturers stated an interest in an online marketplace place to source fibre.
- 80% of these businesses stated that they would be willing to sell their products via an online marketplace.

Analysis shows several growth opportunities via different market segments. Initial project efforts will:

1. bring small tenure holders and small wood manufacturers together to establish a domestic regional marketplace for fibre;
2. facilitate payment for fibre to small tenure holders; and
3. increase sales to small wood manufacturers seeking fibre.

Further steps will include:

1. providing a market for wood product sales to end users;
2. opening up a knowledge exchange (blog); and
3. facilitating listings of jobs and services for bid.

Opportunities at many levels: The Exchange can reach a broader market segment than what is currently available through the domestic lumber market. BC is home to numerous small- and medium-sized businesses offering a wide range of timber products that are not readily available

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at a local lumber yard. The Exchange can facilitate access to uncommon, unique or custom timber products available.

Furthermore, many of these small- and medium-sized businesses have difficulties sourcing the raw fibre they require to produce these timber products. The Exchange will connect wood manufacturers and timber suppliers.

The proposed market reach is small and will expand through promotion as usage increases. To best position it for success, the Exchange should reach farther than the Kootenay-Boundary, into Alberta, Idaho, Washington, and all of BC.

Access to market outlets

Potential users and associated costs

Potential users of the Exchange are identified below in order of priority for sales and successful operations. They include (Table 7):

- 1) fibre suppliers;
- 2) small wood manufacturers; and
- 3) end users

Table 7: User Type and Potential Market Reach

User Type	Potential Reach (BC)
Fibre Suppliers	<ul style="list-style-type: none">▪ 60 Community Forest Agreements▪ 24 First Nation Woodland Licences▪ 843 woodlots▪ 20,000 + private land holdings >20ha
Small Wood Manufacturers	<ul style="list-style-type: none">▪ 49 active lumber mills <40mmbf/yr considered small sawmills▪ 21 chipping facilities▪ 13 pellet facilities▪ 20 pole plants▪ 35 shake and shingle facilities▪ 19 log home builders▪ other wood processing facilities
End Users	<ul style="list-style-type: none">▪ 25,000 + construction companies▪ 989 building material and supply retailers▪ 1,399,405 households in BC

Marketing Efforts: Marketing efforts to *fibre suppliers* will focus on the Exchange's expansion of their existing market. Messaging should include:

1. the opportunity for greater fibre sales profits;
2. higher fibre usage resulting in potential job creation;
3. identification of buyers interested in specific sorts, species or sizes; and
4. a better return on high-value timber;

Marketing efforts for small wood manufacturers will include messaging that:

1. promotes a fair price for fair access;

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2. provides small wood manufacturers -specific benefits such as the ability to request specific species, sizes or sorts;
3. provides a clear process for obtaining fibre and facilitating payments; and
4. increases their exposure to a broader market, thereby increasing their opportunity to sell more product.

Marketing efforts should also include wood manufacturers and end-users such as secondary wood manufacturers, homeowners, builders, contractors and retailers; and businesses serving the commercial and residential sectors through lumber yard retailers, manufacturers, industrial and infrastructure partners and flooring specialists.

Marketing Costs: The Exchange will facilitate both business-to-business and business-to-consumer relationships. Marketing should focus on creating interpersonal relationships and transactional relationships respectively.

Associated marketing costs are dependent on the methods of marketing used to reach the potential users. **Table 8** provides the marketing types and estimated costs expected for the Exchange:

Table 8: Marketing Types and Estimate Costs

Type of Marketing	Rationale	Examples ³	Cost Rationale	Total Costs
Content Marketing	Provides customers with the information needed to make a purchasing decision	<ul style="list-style-type: none"> • Blogs • News • Websites 	\$1,000 per article x 12 months	\$12,000
Social Media marketing	Cost-effective marketing tool to increase engagement with desired audience, educate consumers and sell more products	<ul style="list-style-type: none"> • LinkedIn • Facebook • Twitter • Instagram • Pinterest 	\$1,000 per article + \$100 per ad x 12 months	\$13,200
Email marketing	Can facilitate campaigns to address additions to the directory, relevant buy/sell listings, abandoned cart reminders, blogs, newsletters and such	<ul style="list-style-type: none"> • N/A – must engage subscribers with an Unsubscribe feature 	\$50 per month for email manager x 12 months	\$600
Print marketing	Can promote the Exchange within a small geographic range, or through national publications to increase awareness	<ul style="list-style-type: none"> • magazines • brochures • billboards 	¼ page ads in industry magazines = \$2000 x 12 months	\$24,000

³ BC examples with costs can be found in Appendix A.

