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What are the Key Success Factors for the Value-Added Sector in British Columbia?

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Introduction

Over the last decade, there has been an increasing interest in encouraging the expansion of the value-added or secondary wood manufacturing sector in British Columbia (B.C.). Increasing costs, global competition, and public demands for sustainability are making it more difficult to compete in the commodity lumber market (Globerman et al. 1999; Wilson et al. 2001; Kozak et al. 2004). Secondary wood manufacturing is seen by governments as a vehicle to maintain and/or expand the level of economic activity generated from timber harvest (Kozak et al. 2004). Value-added or secondary wood products can be defined as production activities that transform primary products (lumber and panels) into other wood products. Examples include engineered building products (EBP), finished building products (FBP), architectural millwork, furniture, pallets, and musical instruments. The British Columbia Forum on Forest Economics and Policy has recently identified moving from a volume (commodity) orientation to a margin added orientation as a priority issue in its Vision document (B.C. Forum on Forest Economics and Policy 2005). Of particular interest is determining the key success factors for the value-added wood industry in B.C.

According to prevalent thinking, labour costs, interest rates, exchange rates, and economies of scale are the most potent determinants of competitiveness (Porter 1990). While these factors are important in more resource dependant industries like primary lumber saw milling, Porter (1990) believes this approach to be flawed as firms move up the value chain and may even be too simplistic for some commodity producers (Hansen et al. 2002). Hansen et al. (2002) investigated strategies implemented by 52 sawmills in the Pacific Northwest, including British Columbia, and found that many “commodity” producers actually employ some kind of differentiation strategy to gain a competitive edge. Value-oriented growth is slowly replacing the objective to increase volume. The basis of competitiveness has moved from tangible assets (i.e., raw materials and equipment) and physical processes (i.e., distribution and production) to intangible resources and capabilities. Knowledge, and sharing and managing it within companies, is becoming a key characteristic for success (Korhonen and Niemlea 2003; Cohen and Kozak 2001; Dawson 2000).

Objectives

In the fall of 2004, a comprehensive benchmark survey of Canadian secondary wood products manufacturers was completed by the University of BC (DeLong 2005). The survey identified factors that have determined success in other sectors and evaluated current business environments and the factors that contribute to business success.

This synthesis paper focuses on these same factors but examines business factors that lead to success in value-added wood processing and in increasing wood consumption strictly in British Columbia. The paper will serve as a discussion paper for businesses investing in value-added and identifies some research questions that need to be answered to move forward in increasing the degree of value-added in B.C.

Specifically, the report analyzes what factors survey respondents identify as limiting in terms of ability to grow as well as what activities were believed to be most important to remain competitive in the next five years (e.g. through to 2010). The survey data were augmented by in-person or telephone interviews of selected value added producers located in B.C. in order to further determine which factors contributed to producers' success.

In order to reveal potential differences, data are presented by sub-sectors. The following sub-sectors were used:

- Finished Building Products (FBP)- includes windows, doors, flooring and siding
- Housing- includes timber frame and log homes
- Cabinets
- Millwork
- Furniture
- Components
- Engineered Building Products (EBP)
- Boxes and pallets- includes boxes, pallets, crates, survey stakes, caskets and dunnage
- Musical instruments
- Remanufacturers

Results for B.C. Secondary Wood Manufacturers

The majority of value-added wood producers in British Columbia are small to medium enterprises (SMEs). Most of survey respondents have less than 25 full time employees (FTE) (Figure 1). The 8 firms interviewed ranged from 1 to 130 full time employees (See Appendix 1).

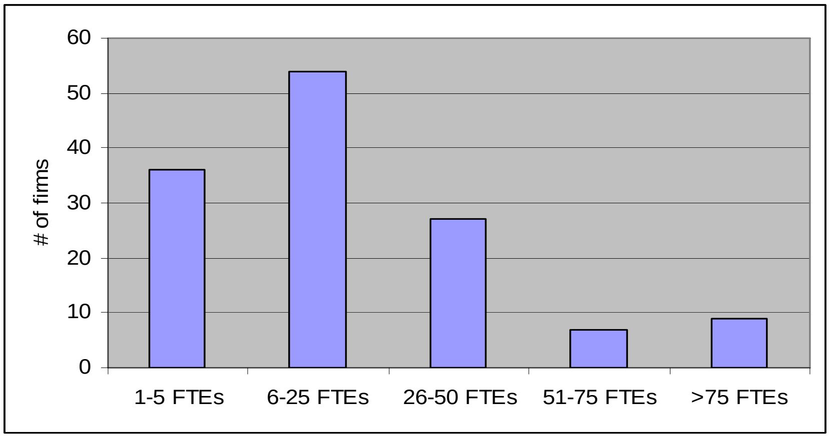

Figure 1. Number of firms (all respondents) by number of FTEs (from survey data, n=30).

The FBP sector had the largest number of respondents, followed by the housing sector, whereas the remanufacturing sector had the least (Figure 2). The majority of these companies have been in business for over 10 years and are located in the Lower Mainland of British Columbia.

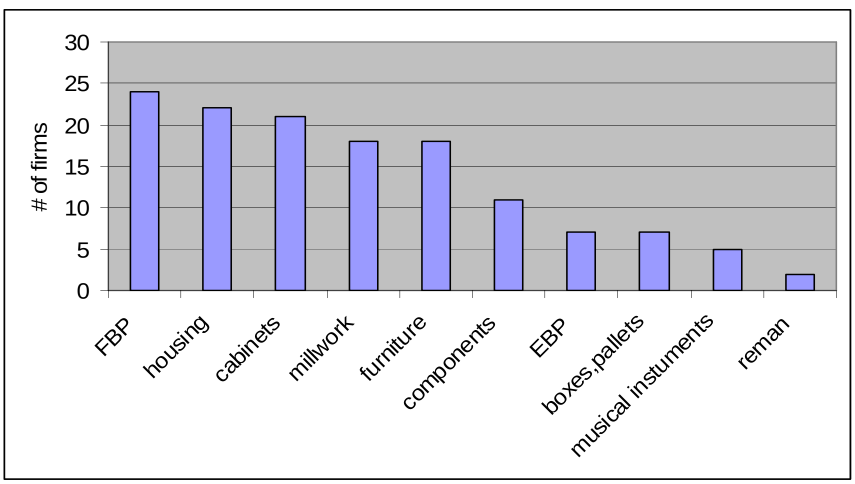

Figure 2. Number of firms (respondents) by sector in B.C.

In addition to the factors presented in the questionnaire (raw material supply, financing, increased competition, taxation policy, forest policy, limited market demand, energy costs, and warehouse space), respondents were given the choice of adding a factor of their choice that they believed to be significant in limiting their firm's ability to grow. The lack of skilled employees was identified as an extremely significant concern by 45 of 130 firms (Figure 3). All other factors were not significantly different from neutral or not significantly affecting firms' ability to grow (Figure 3).

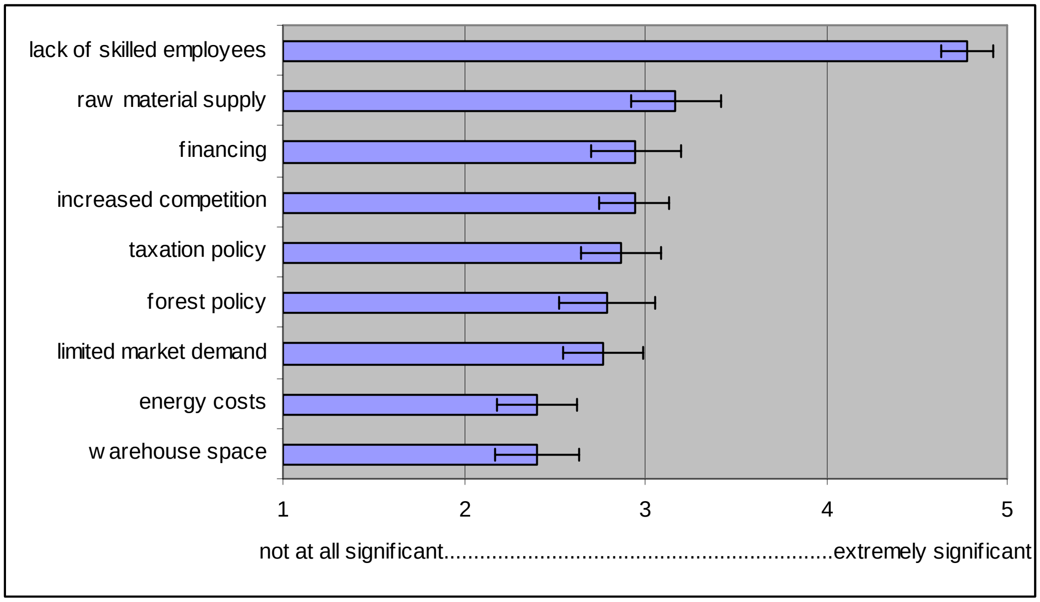

Figure 3. Factors limiting firms' ability to grow in B.C.
(from the survey data all respondents, n=130, identified lack of skilled employees, n=45).

