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POLICY SUPPORT PROGRAMME**

**International Competitiveness And Value Chains in Selected Manufacturing Sectors
Study
Code: A.1.001**

A STUDY OF INTRA-FIRM COMPETITIVENESS

DECEMBER 1999

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ACKNOWLEDGEMENTS

The **European Union** through its **Department of Trade and Industry Policy Support Programme** provided the principal funding for the writing of this working paper. This financial support is sincerely appreciated and hereby acknowledged.

At an academic level a special thank you needs to be extended to Professor Raphael Kaplinsky who provided detailed comments on an earlier draft of the paper. The views expressed in this paper are solely those of the authors, however and as such all responsibility for its content lies with the authors alone.

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INTRODUCTION

The South African furniture industry is very much in a state of flux at the moment. Manufacturers focused on the domestic market are just emerging from an extended period of high interest rates and muted demand, while export manufacturers are struggling to deal with the growing pressures of globalisation. On the one hand South African furniture exports are growing as existing and emergent exporters try to extend their reach into the export market, while on the other they have to deal with growing competition from other developing country competitors, particularly from Eastern Europe. The Federation of Furniture Manufacturers speaks of five thousand jobs lost in the industry in the past three years, and it is rare to speak to a manufacturer who does not relate an anecdote about a competitor that has recently closed. At the same time, the structure of the South African furniture industry has been radically altered by a series of mergers in the past several years. While the effects of these mergers on the industry as a whole are as yet unclear, manufacturers are well aware that their potential impact is huge. Finally, and hopefully on a more positive note, the industry is currently being reshaped by a number of government and non-government initiatives aimed at promoting co-operation and joint learning and problem solving. Such emergent efforts include the new Furniture Export Council, the Saligna Value Chain Group and the Nedlac-initiated Furniture Industry Workplace Challenge.

If we are to understand the impact that these changes are having on the industry, then it is essential to develop a 'baseline' from which to measure changes in industry structure and firm performance. What one should be measuring is of course an open question. For the most part furniture manufacturers and particularly those manufacturers focused on the domestic market tend to rely strongly on financial performance indicators to assess their own performance. However, a strong case can be made for that fact that such measures offer an at best limited perspective on competitiveness, being indicative of *past performance*, rather than *future competitive potential* (Barnes 1999). Based on international experiences with industrial restructuring for international competitiveness, the IRP has based its approach to measuring firm performance on understanding a number of *market drivers* that determine long term competitiveness, and identifying the performance indicators that reflect firm-level competence in these areas. An example of these markets drivers and the relevant performance measures is laid out in Figure One.

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Figure One:

The Market Driver Approach

MARKET DRIVERS AND MANUFACTURING PERFORMANCE AND PRACTICE

Market drivers (demands)	Manufacturing performance measures	Manufacturing practices
Cost	Inventory use (raw materials, work in progress, finished goods)	Single unit flow, quality at source, cellular production, multi-skilling, production pulling (kanbans)
Quality	Customer return rate, internal defect and scrap rate	Statistical process control, quality circles, team work
Lead times	Time from customer order to delivery, delivery frequency of suppliers	Business process engineering, cellular structures in order processing and dispatch, supply chain management
Flexibility	Delivery frequency to customers, machine changeover times, batch sizes, lot sizes, inventory levels, throughput time through factory, distance travelled on factory floor	Value chain relationships, JIT, single minute exchange of dies, multi-tasking and multi-skilling, cellular production in manufacturing
Capacity to change	Suggestion schemes, labour turnover and absenteeism (proxy for employee commitment), employee development	Continuous improvement (kaizen), worker development and commitment
Time to market	Development of new products	Concurrent engineering, Research and Development

Source: Barnes, J. (1998) Competing in the Global Economy: The Competitiveness of the South African Automotive Components Industry. CSDS Research Report No. 13, University of Natal.