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Type of Marketing	Rationale	Examples ³	Cost Rationale	Total Costs
Website marketing	Promotes product on other websites	<ul style="list-style-type: none"> • websites • industry forums 	\$500 x 6 months + \$1,500 x 6 months	\$12,000

Product distribution system and costs

The Exchange will be launched in stages to ensure that each level of service is sustainable before introducing the next level. Stages will occur according to the following activities and timeline:

1. **Development (Year 1):** No revenues will be generated during this period, so grant funding or capital investments will be critical at this point. The proponent will:
 - a. Acquire startup funding and investors
 - b. Develop and test the site prior to launch.
2. **Introduction (Year 2):** Revenues at this point are not expected to support the Exchange, thus there must be grant funds or capital investments to sustain it. The proponent will:
 - a. launch website and target small tenure holder and small wood manufacturers
 - b. launch marketing campaign
 - c. engage users until a critical mass has been reached for sustainability.
3. **Growth (Years 2-4):** Revenues at this point should support basic services, with excess revenues invested into future growth. As the site and operations grow, the Exchange will:
 - a. increase numbers of users
 - b. refine marketing strategies, including testimonials from site users about the benefits of the Exchange and the ease of the system.
 - c. offer expanded services and products
 - d. attract new users.
4. **Maturity (Year 5):** Revenues from user fees and sales should support the site. The Exchange will reach long-term viability when it has developed a critical mass of active buyers and sellers.

Distribution system: Extensive, targeted marketing and word of mouth testimonials will increase distribution from small tenure holders and small wood manufacturers in the region to those beyond. Initial efforts will focus on local small tenure holders and small wood manufacturers with the goal of exposing unanticipated barriers or challenges in order to iron out wrinkles in operations.

Price: Pricing must not be prohibitive. Different pricing structures are presented in the Financials section. Discounts for users should be deployed during the introduction phase, with scaled-up pricing once the Exchange is operational.

Place: The Exchange will be an online marketplace, thus not linked to any particular location. The initial launch will be via website with additional access through a phone application.

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Promotion: Specific marketing strategies to increase the number of potential users include:

- Testimonials of satisfied users
- Feature articles on website or in trade magazines
- An in-person road tour by Exchange proponents to demonstrate site features and illustrate the positive impacts of participation;
- Presentations at industry conferences and trade shows to bring the concept to a wider audience.

Technical Feasibility

Facility

The only facility requirement is an office. The office will require furnishing and equipment – including computer(s), telephone with answering service, photocopier, printer, secure filing, storage and the potential for off-site back-up. Online facilities will include email, domain name, website builder and hosting environment.

Important Platform Features

Every marketplace and online storefront has unique needs. However, basic platform features include:

- 1) the hosting environment;
- 2) an unlimited application programming interface;
- 3) a user-friendly website builder;
- 4) security; and
- 5) search engine optimization.

This study uses a theoretical hybrid website design using a web portal⁴ and online marketplace type for purposes of developing the financial statements.

Platform and associated cost

Various technologies and platforms could be used to fulfill the needs of the Exchange; however the number and intricacy of features are directly proportional to the cost.

The cost of website development ranges from \$1,000 to \$300,000 and is dependent on functionality and the technological elements needed to build it. Costs vary according to the type of website, location of the development team and whether or not plug-ins are used. **Table 9** shows average website development costs by type (SPD Load, 2023).

⁴ A web portal is a specially designed website that brings together information from diverse sources, such as emails, online forms, blogs, marketplaces and search engines, in a uniform way.