The majority of secondary wood manufacturers in B.C. indicated that they will most likely focus on efficient operations, customer service and the cost of raw materials in the next five years (Figure 4).

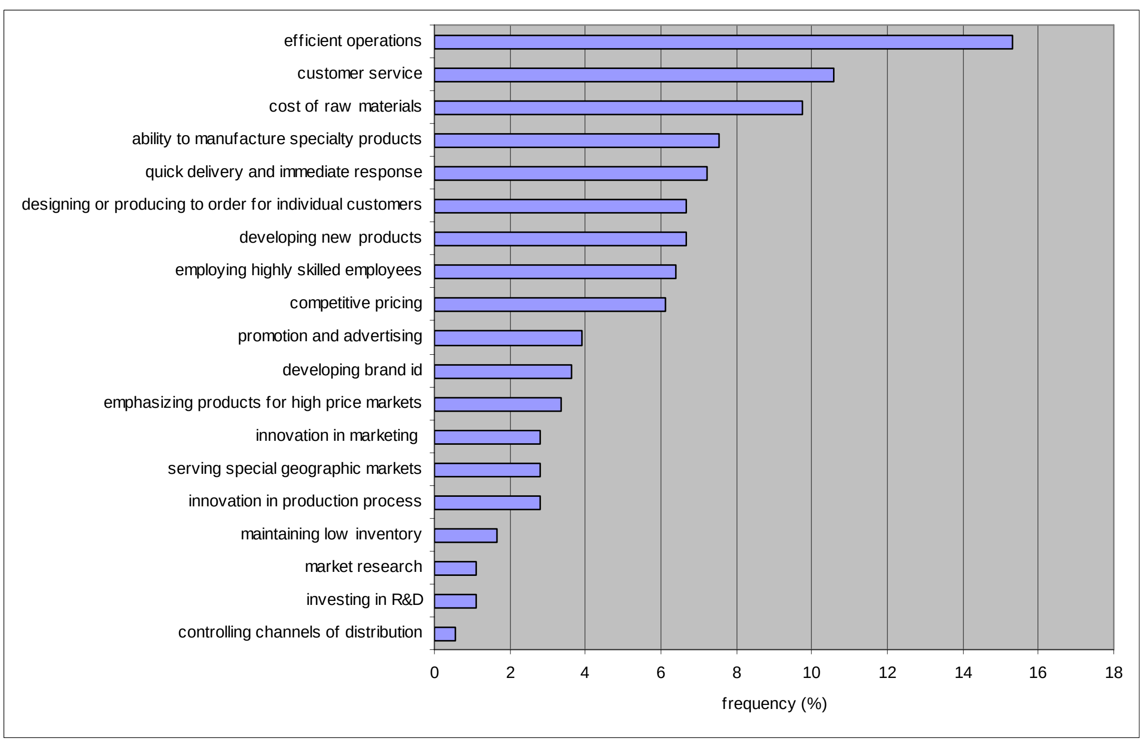

Figure 4. Top ranking future activities for all value added producers in B.C. (from the survey data all respondents, n=130).

Finished Building Products (FBP)

From the survey data, the finished building products sector had the highest number of respondents (24) (Figure 2). They felt that the most significant factor in limiting a firm's ability to grow is the lack of skilled labour, followed by raw material supply (Figure 5).

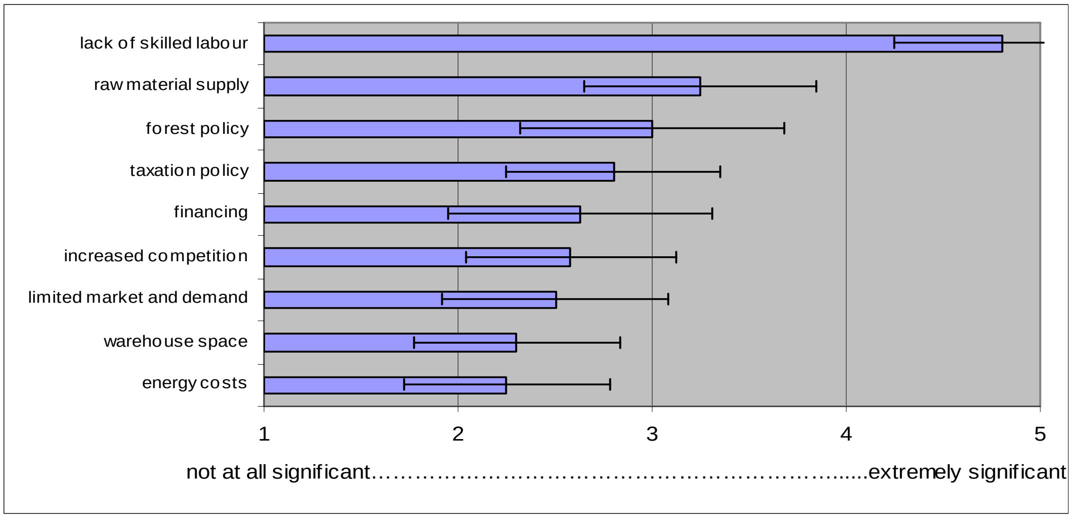

Figure 5. Factors limiting the FBP firms' ability to grow (from the survey data, n=24).

When asked what activities would be the most important in the next five years, running efficient operations, controlling the cost of raw materials and customer service where chosen most frequently (Figure 6).

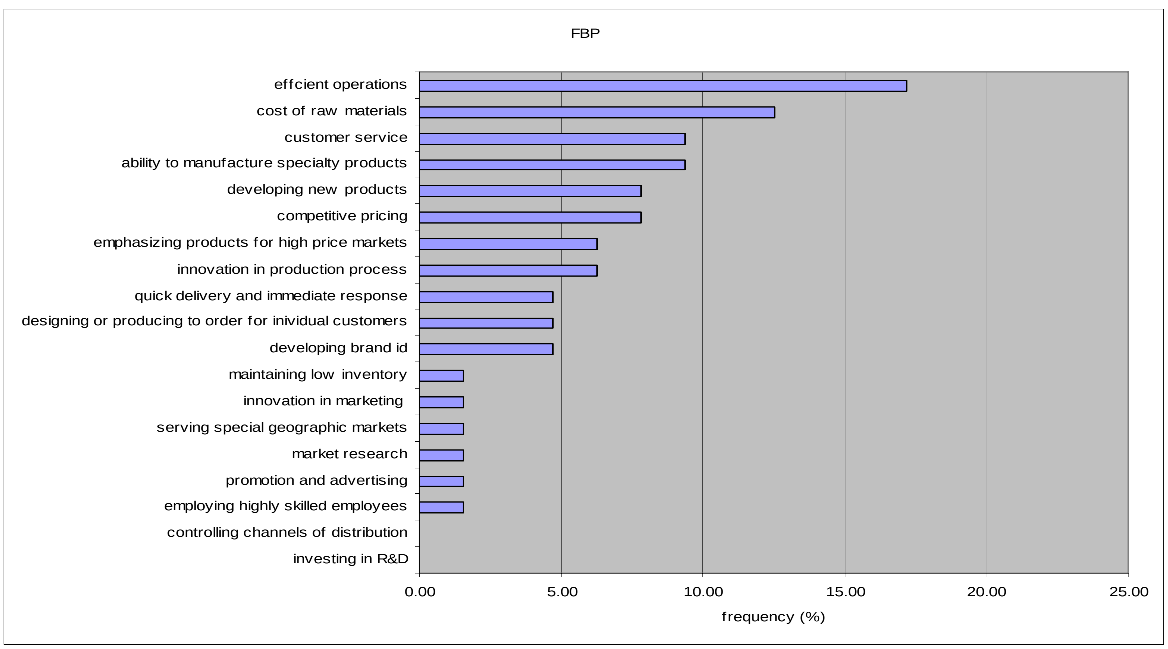

Figure 6. Top ranking future activities for the finished building product (FBP) sector (from the survey data, n=24).

Interview

A window and door manufacturer located in the Lower Mainland, felt that it is critical for firms to define clear objectives for success. In other words, having a company vision is important. He also felt that detailed job descriptions were a must. He added that the current shortage of skilled labour was making it very difficult for his company to remain viable and expand. He recently went through a very time consuming and expensive procedure to hire a production manager from Germany, as there were no qualified people available in Canada.