It is one of the findings of this study that in many cases firms do not adequately measure the performance indicators outlined above. This is problematic to the extent that it suggests that South African furniture manufacturers have yet to fully grasp the implications of the New Competition (Best 1990). As the basis for competition shifts away from price to a range of other factors such as quality, customer response time, flexibility and design, amongst others, firms are having to get to rethink how they conceptualise their performance. The fact that such basic indicators of performance such as quality (customer return rates) are scarcely measured reflects the fact that South African furniture manufacturers have yet to make this shift. New Competition has implications in other areas, including human resource development and inter-firms linkages. Throughout the report we will return to the requirements of the New Competition to expand on the reasons why we try to measure the particular indicators outline in Figure One, and their implications for firm performance.

This research report summarises the findings of recent IRP research into the furniture industry, in particular two subsectors of this industry: manufacturers producing chipboard products for domestic retailers (both chains and independents) and firms producing pine knock-down (or flat-pack) furniture for the export market. This round of research was an attempt to build up a database of the furniture industry, and to build a picture of trends, operations and relationships in this sector. The problems inherent in defining the survey population and in the very idea of a 'database' of the furniture industry are in themselves an important finding of this research, and will be dealt with in some detail in the section on methodology which follows this introduction.

The report proceeds in four sections. After a discussion of the methodology of the study we will provide

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an overview of the sample, with a sketch of ownership patterns and recent trends in employment and financial performance. The subsequent section will look at intra-firm aspects of competitiveness, particularly the nature of production in the selected furniture industry subsectors and the key issue of human resource development. Finally we will present findings on the nature of relationships in the sectors – that is between manufacturers and suppliers, between manufacturers and customers, and inter-firm relationships between manufacturers themselves.

METHODOLOGY

The IRP’s study into the value-added timber products industry was initially conceptualised as ‘a study of the timber furniture industry’. This crude definition soon proved problematic. What is ‘timber furniture’? Does it include fully-upholstered furniture with a timber frame? How do we deal with office furniture manufacturers who may produce office chairs (low timber content) as well as wooden desks? A second set of complications arose around the inclusion or exclusion of *other* value-added timber products, such as shelves, doors and houseware (kitchenware and other small wooden household items). It may be argued that, when it comes to supply linkages and manufacturing processes, manufacturers of such items have more in common with traditionally defined ‘timber furniture’ manufacturers than do manufacturers of upholstered furniture. If supply linkages is one way of grouping manufacturers, then the second in our series of reports into the value-added timber products sector indicated the critical importance of customer links for understanding firms (Dunne 1999). Research into the relationships between firms and their markets suggested that the types of customer linkages established by firms have a great impact on market exposure, the size of the firm, turnover, and the specific problems faced by the manufacturer.

Some of the ways of segmenting the industry, by inputs and supply links, as well as by customer links are illustrated below:

Table One:

	Segmenting Variable
Inputs and Supply Links	▪ How significant an input is timber, relative to other raw materials such as upholstery (or metal or plastic)?
	▪ Are timber inputs imported, or purchased from a local producer?
	▪ Is hardwood or softwood used?
	▪ If a locally grown timber is used, is it Pine, Saligna or a composite material (chipboard, MDF, masonite)?
Links with Customers	▪ Does the manufacturer supply the domestic or export market, or both?
	▪ Does output go directly to the end customer, through an own retail outlet, to a retail chain, a wholesaler or an independent retail outlet?
	▪ Does the manufacturer only produce customised furniture, produce semi-customised furniture, produce some customised furniture or only mass produce to standard designs?

Obviously, if one tried to categorise firms according to the above variables one would end up with a complex matrix of factors which impact on the environment in which the firm operates, and the forces with which it must contend¹. Adequately delineating the boundaries of a study into the timber products industry is therefore clearly crucial if any meaningful information is to be gathered. Two problems are suggested, however. The first is that selection of a very narrowly defined population tells us very little about the dynamics of the industry as a whole. The second is that a failure to delineate the population blurs actual trends by aggregating results from firms that in fact have vary little in common in terms of

¹ Appendix One identifies a number of subsectors of the value-added timber products industry based on the questions asked here, and attempts to identify some of the key considerations in each subsector.

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either their supplier links or their customers. In other words, simply including firms in a survey population because they produce a value-added timber product tells us little about the underlying dynamics of the industry *unless* the population is sufficiently large that responses can subsequently be split according to some of the criteria discussed above.