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Table 9: Average website development costs

Website Type	Development Cost	Hours
Landing page	\$5,200	80
News website	\$7,800	120
Corporate website	\$10,400	160
Directory website	\$19,500	300
ecommerce website	\$60,000	1000
Web portal	\$70,000	1200
Marketplace website	\$84,500	1300
Social media website	\$130,000	2000

The following should be considered when choosing a platform for the Exchange:

- Domain name
- Budget
- Web design
- Programming functionality
- Hosting
- Maintenance
- Integration with business software
- Customization
- Sales and advertising channel capability
- Product inventory complexity
- Ability to scale up
- Platform customer service

Usability: The Exchange must not only look good but provide a seamless user experience (usability) for visitors. WoodWeb and WoodPlanet are both unattractive websites that neglect usability issues. The Fordaq website is attractive and has a much higher user rate. Thus the Exchange requires an attractive, usable website with high performance in order to set itself apart from the competition, engage users and be sustainable.

Using these factors, authors used a rough estimate of \$80,000 to build a website that creates a marketplace to serve the wood products industry in BC, connecting visitors/subscribers to an extensive network of potential buyers and sellers.

The Exchange Platform Annual Maintenance

Average website maintenance costs vary from around \$1,000 to \$70,000/year. The amount spent on maintenance will depend on the website type. There are nine essential maintenance costs:

- Domain name
- Web hosting
- SSL⁵ certificate
- Email services
- Tech support
- Website design
- Plugins
- ecommerce and marketplace features
- marketing and SEO⁶

The Exchange's maintenance costs will be similar to a large ecommerce site once up and

⁵ Secure Sockets Layer is a data transfer protocol that enables encrypted communication between a server and browser.

⁶ Search Engine Optimization is a practice of optimizing a websites ranking on search engine result pages.

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running, especially by Year 3 where it is expected to reach a critical mass of subscribers and generate a profitable revenue stream.

The maintenance costs detailed in the financial analysis assumes using a third-party professional to carry out the majority of annual maintenance tasks. As the Exchange subscriber uptake increases, associated maintenance cost will increase as well; beginning at \$10,000 in year two and increasing to \$70,000 by year five.

Average annual website maintenance costs are provided for reference in **Table 10**, summarizing costs for different website types:⁷

Table 10: Typical website maintenance costs

Website Type	Maintenance Cost/year
News website	\$300 to \$900
Corporate website	\$2,400 to \$54,000
Web portal	\$9,000 to \$60,000
Marketplace website	\$10,800 to \$70,000

Financial Feasibility

Revenue Forecast

Pricing

Below are a few examples of different pricing models:

- Subscription based service - \$100/year
- Sponsorship funding - \$100/year to \$5000/year
- Brokerage or commission fees – 1% to 2% of gross value
- Transaction fees - \$2 to \$100/transaction, commensurate with gross value
- Escrow accounts – 1% to 2% of gross value
- Advertising - \$250/day or \$2000/month

Pricing methods will directly affect the adoption and utilization of the Exchange. Market-sensitive pricing must attract users to the Exchange and achieve the highest market exposure, building a critical mass of users to generate revenues that sustain and grow the business.

This study uses a brokerage/commission-based model on quantifiable annual allowable cut (AAC) data. The Exchange should investigate and develop additional income streams outside the scope of this study.

The pro forma income statement prepared in **Table 13** uses the following assumptions:

1. A brokerage/commission pricing model, with a 1% fee on the gross value of fibre volume and thousand board feet (mfbm) of wood product bought and sold on the site.

⁷ [Website Maintenance Cost in 2023: A Full Pricing Breakdown \(hostinger.com\)](#)

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2. Revenues based on AAC data from issued Community Forests, First Nations Woodlands and Woodlot licences within BC – unallocated fibre supply.
3. Assumption of 5% of the AAC for high-value timber.
4. A log value of \$150/m³ to calculate the gross value.
5. A conversion factor of 4 to convert the volume to mfbm.
6. A value of \$1,200/mfbm to calculate the gross value.
7. Completion of a fully built website by Year 1 with additional development in Year 3.
8. A marketing budget based on 10% of each year’s revenue forecast.
9. Marketing efforts start after website beta testing.