Housing

The housing sector was also well represented in the survey with 22 respondents. The lack of skilled labour, followed by forest policy and raw material supply were the most significant in limiting their ability to grow (Figure 7).

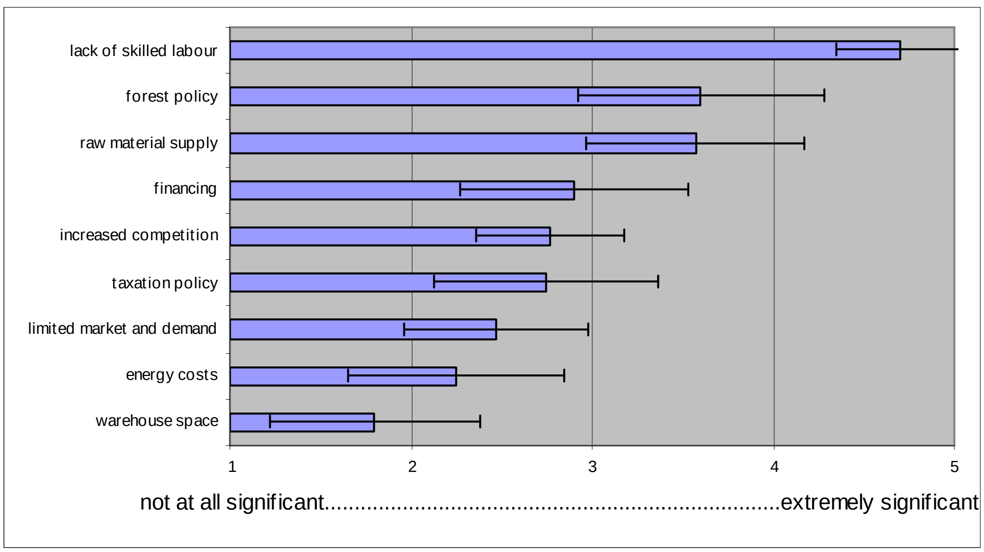

Figure 7. Factors limiting housing firms ability to grow (from the survey data, n=22).

The housing sector respondents most often chose efficient operations, customer service and promotion and advertising as the most important activities in the next five years (Figure 8).

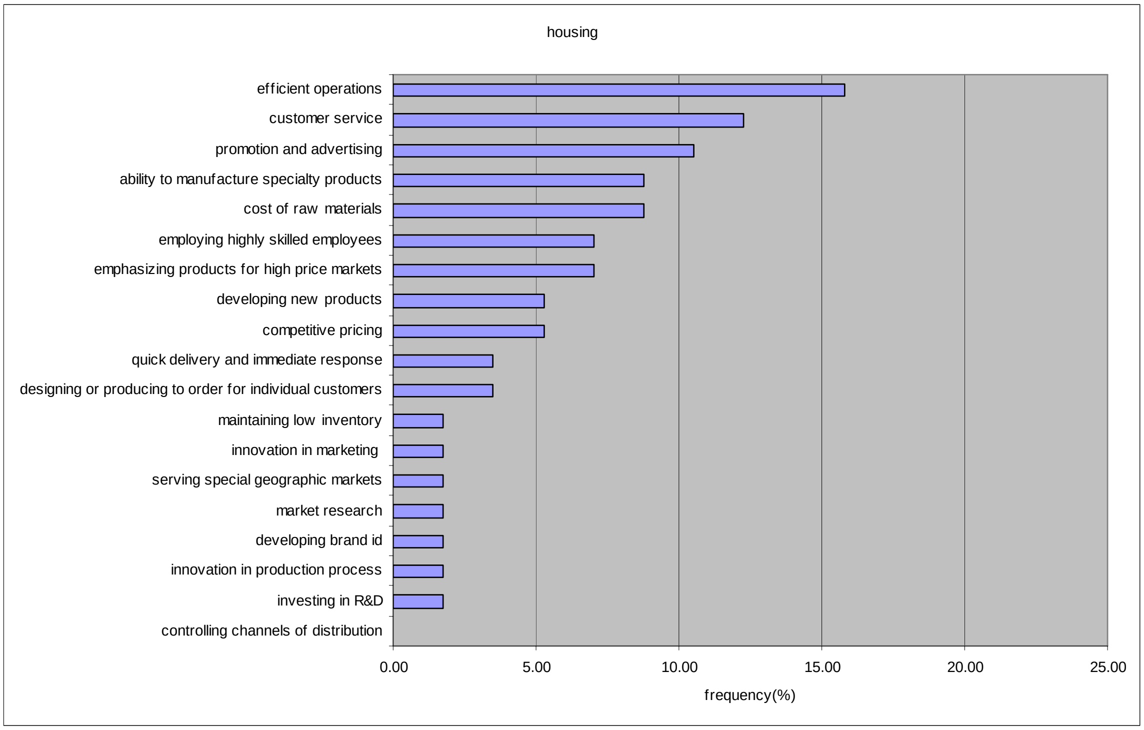

Figure 8. Top ranking future activities for the housing sector (from the survey data, n=22).

Interview

The timber frame manufacturer that was interviewed felt that one of the keys to success was to have adequate capital for start-up. He felt that many start-up companies do not realize this and fail very quickly because of inadequate cash flow. He also stressed that in his business, he emphasizes using the best raw material, the best employees to produce the best product that he can. He also felt that firms will have more chance for success the better they know their business, the equipment, and the market and its potential for growth. He stressed the benefits of staying within a core area of expertise.

Cabinets

From the survey, the cabinet sector respondents indicated that the lack of skilled employees was currently the most significant factor in limiting firm growth. Taxation policy and increased competition were the next most significant although they were close to neutral (Figure 9).

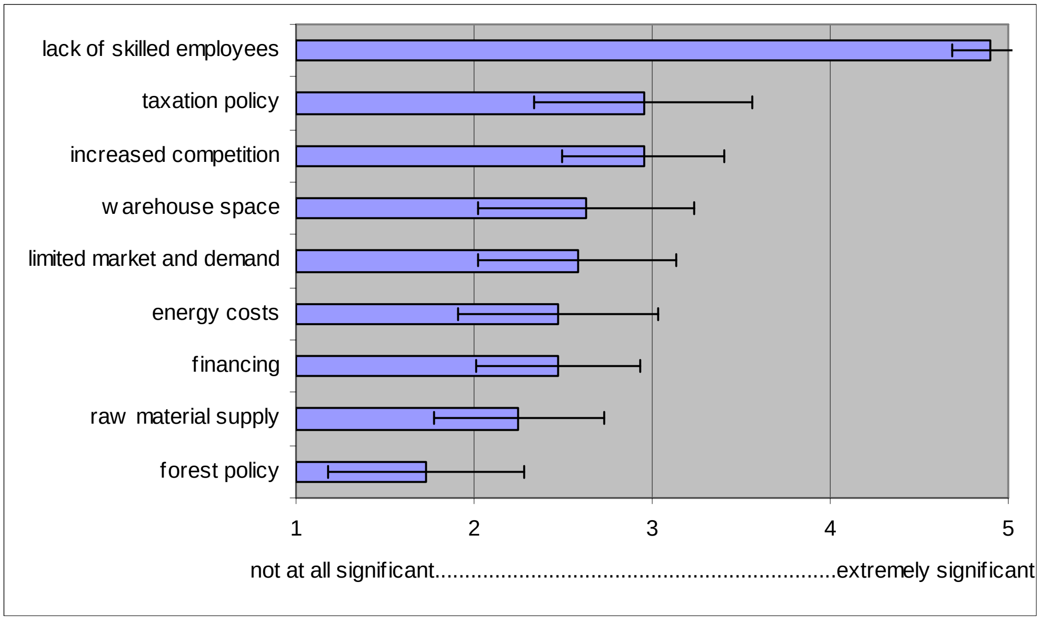

Figure 9. Factors limiting the cabinet firms ability to grow (from the survey data, n=19).

Focusing on customer service was considered one of the most important future activities by the largest number of cabinet firms, followed by designing or producing for individual customers, running efficient operations, and employing highly skilled employees (Figure 10).