Given these methodological problems, one needs to consider and define very carefully the purpose of the particular study in question. In this instance, the study undertaken by the IRP was loosely defined as a 'database study'. The study was designed to begin to get to grips with what is clearly an amorphous sector by establishing a quantitative database that will both identify some recent trends in the industry and provide a baseline for further research. The application of information gathered is thus threefold:

- to facilitate ongoing academic research into this sector,
- to inform policy makers, and
- to assist firms in assessing their own performance relative to industry best-practice.

The furniture industry in South Africa is something of a 'hidden' sector, characterised as it is world-wide by a predominance of small and medium enterprises, although the industry in South Africa has been found to be noticeably more concentrated than its foreign counterparts. The most complete database of furniture firms in South Africa could be expected to reside with the Furniture Industry Bargaining Council, with which all furniture firms are, by law, required to register. However, privacy agreements prevent the Bargaining Council from publicising this list of firms. The Bargaining Council has about 350 member firms, but it is important to note that this includes *non-timber furnishing related* firms, such as curtaining, re-upholstery and bedding (mattress) firms. A high percentage of the firms (over 90%) are thought to be using timber as a primary input, although no comprehensive statistical database exist². The second most comprehensive list of furniture manufacturers would be the list of members of the KwaZulu-Natal Furniture Manufacturers Association (a member of the national Federation of Furniture Manufacturers). According to the Association, there are presently about 88 members, with about 95% estimated to be using primarily timber inputs³. The names of most members are available through the Wood Directory, published annually. Clearly this discrepancy in numbers poses a problem for the researcher, and this problem would appear to be especially significant in particular market segments, such as amongst very small manufacturers. Intensive efforts for an earlier round of research failed to turn up more than a handful of these 'invisible' firms.

Given the complexities of the industry structure, the specific aims of this study and the difficulty of identifying the industry population, careful thought needed to be given to the methodological approach of the study. Given time and capacity constraints, the difficulty of identifying sufficient firms, and the uneven visibility of firms across sub-sectors, a large study which could subsequently be split and analysed according to distinguish subsectors trends was deemed not feasible. A more feasible approach was to identify *specific* subsectors, according to supplier or customer links, and to recognise that the information gathered is by no means generic to the highly differentiated 'timber products' or 'furniture' sector. In essence, this acknowledgement is crucial to the credibility and integrity of the data coming out of any limited sample of the timber products industry.

Based on our earlier categorisation of the sector by supplier and customer links, as well as our familiarity with certain subsectors and understanding of the accessibility of various sectors to researchers some decisions were taken to define and delineate the population. In terms of supplier links, it was decided to

² Telephonic conversation with Gawie Blignaut

³ Telephonic conversation with Jenny Otto

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exclude sectors that relied significantly on non-timber inputs, such as fabric, plastic or metal. It was decided to focus this study solely on firms that used raw materials that are produced locally. This excluded firms that depend on imported hardwoods such as oak. In terms of customer links the study decided to focus on firms with links to retail outlets (both domestically or in the export market). This included firms that have their own retail outlets, but effectively excluded manufacturers that produce only customised furniture. In essence, the subsectors chosen for study in this round of research were as follows⁴:

- Pine for the export market
- Chipboard-based products for the local market

Given the difficulty of accessing a complete database of furniture firms in KwaZulu-Natal a convenience sampling procedure was followed (<http://www.tardis.ed.ac.uk>). Firms were drawn from the 1999 Wood Directory's list of timber product manufacturers, and as many firms as possible were followed up from those that fell within the above mentioned subsectors. 'Snowballing' was used to add additional firms, with each manufacturer interviewed asked if they were aware of any firms in their area that had been missed. Convenience sampling is by no means an ideal sampling technique, generating as it does a non-probability sample. However, the absence of a reliable sampling frame in this sector makes probability sampling impossible. In addition, it is worth stressing that "a probability sample with a poor response rate doesn't in the end give you a particularly good representation of the population being examined" (<http://www.tardis.ed.ac.uk>; emphasis in the original).

