

SOFTWOOD LUMBER QUALITY REQUIREMENTS: EXAMINING THE SUPPLIER/BUYER PERCEPTION GAP¹

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(Received January 1998)

ABSTRACT

The major objective of this research was to examine the perception gap that exists between suppliers and buyers concerning softwood lumber quality requirements. In general, suppliers know quite well how their customers perceive the importance of service and product quality, but consistently overrate their performance level relative to how they are rated by their customers. The largest perception gaps exist for the various aspects of lumber aesthetics. Therefore, this may be the area on which mills should concentrate to increase their competitiveness.

Keywords: Softwood lumber, lumber quality, perceived lumber quality.

INTRODUCTION

In general, the term “quality” is used more and more by companies and their advertisers, so often in fact that it is running the risk of losing its meaning (Hansen and Punches 1996). What does quality really mean? Quality has already been defined in many ways, e.g., *fitness for use* (Juran 1974) and *conformance to requirements* (Crosby 1979). Many definitions lack reference to an important aspect of the marketing process—the customer. Definition of product quality internal to the company will not be of much value, because a product will be of high quality only if it meets customer requirements. In practice, the actual quality is a trade-off between what the buyer wants and what the supplier can provide profitably (Hansen and Punches 1996). In simple terms, quality is the ability of a service or product to

perform its specified tasks as defined by the customer (Ennew et al. 1993).

Customers feel that quality of softwood lumber has decreased recently (Hansen and Punches 1996). There are three major reasons for this. First, the forest resource is changing. The area covered with old-growth stands is declining, and restrictions have been intensified (Spies and Franklin 1988). Subsequently, second-growth stands have increased in importance as a timber source. But timber derived from second-growth stands is different from that from old growth. Stems are smaller, contain more juvenile wood, and have more large knots. In addition, annual rings are much wider. Timber quality can be improved by special methods of thinning, but this opportunity is limited by the factors of time and money.

Second, grading rules originally installed to ensure a certain level of quality might actually limit quality. Some companies may try to just meet minimum specifications, and not realize the specific quality expectations of their cus-

¹ This is Paper 3245 of the Forest Research Laboratory, Oregon State University, Corvallis, OR.

tomers. Meeting minimum specifications can be encouraged by technical advances, because such advances again might be focused on better meeting the grading rules (Hansen and Punches 1996). Yet grading rules should not be the sole determinant of product quality. The entire product, including the expectations of customers, product design and engineering, purchase of raw materials and components, design of the manufacturing process, manufacturing operations, and sales and service, determines product quality (Shetty 1987). Thus, some companies, recognizing the limitations of the grading rules, go beyond the rules to satisfy customer quality requirements. The grades often do not refer to their specific needs (Hansen et al. 1996).

Third, the lumber industry typically mass produces. Thus, price and quantity dictate the marketing strategies of the managers and are not geared toward meeting specific quality perceptions of customers (Hansen and Punches 1996).

A main concern of lumber customers is the lack of consistent quality, both mill-to-mill consistency and order-to-order consistency from the same mill (Hansen and Punches 1996). The perceptions of suppliers and customers can differ substantially. Customers may want mills to offer an equal quality standard, yet mills may aim to establish product lines that differ from commodity products. Some lumber users feel that inconsistency in quality, over time, might be the result of changing demand and prices. Escalating demand and prices drive quality down. When demand and prices decline, quality improves. A mill will try to realize higher prices with increased quality and will want to win customers from competitors by distinguishing its product as one of higher quality. A similar correlation may exist between price and service. Mills that maintain a certain level of quality, despite the ups and downs of demand and price, will then be preferred by customers (Hansen and Bush 1996).

Both consistency and differentiation can help suppliers meet specific customer require-

ments. Because lumber is considered to be a commodity product, it will be easier for suppliers to differentiate themselves on service and operations than on the product (Perkins 1993). Mills can achieve the objective of differentiation by producing specialized or proprietary grades based on standard grading rules. This might be an opportunity for mills to realize higher prices for their products (Hansen and Punches 1996). It is difficult to gain premiums on products placed on the commodity market. Specialized grades are useful only when they meet the needs of an identified consumer segment and when that segment recognizes the value offered by the manufacturer (Hansen and Punches 1996). Being aware of customers' quality perceptions can help suppliers to identify these segments.