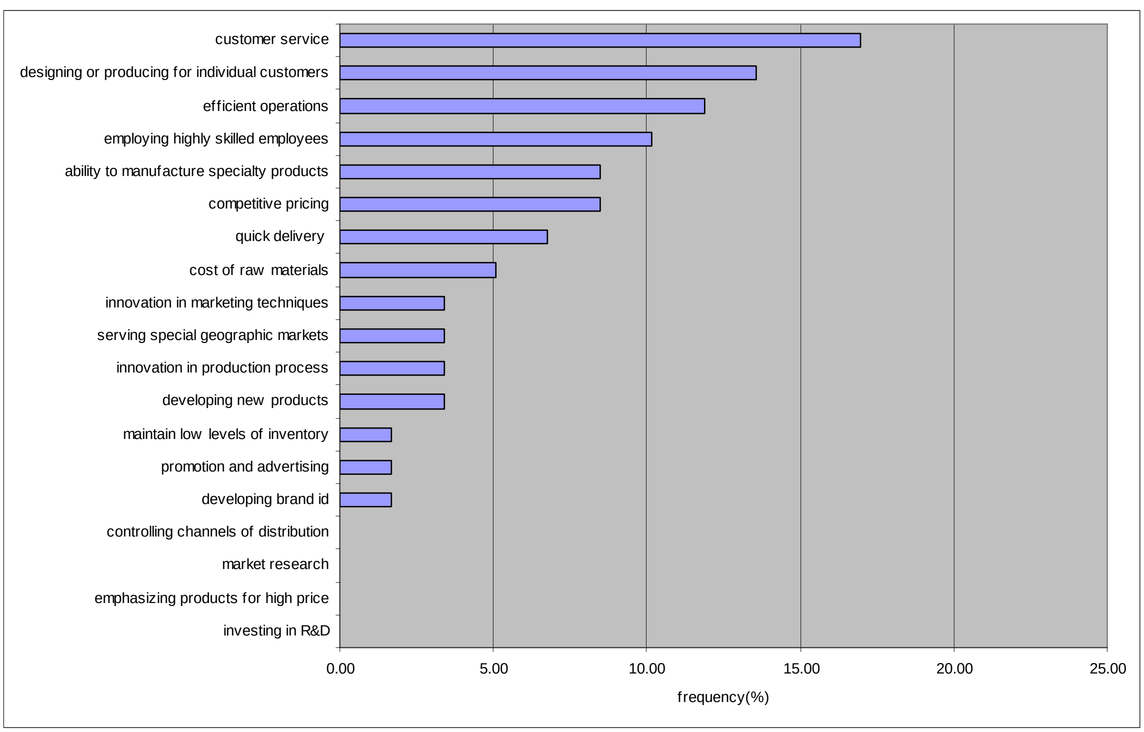

Figure10. Top ranking future activities for the cabinet sector (from the survey data, n=19).

Interviews

One of the cabinet manufacturers interviewed believed that innovation and new product development are keys to success. There must be a compelling reason for your customer to select you and then remain your customer, whether it be a unique product or unmatched customer service. The other cabinet manufacturer that was interviewed held similar views. He felt that the key to his success was in his ability to produce a quality product at a good price with good follow-up service. However, he was currently experiencing trouble finding good employees. In particular, he perceived a severe lack of employees with technical backgrounds that have the desire or capability of becoming higher level managers. He also added that he can get the required financing to expand at this time, but is choosing not to because of the difficulty finding skilled employees. Although both manufacturers indicated that they do not spend very much time or money on marketing, they understand the benefits of it as well as the need to stay relevant to their market place.

One of the manufacturers pointed out that because CNC machinery is getting less expensive, cheaper to finance, and easier to use, there are more and more entrants into the entry level component sector. His response to this increased competition is to produce more finished products. He expects that his production of components will drop to 0% from 35% within the next 36 months.

Furniture

From the survey data, furniture manufacturers indicated that the shortage of skilled labour was limiting their ability to expand (Figure 11). Financing and limited market and demand were next most limiting factors, although near neutral.

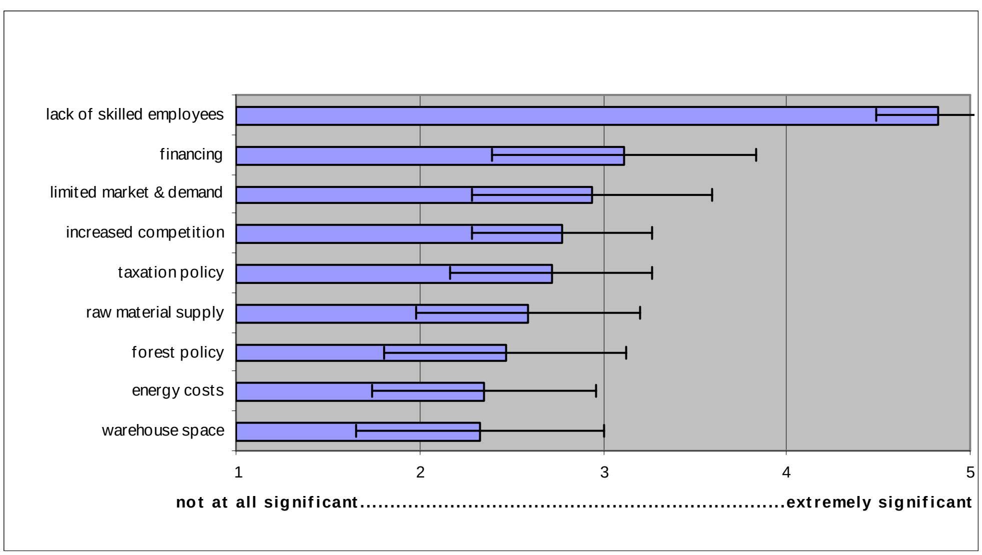

Figure 11. Factors limiting the furniture firms ability to grow (from the survey data n=19).

Quick delivery and immediate response, efficient operations, and employing highly skilled employees were the most frequently chosen activities by the furniture respondents (Figure 12).

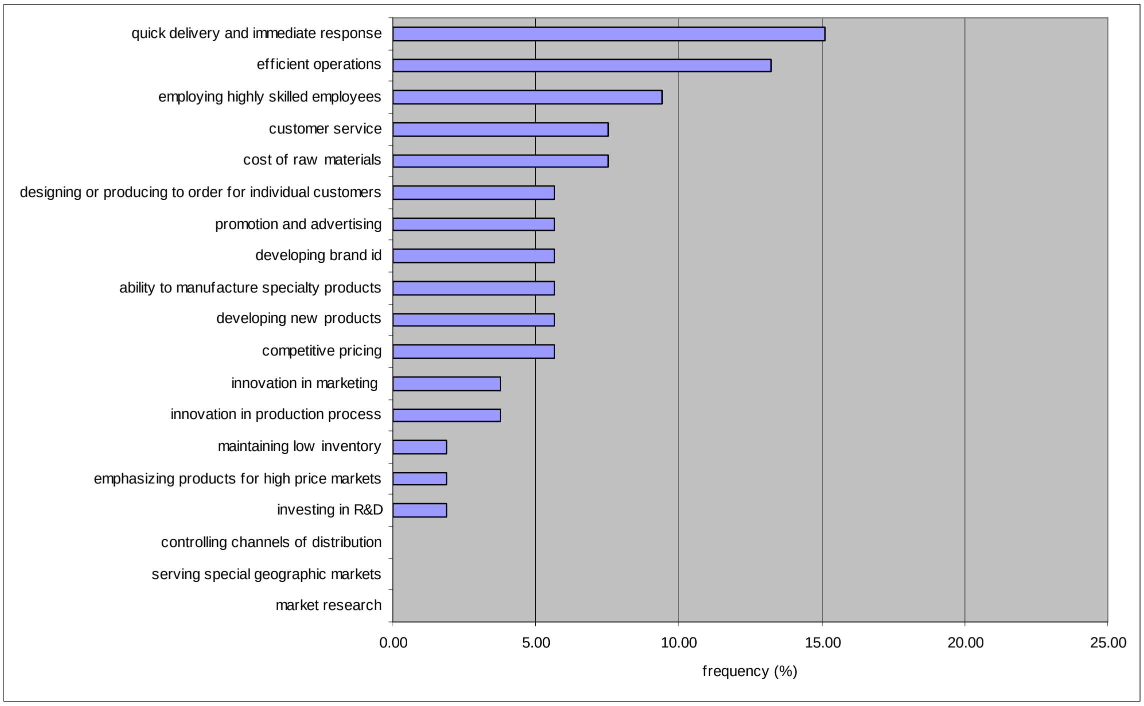

Figure 12 . Top ranking future activities for the furniture sector (from the survey data, n=19).

Interviews

The medium sized furniture manufacturer interviewed felt that one of the keys to success for secondary manufacturers was to focus on making final products, not components. It is much harder to compete if you are producing only components. It is essential to find a niche and do it well. This furniture manufacturer has found a niche in ready-to-assemble (RTA) pine furniture. He also felt that they must keep automating in order to keep labour costs down. He has concentrated on building good relationships with primary wood suppliers and believes that ensuring good personal relationships with customers is a key to success. He also indicated that the current labour shortage has been problematic for his business.

A small, very high-end fine furniture builder was also interviewed. She felt that the key to her success was that she produces very high quality, custom products. Her customers are often very involved with the design of the product. She also understands the importance of marketing and tries to keep an up-to-date web site and makes an effort to show her work in juried shows.