⁴ Some sectors which were theoretically included in the study, are in practice not applicable to the South African market, for instance chipboard based products are seldom exported.

1 INTRA-FIRM ISSUES

Understanding the competitiveness of any industry begins with understanding the performance of the smallest unit, that is, the firm. This section attempts to draw a picture of the selected subsectors, including identifying recent trends in the industry and understanding the nature of production, and the constraints faced by manufacturers.

1.1 A Picture of the Survey Group

All of the surveyed firms were located in KwaZulu-Natal. The primary reason for locational pattern seems to be availability of industrial land or premises (69%) and proximity to owners' homes (31%)⁵, although the availability of infrastructure, access to labour and race laws were also given as reasons. In terms of location, two key observations were made. The first concerns a cluster of firms in the Jacobs industrial area on the outskirts of Durban. Four of the domestic market firms surveyed were located in this area, and the telephone directory for the area listed a number of other manufacturers in the area although these number were no longer valid, suggesting that the firms might have recently closed down. A drive through the area identified a number of other furniture firms in the bedding subsector. Jacobs was one of Durban's first industrial areas, and two of the sampled firms located in the area were established prior to the 1960s. It is probably not incidental that most of the Jacobs furniture manufacturers surveyed are Indian, and the area is located near to historically Indian areas. The second observation concerns the location of export manufacturers, most of which are located outside of the Durban metropole. While there are number of other timber products exporters (notably doors and houseware) in the Pietermaritzburg area, amongst surveyed *furniture* firms, all were located outside of either of these two areas. Notably, Durban and Pietermaritzburg are the areas covered by the Bargaining Council agreement.

Of the 16 firms surveyed, 14 are independent, one is a member of the Steinhoff Group, and the other a subsidiary of a smaller group of construction and furniture firms. Six of the sixteen firms were established prior to 1980 (the oldest in 1926), five in the 1980s, and 5 in the 1990s. While one firm was noticeably larger than the other firms surveyed, the rest of the surveyed firms were split evenly between small and medium-sized, with between 5 and 50 and 50 and 200 employees respectively. The smallest firm had 19 employees, and the largest 500. Excluding the large outlier, the average size of the sampled firms was 66 employees. Exporting firms were slightly larger, with an average of 98 employees, compared to a domestic market firm with 57 employees. The predominance of small and medium, rather than large firms is in keeping with the overall size distribution of South African furniture firms, however, it should be noted that the exclusion of firms producing customised furniture has effectively excluded many small firms from the sample. A survey of the entire furniture industry is likely to produce many more small firms.

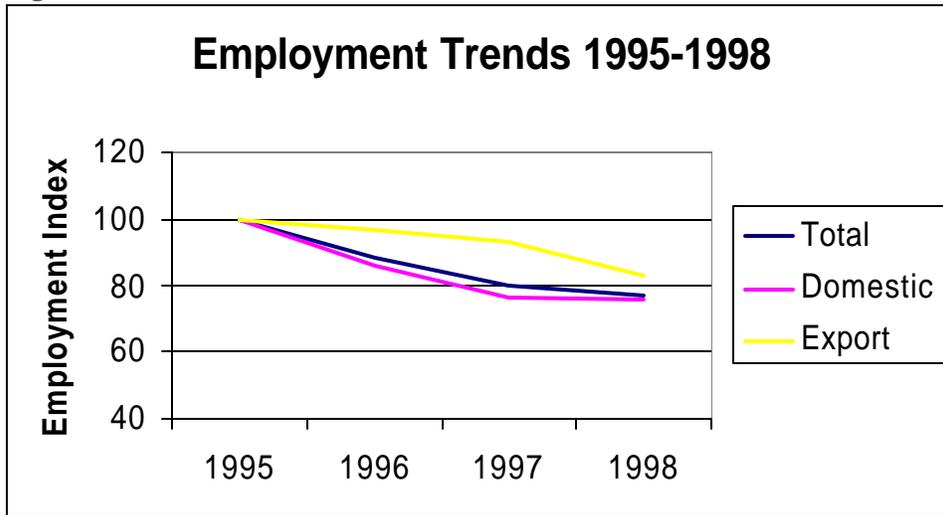
As we have already mentioned, the past several years have been very difficult for furniture manufacturers. Fedfurn's assertion that the industry has lost 5000 jobs in the past 5 years is borne out by the largest furniture union, NUFAW, which says that its KZN membership has dropped to a current 3500 from about 8000 in the 1980s. Employment losses are borne out by the experiences of the sampled firms, as indicated in Figure Two.