Based on these assumptions and a break-even analysis, the Exchange will:

1. Run a loss in Year 1.
2. Begin Year 3 with a starting contribution margin percent of 14%.
3. Experience break-even sales of \$496,358 in Year 3.
4. End Year 5 with a contribution margin ratio of 79%.

Sales Revenue Forecast

Forecasted gross revenues from operations during Years 1-5 (**Table 11** and **Table 12**) are based on BC’s unallocated fibre:

Table 11: Log Sales Revenue Forecast

	# of STH ⁸	Total Volume (m ³ /yr)	% high- value	Total sold through the exchange (m ³)	Average price sold (\$/m ³)	Total gross sales (\$)	Exchange Commission	Total Exchange revenues
Year 1	82	269,230	5%	13,462 ⁹	150	\$2,019,300	1%	\$20,193
Year 2	181	622,887	5%	31,144 ¹⁰	150	\$4,671,600	1%	\$46,716
Year 3	927	3,906,828	5%	195,341 ¹¹	150	\$29,301,150	1%	\$293,012
Year 4	927	3,906,828	5%	195,341	150	\$29,301,150	1%	\$293,012
Year 5	927	7,813,656	5%	390,683	150	\$58,602,450	1%	\$586,025

⁸ Small tenure holders

⁹ The annual fibre consumption of small wood manufacturers respondents participating in the Small Forest Tenure Capacity Building Report was 23,569m³, which is below the assumed volume use to generate an income stream in year 1.

¹⁰ The annual fibre consumption of the Southern Interior sawmills with <40 MMFBM/yr production was 610,400m³, which is well below the assumed volume use to generate an income stream in year 2.

¹¹ The annual fibre consumption of all the small sawmills within BC that are <40 MMFBM was 610,400m³, which is well below the assumed volume use to generate an income stream in year 3.

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Table 12: Wood Product Revenue Forecast

	# of STH	Total Volume (m3/yr)	% high- value	Total sold through the exchange (m3)	Average conversion m3 to mfbm	MFBM ¹²	Average \$/MFBM	Gross Value	Exchange Commission	Total Exchange revenues
Year 1	82	269,230	5%	13,462	4	3,366	1,200	4,039,200	1%	40,392
Year 2	181	622,887	5%	31,144	4	7,786	1,200	9,343,200	1%	93,432
Year 3	927	3,906,828	5%	195,341	4	48,835	1,200	58,602,000	1%	586,020
Year 4	927	3,906,828	5%	195,341	4	48,835	1,200	58,602,000	1%	586,020
Year 5	927	7,813,656	5%	390,683	4	97,671	1,200	117,205,200	1%	1,172,052

Operating Cost Forecast

Operational costs associated with running the Exchange are included in **Table 13**. These are projected to increase into Year 5 as subscriber numbers increase and higher investments are made in promotion and associated travel. Correspondingly, there will be additional work conducted annually, reflected in the website maintenance, salaries and consultant fees.

The owner of the Exchange will be the primary employee for the first three years hiring additional part-time assistance and/or consultants to assist with sales, customer service and other web maintenance tasks.

Profitability

The expected net profit for Year 1 is negative with a loss of (\$79,602). Year 2 net profit turns positive with a gain of \$24,005, but with negative retained earnings at (\$55,603). Net profits are positive in Year 3 and, combined with retained earnings from Year 2, results in an overall gain of \$541,143. From the last month of Year 2 and into future years, the Exchange's financials will improve as initial start-up costs are defrayed, and the user base becomes larger.

¹² \$1,200/MFBM was the lowest value product reported sold in the Small Forest Tenure Capacity Building Report.