Millwork

From the survey data, millwork respondents felt that the lack of skilled employees was a significant factor limiting their firms' ability to grow (Figure 13). Although not significantly different from neutral, increased competition was the next most significant factor (Figure 13).

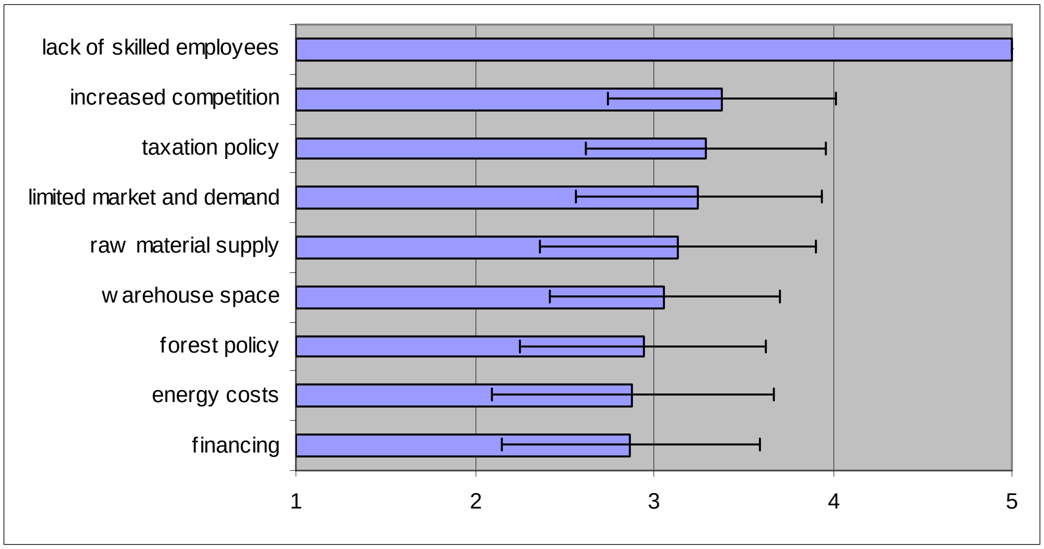

Figure 13. Factors limiting millwork firms ability to grow (from the survey data, n=16).

Survey respondents from the millwork sector indicated that focusing on efficient operations would be important over the next five years (Figure 14). This was followed by customer service and employing highly skilled employees.

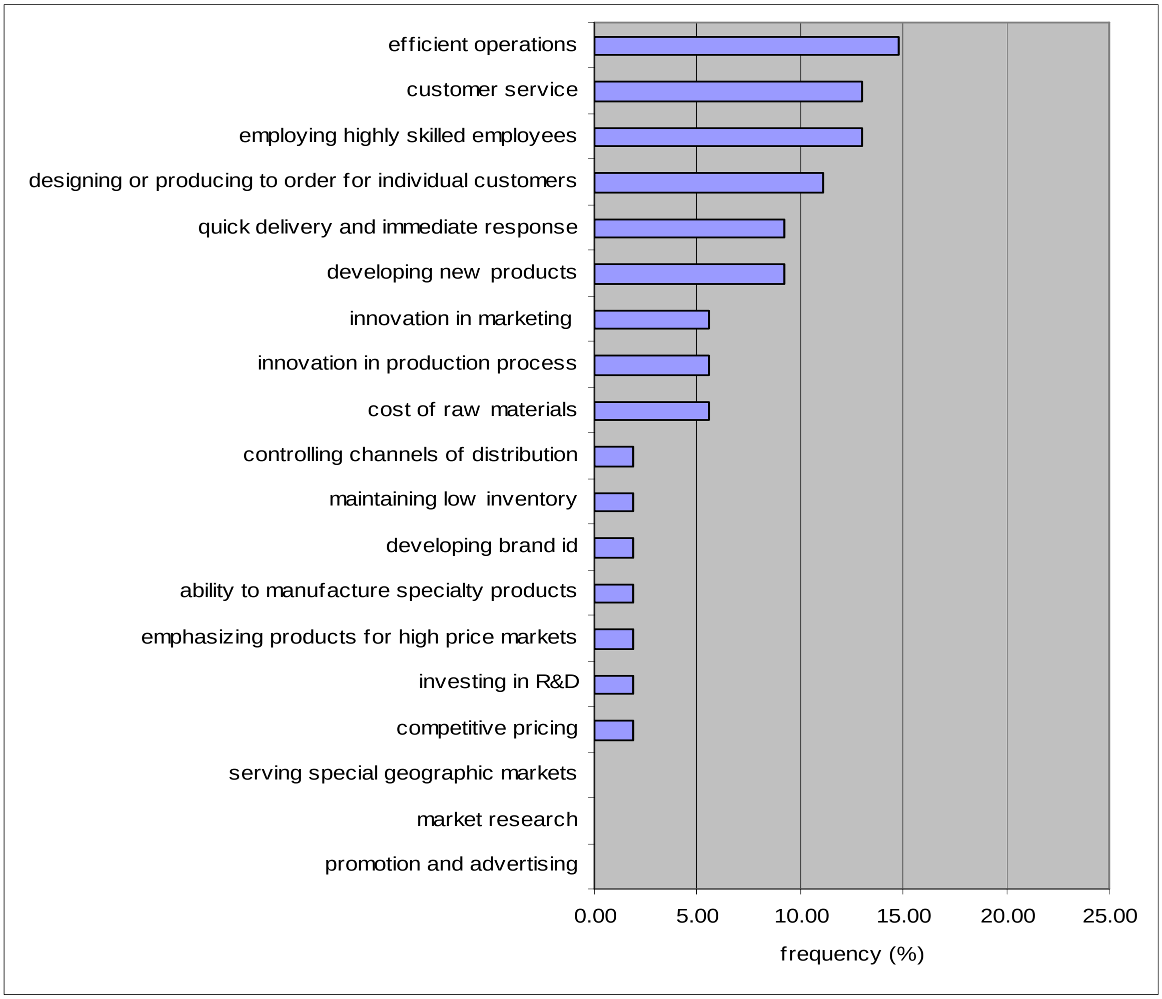

Figure 14. Top ranking future activities for the millwork sector (from the survey data, n=16).

Interviews

The two millwork manufacturers interviewed felt that the keys to success were to develop new products and find new markets. They also believed that marketing in general was an important activity. However, neither has spent much time or money on marketing specifically. They do not believe that they have the skills or resources to do effective marketing. One of the interviewees pointed out that many local designers are not very familiar with local wood products. He felt that there may be an opportunity to expand markets for local wood use through educating designers and architects.

These manufacturers also indicated that the shortage of skilled labour was having a negative effect on their businesses. One of the manufactures expressed frustration that employees from Europe were much more highly qualified than locally trained people.

Components

Ten companies responded to the survey. They felt that financing and concerns over raw material supply were the most significant factors in limiting the growth of their companies (Figure 15).

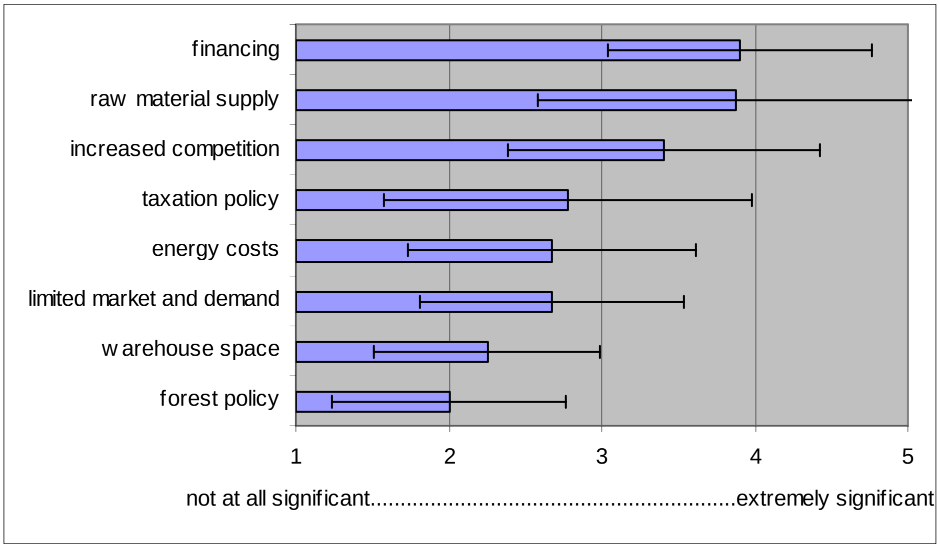

Figure 15. Factors limiting the component firms ability to grow (from the survey data, n=10).