The employment trend amongst the surveyed firm has been mixed, however, with 27% of the firms recording an increase in employment, 33% a decrease, and 40% stagnant or fluctuating employment.

⁵ Several manufacturers gave more than one reason for their location.

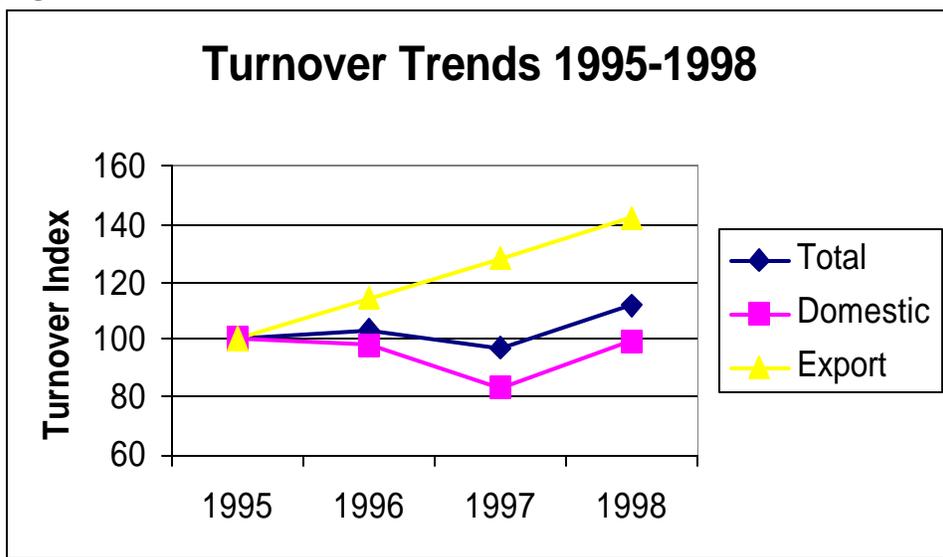
While a few firms suggested that employment declines have been the result of automation or increases in productivity, most associate loss of employment with poor market conditions, or a loss of market share. On the other hand, firms that have increased employment usually attribute this to an increase in market share, in several cases because of the introduction of a new product line. What became clear in the course of the interviews was the crucially important role of links to the large retail groups in determining a firm's fortunes. The loss of business from a single chain can have a dramatic impact on a firm.

Figure Two:



Turnover trends have been more positive over the past four years, as we can see in Figure Three. Sixty four percent of the sample recorded an increase in turnover, 29% showed stagnant turnover, and just 7% a decrease in turnover. In the case of firms focusing on the domestic market, the primary reason for increased turnover appears to be a growth in market share. The most important reason behind increases in the turnover of *export* firms appears to be the South African currency's depreciation over the past several years.

Figure Three:



...s rosy picture than
...to turnover trends, and goes some way to explaining the loss of employment in the sector. It would

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appear as though constant pressure of rising input prices and wages, and stagnant or declining prices for finished products are placing profit margins under growing pressure, as can be seen in Table Two.