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Table 13: Income Statement

LOG AND LUMBER EXCHANGE FINANCIALS

INCOME STATEMENT YEARS 1 to 5

	Year 1	Year 2	Year 3	Year 4	Year 5
Log Sales	20,193	46,716	293,012	293,012	586,025
Wood Product Sales	40,392	93,432	586,020	586,020	1,172,052
Advertising Sales	-	36,000	40,000	80,000	120,000
Less Cost of Goods Sold	-	-	-	-	-
Gross Margin	60,585	176,148	919,032	959,032	1,878,077
Operating Expenses					
Utilities	950	969	988	1,008	1,028
Salaries and Consultants	22,500	80,000	160,000	160,000	240,000
Travel	2,500	10,000	11,000	12,100	13,310
Disbursements	1,000	4,000	4,400	4,840	5,324
Marketing	15,000	30,000	91,903	95,903	112,685
Computer Hardware	1,500	200	200	200	1,700
Website Development	80,000	-	10,000	-	-
Annual Software Website fees	955	974	993	1,013	1,033
Annual Website Hosting	250	500	2,000	2,040	5,000
Website maintenance		10,000	25,000	50,000	70,000
Dropbox	170	173	176	180	184
Zoom account	200	204	208	212	216
Cyber Security	150	153	156	159	162
Office Supplies	800	816	832	849	866
Insurance	3,700	3,774	3,849	3,926	4,005
Banking	120	122	124	126	129
Legal Accounting & Books	1,212	1,236	1,261	1,286	1,312
BC Business registry	380	46	47	48	49
phone, internet, mobile	1,800	1,836	1,873	1,910	1,948
Miscellaneous	1,000	1,020	1,040	1,061	1,082
Rent	6,000	6,120	6,242	6,367	6,494
Total Operating Expenses	140,187	152,143	322,292	343,228	466,527
Net Profit (Loss) Pre-Tax (EBITDA)	(79,602)	24,005	596,740	615,804	1,411,550
Retained Earnings	(79,602)	(55,597)	541,143	1,156,947	2,568,497
Contribution Margin Ratio (CMR)			65%	64%	75%
Annual Breakeven Sales			496,358	534,532	620,717

Log and Lumber Exchange Feasibility Study

Future Action Plan

Capital Requirements

Approximately \$140,000 in capital investments is required for development and start-up in Year 1. However, the Exchange is not projected to generate sufficient revenues to sustain the business until the last month of Year 2. Therefore, the amount of seed capital required to operate the Exchange until it reaches profitability is approximately \$270,000.

Financial forecasts assume initial revenue gains within the latter part of Year 1, increasing annually thereafter. Depending on revenues generated during the initial phase, not all seed capital may not be needed in Year 2. However, the full estimated amount of \$270,000 should be acquired and held for contingency planning should revenues fail to meet projected estimates.

There are always risks and unforeseen potentials for post-launch roll-back, web-platform development delays, technology malfunctions, market access delays, a decrease in log values, and a lack of adoption and utilization from potential identified users. It may also take longer to generate a revenue stream able to sustain the Exchange platform and attain a critical mass of users. Having enough capital to sustain the business well into Year 3 will help to ensure its success.

Source of Seed Capital

Potential sources of seed capital are government grants and funds, personal savings, investors, financing, family offices and/or private corporations. In addition, pre-seed capital will be needed to carry out further market analysis, build a business plan, canvas potential funding sources, secure funding and negotiate agreements.

Further Information Needed

A successful start-up will need a deeper understanding of:

- how to engage potential wood manufacturers and end-users;
- how the Exchange can help small wood manufacturers sell their products to end-users;
- market research that will help determine the best fee structure to attract users to the Exchange;
- the preferred technology and platform for the website, marketplace and ecommerce features of the Exchange.

Proponents should also approach industry leaders and provincial partners to explore potential partnership opportunities to raise awareness about the Exchange while forming a network within the industry.

Conclusion and Next Steps

The Exchange, an online log and lumber marketplace, is a technically and financially feasible product that provides many benefits for the Southern Interior. A summary of these benefits is provided below, followed by a summary of the project's feasibility. The final section presents future steps that should be taken to move forward with the project.