The component respondents most often chose running efficient operations and the cost of raw materials as the most important activities to focus on into the future (Figure 16).

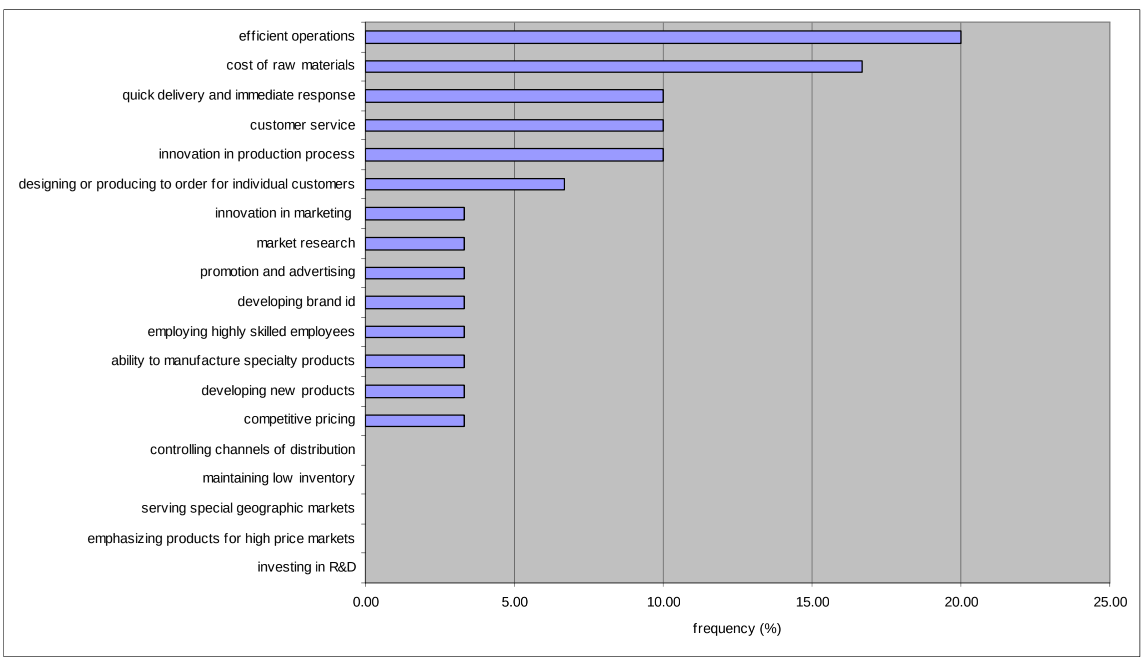

Figure 16. Top ranking future activities for the components sector (from the survey data, n=10).

No component manufacturers were interviewed.

Engineered Building Products (EBP)

The EBP survey respondents felt that raw material supply was the most significant in limiting their firms' ability to expand (Figure 17). Running efficient operations was the most frequently chosen activity to focus on over the next five years, followed by innovation in production process and the cost of raw materials (Figure 18). No EBP firms were interviewed.

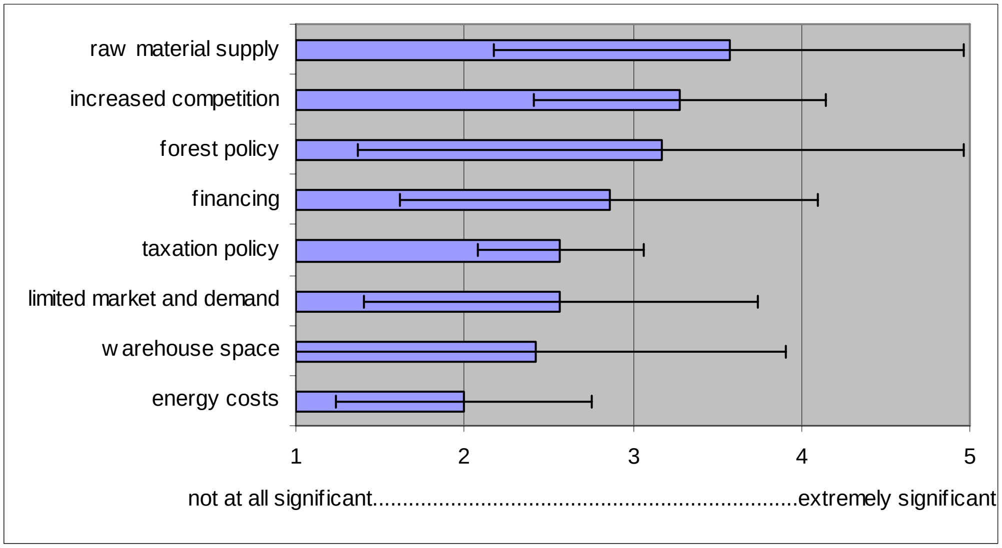

Figure 17. Factors limiting EBP firms' ability to grow (from the survey data, n=7).

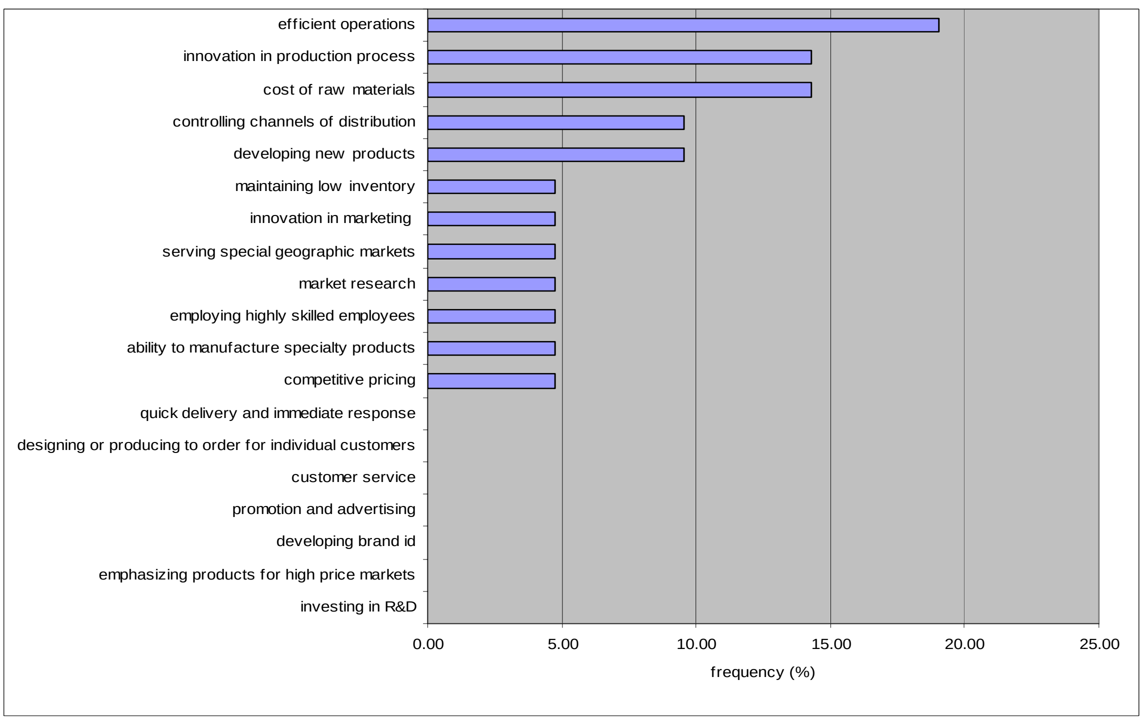

Figure 18. Top ranking future activities for the EBP sector (from the survey data, n=7).

Boxes and Pallets

The survey respondents felt that financing, followed by raw material supply were the most significant factors limiting their ability to expand (Figure 19). Cost of raw materials, running efficient operations, and competitive pricing were the most common choices for future activities (Figure 20). No box and pallet manufacturers were interviewed.