Table Two:

Year-on-year Profit Trends 1995-1998 (Percentage of Firms)

	Increased	Stagnant	Decreased
1995	46%	45%	9%
1996	42%	42%	16%
1997	36%	28%	36%
1998	29%	21%	50%

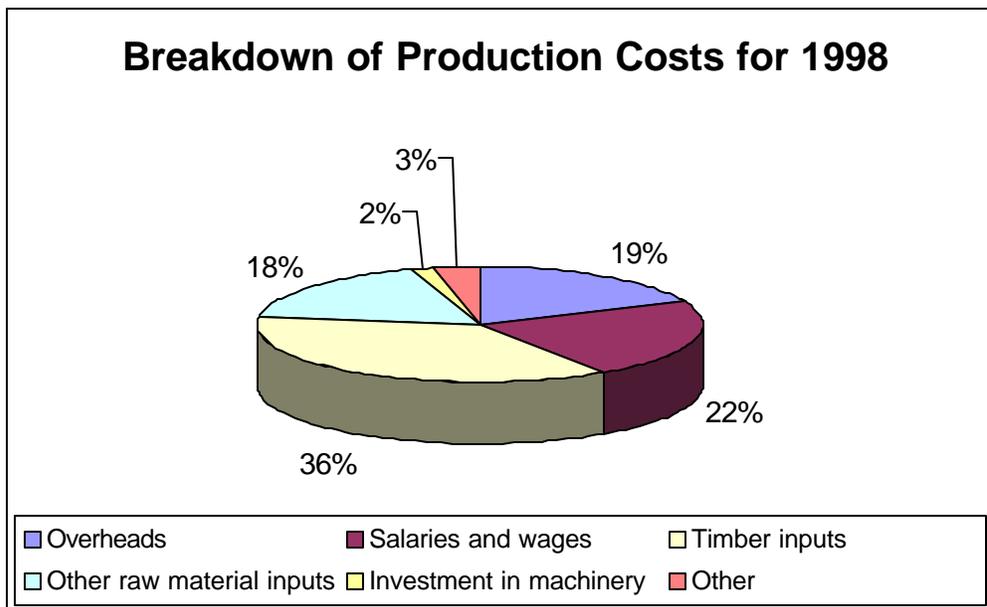
1.2 The Nature of Production

With the exception of a single exporter, all of the surveyed firms operate only one shift per day, with hours per shift ranging from 8.8 hours (a 44 hour week) to 12 hours. For domestic market firms demand is highly cyclical, with demand increasing dramatically in the pre-Christmas period from about October right up until the mid-December shut-down. Employment can increase by as much as 50% over this period with temporary staff taken on with one to three month contracts.

Firms tend to specialise in a small number of product types, such as beds or wardrobes or dining rooms suites, although this tendency is much more pronounced amongst exporters. On average domestic manufacturers produce a total of sixty-seven different products, while exporters produce forty-six, once again indicating a higher level of specialisation. For the most part the furniture industry, at least in the retail chain market and the pine export sector is very conservative, with manufacturers in some cases identifying products that have been selling without changes for the past ten years. Both export and local market manufacturers spoke with irritation of buyers reluctant to try new products on their shopfloors. However, new or altered products are regularly introduced to buyers, and where a significant proportion of sales come from products introduced in the past year, this is usually because a single product line has captured the attention of a buyer.

As can be expected, the primary raw material input in this industry is timber or board. All of the exporters surveyed produce in pine, although Saligna accounts for a small but growing part of South Africa's timber product exports. In the case of domestic market manufacturers, the primary input is chipboard, for the most part with a foil (i.e. paper) laminate, although some chipboard is laminated with a timber veneer such as oak or imbuia. Other key raw material inputs are hardware (fittings, mirrors and glass), lacquers, and in the case of exporters, packaging. The breakdown of production costs is shown in Figure Four.

Figure Four:



Given the critical importance of both timber or board and labour as inputs in the furniture industry it is important to develop a better understanding of the key factors impacting on competitiveness in each of these areas. However, to focus on inputs simply as expenses that need to be reduced is a short-sighted approach in light of the diverse demands of the New Competition. In the next section we examine the human resource development aspect of labour, to try to understand the extent to which manufacturers are recognising and developing the potential of their labour force. Later in the report we consider the relationship between suppliers and manufacturers as an important determinant of competitiveness.