Differentiation may give suppliers the opportunity to avoid competition based on price and quantity. A survey carried out by Hansen and Bush (1996) demonstrated that buyers prefer lumber suppliers who provide higher quality. Customers claim to be willing to pay higher prices for improved products and service. Differentiation allows suppliers to avoid struggle in the commodity market, where low price and high quantity dominate marketing efforts. Firms wanting to differentiate should move from traditional commodity production toward niche markets and value adding. Niche marketing allows companies to offer high quality, realize high prices, and avoid price competition.

A change in marketing strategies also might be essential, because of significant changes in the U.S. forest products industry during the past several years. These changes are the result of increasing international competition, competition from substitute products, rising customer expectations, and a shift from a "seller-market" to a "buyer-market." In the past, production and marketing of softwood lumber were based on fitness for use. Nowadays lumber suppliers are more compelled to meet specific demands of their customers because of significant market changes, e.g., significant competition from Canadian mills. This is not

always easy, because the properties of the raw wood material are somewhat given. Hansen et al. (1996) indicate that “suppliers could concentrate on purchasing timber that exhibits quality characteristics that best fit the capabilities of their mill and are most likely to satisfy their customers.” Yet available timber supply often limits this ability.

Market changes may require that firms escape from the traditional commodity/production emphasis and shift toward adding value and improving relationships with their customers. Buyers are beginning to dictate the market. Take, for example, the use of barcoding by retailers. Buyers strongly encourage, often even require, suppliers to provide Universal Product Code (UPC)-barcoded products (Vlosky and Wilson 1996).

A growing body of evidence indicates that quality is a significant competitive factor in the softwood lumber industry. Consequently, softwood lumber mills need to understand specific customer quality requirements. In this study, we investigate gaps in the perception of quality between softwood lumber mills and their customers. By recognizing gaps, companies can better position themselves to improve overall product quality and enhance their marketing strategies.

MATERIALS AND METHODS

Data collection

Data for quantifying the quality perception gap between suppliers and customers were gathered through personal interviews with personnel in lumber mills and personnel in a main customer firm of each of the mills. Because we needed to gain the participation of both supplier and customer firms, we utilized a purposive sample scheme consisting of 26 companies and 62 respondents. Companies were chosen carefully to best serve the research purpose (Chumhill 1991). In total, 35 mill employees from 13 different mills, accounting for approximately 1.1 billion board feet (22%) of production in Oregon in 1995, were interviewed (WWPA 1996). Twenty-seven em-

SUPPLIER/SALESPERSON CHARACTERISTICS

1. Friendliness of supplier's salesperson
2. Supplier's salesperson giving individualized attention
3. Ease of understanding supplier's salesperson
4. Supplier understanding your needs
5. Being treated with respect by supplier's salespeople

LUMBER PERFORMANCE

6. Stiffness/strength of lumber
7. Durability of lumber
8. Fastener retention
9. Failure rate of lumber in service
10. Long service life of lumber

LUMBER CHARACTERISTICS

11. Neat, undamaged lumber pack
12. Overall lumber appearance
13. Clean lumber/pack
14. Accuracy and consistency of machining
15. Lumber straightness
16. Accuracy and consistency of grading

SUPPLIER SERVICES

17. Supplier offering a variety of species
18. Protective wrapping of lumber packs
19. Supplier's willingness to supply mixed loads
20. Supplier's willingness to fill small orders
21. Credit terms offered by supplier
22. Supplier-arranged shipping
23. Firm prices quoted by supplier

FIG. 1. Condensed measurement model for softwood lumber quality (Hansen and Bush 1996).

ployees from the respective customer firms were also interviewed.

Firms in western Oregon were targeted, based on results of a previous survey completed at the Department of Forest Products, Oregon State University. The primary component of the interviews was the rating of product and service quality on the basis of a condensed model of quality consisting of the four dimensions, SUPPLIER/SALESPERSON CHARACTERISTICS, LUMBER PERFORMANCE, LUMBER CHARACTERISTICS, and SUPPLIER SERVICES, and 23 associated items (Fig. 1).

Mill respondents were asked to rate the importance of the items, as well as the perfor-