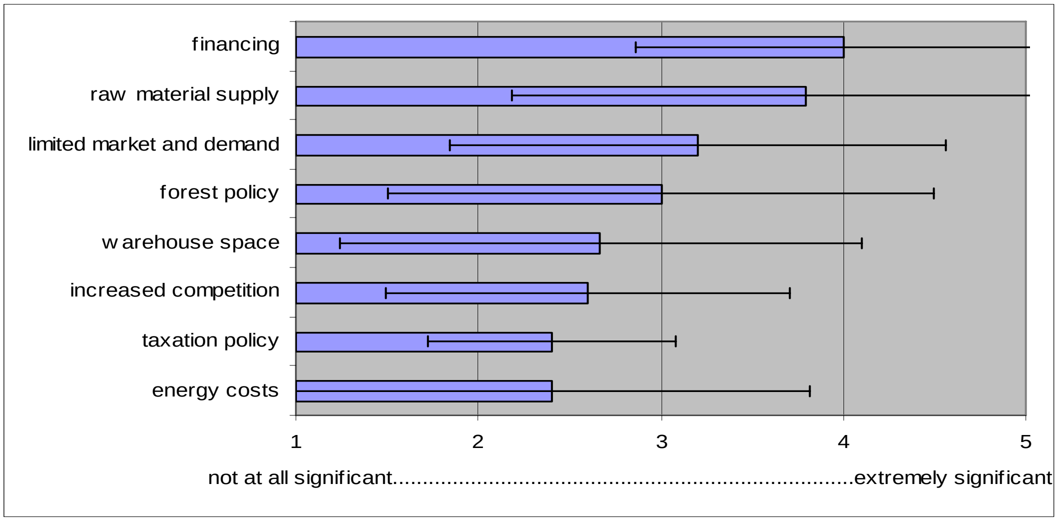

Figure 19. Factors limiting box and pallet firm's ability to grow (from the survey data, n=6).

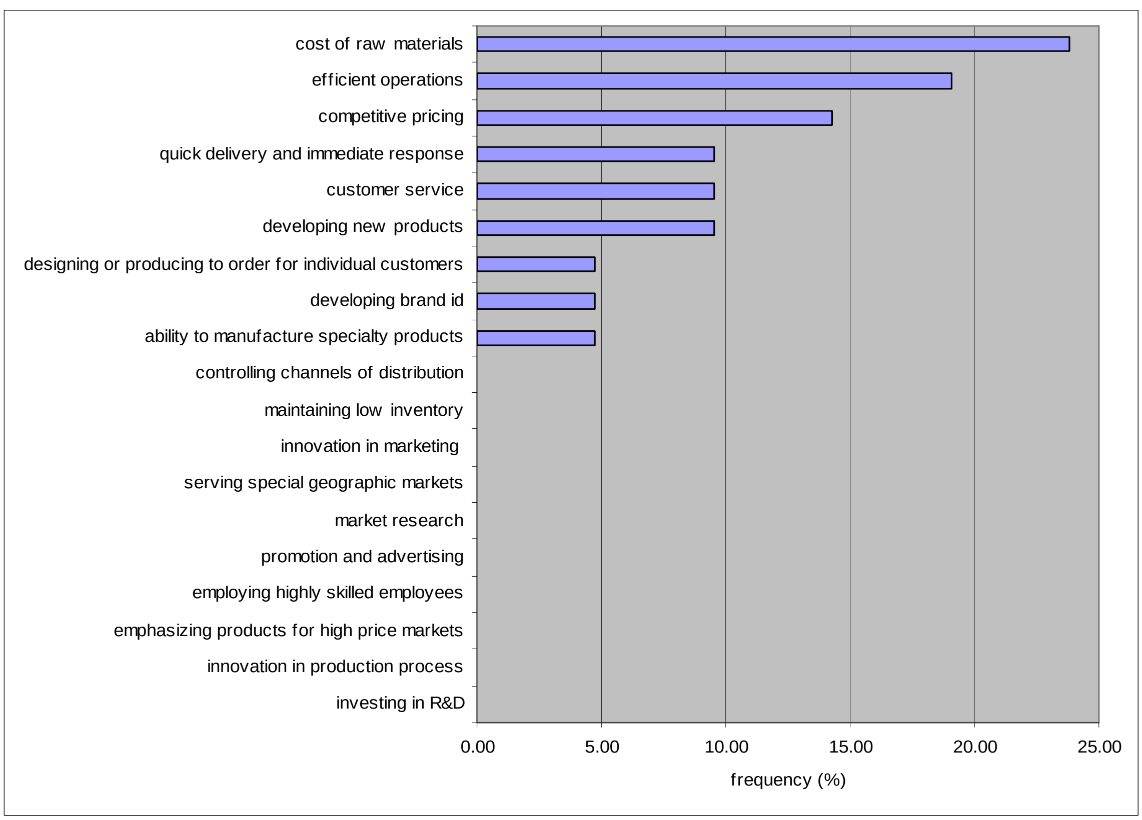

Figure 20. Top ranking future activities for the boxes and pallets sector (n=6)

Musical Instruments

Raw material supply was ranked the most significant factor in limiting a firm's growth, followed by forest policy (Figure 21). The ability to manufacture specialty products was by far the most important future focus for musical instrument manufacturers (Figure 22). No musical instruments manufacturers were interviewed.

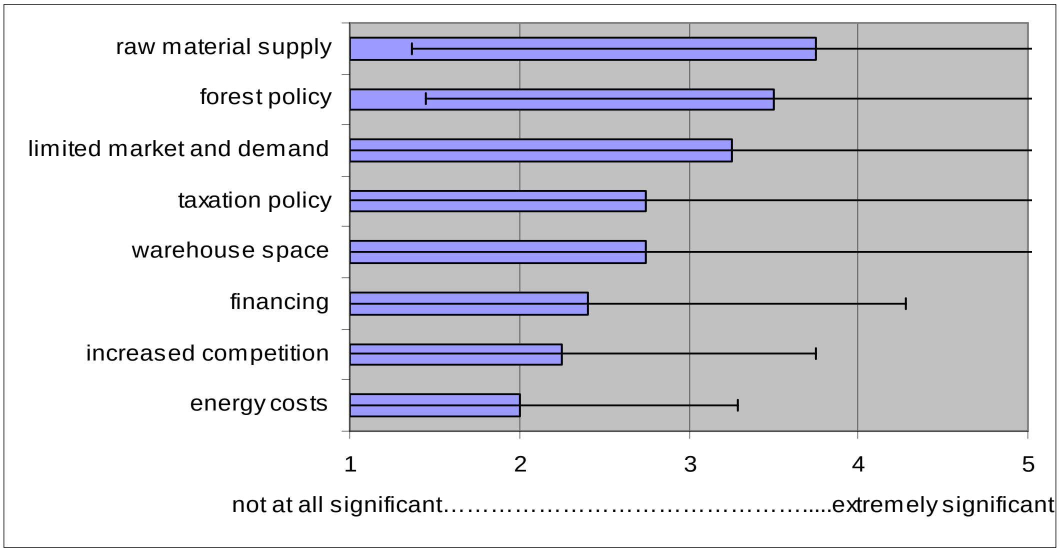

Figure 21. Factors limiting musical instrument firm's ability to grow (from the survey data, n=4).

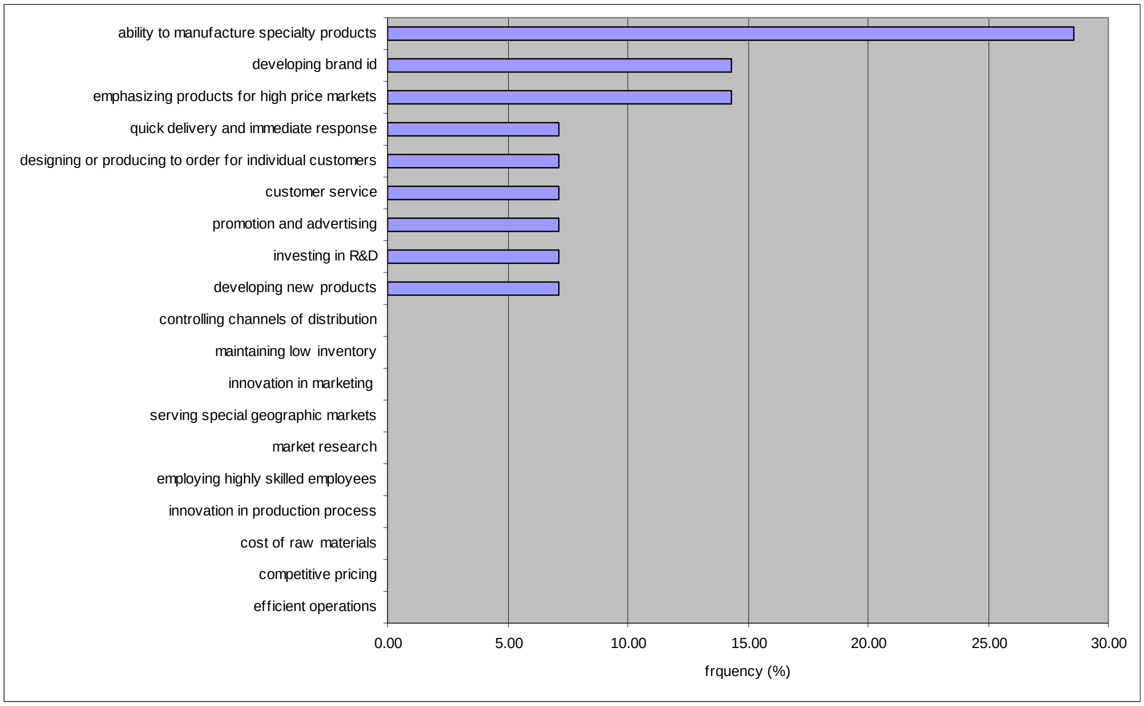

Figure 22. Top ranking future activities for the musical instruments sector (from the survey data, n=4)

Discussion

What contributes to the success of a value-added producer can depend on what they manufacture and what stage of the business cycle they are in. Initial niche recognition and continued differentiation are key factors common to all firms. What it takes to keep differentiated depends on the product being produced. The higher value products that are differentiated on quality are more likely to see the lack of skilled labour as a significant limitation to their success in B.C.