Log and Lumber Exchange Feasibility Study

Benefits

- **Filling a need:** The Exchange is a collaborative, ecommerce log and lumber marketplace that facilitates the sale of high-value timber that might otherwise be sold to major producers.
- **Streamlined transaction process:** The Exchange platform streamlines the transaction process, whether a user is looking to buy fibre or wood products or to sell wood products online. A clear, transparent system facilitates payments at market-value where pricing is not controlled by the site itself and is listed for all users, providing transparency for comparison to non-Exchange pricing.
- **Developed in response to local demand:** The Exchange has been developed by local industry insiders and brings small tenure holders and small wood manufacturers together to establish a domestic regional marketplace for fibre.
- **Payment assurances:** The Exchange can manage payment clearing between buyers and sellers while ensuring that small wood manufacturers receive clear, transparent pricing and that small tenure holders are paid.
- **Various technical solutions and designers:** Ample technologies and plugins exist to streamline and reduce the programming costs required to develop the website.
- **Increase access and facilitate connections:** The Exchange increases consumer access to hard-to-find wood products and creates an environment where small wood manufacturers can easily tailor their services or products to the specific needs of a business or consumer. The Exchange also connects small wood manufacturers with the fibre supply source needed to grow their businesses.
- **Scaffolding services:** The Exchange is designed to meet current needs but can be scaffolded, adding new services and features as capacity grows and needs arise. Additional services will attract additional customers and grow the user base as the Exchange becomes an established marketplace.
- **Possibilities beyond these pages:** The income statement illustrates the financial feasibility of the Exchange project using a few potential income stream – unallocated fibre, wood product sales and advertising. There is a potential to scaffold services such as blogging, services for hire and directory services that were not explored but could increase the capacity of users to market their products and services and bring more revenue to the Exchange.

Feasibility

Ownership:

1. **Private ownership:** The Exchange would be most competitive under private ownership where the owner has a vested financial interest in its success and can acquire capital from investors and other sources.

Log and Lumber Exchange Feasibility Study

Market:

1. **Demand in local market:** There is a demand for fibre among small wood manufacturers, our target market. No other online log and lumber marketplace is commonly used locally. This product fills a local demand.
2. **Competitors:** As noted, there is no local online competitor. Major producers are identified as a competitor which can be addressed with concentrated networking, outreach and marketing to small tenure holders.

Technical Feasibility:

1. **Facility Requirements:** The project does not require a large facility or infrastructure other than an office. The only facility requirements are those to be found in any office or business.
2. **Platform Features:** The platform is technically feasible and can be launched with basic features that include the hosting environment, unlimited application programming interface, a user-friendly website builder, security features and search engine optimization.
3. **Costs:** A site could be up and running with an initial investment ranging from \$20,000 for a simple networking-only site, to \$90,000 for a marketplace website. Full optimization of the Exchange are estimated to require an investment of approximately \$80,000. Likewise, maintenance costs begin at \$10,000 in Year 1 and rise annually thereafter to ensure that the site continues to run smoothly as it grows.

Financial Feasibility

1. **Revenue streams:** There are several potential revenue streams that can be developed to sustain the project. These include: 1) subscriptions; 2) sponsorships; 3) brokerage or commission fees; 4) transaction fees; 5) escrow accounts; and 6) advertising. This study provides a pathway to sustainability using a 1% fee on conservative estimates of the gross value of log and wood product sales.
2. **Profitability by Year 3:** The Exchange's income statement forecasts profitability by the end of Year 2 with a significant rise in Year 3. With moderate growth, the Exchange demonstrates a sustainable financial picture by Year 5.

Future Steps

Outreach to small tenure holders and small wood manufacturers: Deploy specific strategies to engage a demographic that for various reasons may be hesitant to use an online platform.

Acquire seed capital: Explore funding opportunities to acquire seed capital in order to build a business plan.

Build trust: Outreach and stakeholder engagement is crucial to building support and trust among the target population.

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Business Plan: A business plan should be developed with a detailed pro forma outlining the return on investment.

Build Prototype: Capital investors are more likely to invest when they see the product working on a prototype level.

Acquire capital for startup: Explore funding opportunities to acquire capital for start-up.

Develop scaffolded approach: Start small, with log sales and wood product sales, but develop a plan to add complementary products and services.

Pricing: Ensure that pricing is not prohibitive. An exploration of different pricing structures will determine how, and at which point the Exchange will be able to sustain itself.