Niche recognition

All the interviewees indicated that identifying a so called new product or unfilled niche was the original underpinning of their success. The first step toward having a successful business is to recognize some kind of unfilled niche. This niche may be in the form of a new product, a new way to produce an existing product more efficiently, a way to produce a higher quality product more efficiently, or even identifying an entirely new market for an existing product. New product development is commonly viewed as key to success for companies large and small (Lynn et al 1999). Interestingly, new product development was moderately important to the survey respondents and investing in research and development (R&D) was rarely chosen as an important future activity.

Differentiation and Skilled Labour

After a firm is in production, what keeps the firm in business and successful seems to vary with how products are differentiated in a particular sector. For example, firms that produce higher value-added products such as custom millwork, cabinets, furniture, FBP and high end timber frame homes, differentiate based on the quality of their products. In order to keep the quality of the product high, skilled craftsmanship is essential. This need is reflected in the interviewees and the survey respondents' significant concern about the lack of highly skilled employees in B.C. This is likely a reflection of the history of low commitment to training in B.C. and Canada (Woodbridge Assoc. 2003).

Firms lower down the value-added chain, such as EBP, components, and boxes and pallets that compete (or differentiate) more on the basis of cost and have relatively simpler manufacturing methods, are not as concerned about skilled labour. They tend to be more concerned about the cost of raw materials, financing, and running efficient operations.

Raw material supply

Regardless of where a firm sits on the value chain, those that depend more on local B.C. wood supply, such as timber frame and log housing, FBP, components, EBP, and boxes and pallets are more likely to see it as a significant factor affecting the success of their business. They seem to have difficulty procuring the desired quality of fiber (log or lumber) from the primary sawmills. The volumes required by small secondary producers are likely not substantial enough to warrant any special production runs or high value log sorts (Kozak et al. 2004).

The cabinet, millwork and furniture sectors are largely disconnected from the local wood supply and as such do not cite raw material supply as an issue affecting their success. Kozak *et al.* (2004) also found that cabinet and furniture makers had a lower than average proportion of companies experiencing procurement problems. However, Canwood Furniture located in Penticton, B.C. has spent significant time building relationships with local sawmills and has succeeded in securing a consistently high quality wood supply[1].

Future focus

The majority of survey respondents, regardless of sector, indicated that running efficient operations will be one of their most important foci in the next five years. They recognize that running efficient operations is essential to remain viable. Customer service was also often chosen as an important activity. Several interviewees recognized the importance of marketing and market research anecdotally, but felt that they could not commit resources to it. Marketing and R&D were not chosen as important activities to focus on in the next five years. However, by focusing on customer service, they may end up doing adhoc market research and marketing.

Recommendations

There are four areas recognized by the secondary wood sector in B.C. that need to be addressed that could substantially contribute to improved competitiveness in the future. These four are access to suitable raw material supply, improved training for the workforce, improved operational efficiency, and increasing customer (market) focus.

Access to Suitable Raw Material A consistent theme in this work (as well as previous work) is the inability to access suitable raw material in B.C. From log house builders requiring specific log sizes, to the producers of FBP requiring custom dried cut stock, the small secondary producers have difficulty accessing suitable raw material supply at competitive prices in B.C. The recommendation is to ensure that this sector is well represented at discussions regarding changes to tenure, forest harvesting policies and first nations forestry agreements to ensure that there concerns are incorporated into changing forest policy. As small and medium sized enterprises their voices are

[1] Interview with Bob Bird, Canwood Furniture, October 2005

often neglected despite the significant economic and social contribution they make, particularly in rural communities.

Workforce The workforce includes both skilled craftspeople and management. There is a role for policies and programs (by both government and industry associations) to improve management training and the skill levels of the manufacturing work force. In terms of management training, short courses, diploma programs and even apprenticeship training could be considered. To ensure best uses of educational resources existing educational opportunities should not be overlooked and linkages with national programs, existing and proposed, should be considered. It is important to separate skills needed by all sectors (e.g. management skills) and those unique to specific sectors. It is recommended that problem analysis of the current training streams for wood workers in B.C. be completed using existing information and action items resulting from this analysis be reviewed with a broad range of industry representatives.

Improved Operational Efficiency All firms, regardless of sector, require continuing improvements in operational efficiency. As offshore competition increases in both Canada and the US it is important to maintain operational efficiency and productivity. Programs, such as those offered by Forintek that provides technological solutions on site, need to be maintained and expanded to include introducing theses small manufacturers to important business concepts such as supply chain management, internet marketing and mass customization.

Increasing Customer (Market) Focus Most firms recognize the importance of increasing customer service, Identifying the firm's customer niche and serving that niche better than its competitors is essential for success in the increasingly competitive environment for secondary manufactured wood products. Current managers recognize the importance of both niche identification and customer service but have little understanding of the market research necessary to improve in both these areas. Systems need to be developed that ensure that the flow of product from company to market is matched by an equal flow in customer information and changing product requirements and competition from market to manufacturer. This must include those with market research expertise and existing associations with on the ground knowledge and contacts in specific markets. Short course could be developed that focus on repetitive customer research techniques to ensure continuation of success in targeted market segments. As many of the secondary manufactured wood products add greater and greater service components (e.g. design, technology, knowledge, etc.) it becomes more and more important to increase the customer focus.

The courses of action that may help move the forest industry in B.C. from a volume (commodity) orientation to a value added orientation can be divided into two distinct types:

1) Activities that can stimulate, encourage and assist small manufacturing firms (SMEs) in general such as:
    - Providing more assistance to SMEs for marketing and market research. This is currently being done by B.C.WOOD but their focus tends to be on the larger firms that already produce for export markets.
    - Complete a problem analysis of the current training streams for wood workers in B.C. Possibly include an investigation of the German method of producing master craftsmen.

2) Activities that can provide more linkages between the primary and secondary wood industries, thereby stimulating more local (B.C.) fiber uptake into higher value products:
    - Follow up on the idea of creating SME buyers groups to deal directly with primary producers presented by Kozak et al (2004).
    - Look at the feasibility of cooperative log sorts in key locations. This may make sense where there are several new small woodlot licensees and First Nations tenures.
    - Investigate whether there is opportunity to expand the markets for local wood uptake through local designers. Educate designers about local wood species.

Conclusions

In recent years, there has been considerable interest in the secondary wood manufacturing sector across Canada. Strengthening and facilitating the secondary wood manufacturing or the value-added sector is seen as the next step to creating a more sustainable economy across Canada and in B.C. This research has provided standardized information for the entire secondary wood manufacturing sector as a benchmark. In evaluating the competitive position of B.C. secondary wood manufacturers, the sector's current business environments and the factors that contribute to its success must be addressed. The majority of businesses in this sector are small to medium enterprises (SMEs) and have common concerns that effect SMEs. Access to suitable raw material, upgrading labour and employee skills, improving operational efficiency and increasing customer or market focus are key issues. There are also opportunities for increasing efficiencies through lean manufacturing and optimizing supply chains. In summary, the secondary wood manufacturing sector provides an enormous range of investment opportunities to strengthen and diversify the economy of B.C.

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APPENDIX 1

List of B.C. Firms Interviewed by Telephone/In Person

Company name	Location	Interviewee	Sector	Firm size (FTEs)	Years in Business
Craftsman Panel	Delta	Richard Wilson	Cabinets	65	
Towne Millwork Ltd	Abbotsford	Greg Hesketh	Cabinets	50	
Unison Windows Inc	North Vancouver	Jim Eisenhauer	Finished Building Products	7	26
Canwood Furniture	Penticton	Bob Bird	Furniture (mid range)	130	
Lauren Waters Fine woodworking	Revelstoke	Lauren Waters	Furniture (high end)	1	
River City Woodworks	Fernie	Willard Ripley	Millwork	15	
Nico Industries	New Westminster	Gary Nikolai	Millwork	7	
Canadian Timber Frames	Golden	Pat Soles	Housing		6