The trend towards formal quality and environmental certification apparent in many industries has had no apparent impact on South Africa's domestic market manufacturers. This is unsurprising, however, as the industry has yet to see any significant inroads by foreign manufacturers, and relationships within the highly concentrated industry are based on long established relationships and expectations, wherein formal certification means little. There would seem to be no reason to expect this situation to change any time in the near future, unless public demand were to arise, which appears highly unlikely. Amongst exporters the situation is quite different. In the global marketplace quality and environmental certification have a growing role as order winning criteria. South African exporters are very much aware of these trends, and a number of manufacturers are in the process of addressing these issues. However, few, if any of the manufacturers spoken to either in the course of this or other research had come under active pressure from their buyers to obtain formal quality certification. Interestingly, the pressure on firms to get certification can be very much related to what subsector they operate in. Exporters that produce for the DIY market (doors, shelves and houseware) are under some pressure to get environmental certification, while there is very little pressure on bedroom furniture manufacturers.

Finally, there is surprisingly little in the way of subcontracting in this industry. This finding is surprising precisely because internationally subcontracting arrangements have been extremely important in the competitiveness of small manufacturers breaking into global furniture markets. While 38% of the surveyed firms did subcontract out some processes, this generally related to turning, a particular labour-intensive process requiring specialised equipment and expertise. There is none of the systematic specialisation and subcontracting arrangements that played such an important part in the experiences of the Italian furniture industry, amongst others.

1.3 Human Resource Development

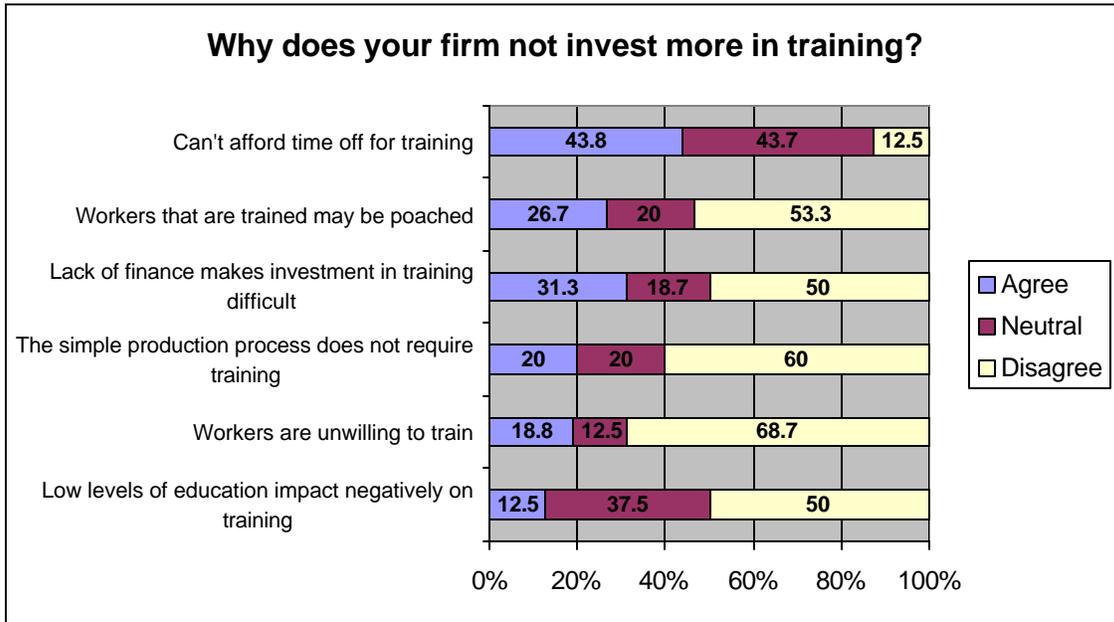
As we saw, labour is a key input in the furniture industry, as well as a major cost for manufacturers. If South African furniture manufacturers are to upgrade their performance and move into more value-added production, then there is an urgent need to shift the focus *away* from this idea of labour as a cost, and towards viewing labour as an asset that needs to be developed. Most manufacturers surveyed were well aware of the need for more training, however, few were proactively engaging around this issue.

Labour turnover in the furniture industry appears to be low, with an average estimate of 2.5%, which should probably be seen as a reflection of the very limited opportunities for alternative employment, rather than as an indication of employee satisfaction. Absenteeism on the other hand is high, and a source of extreme irritation to manufacturers. Estimates of absenteeism range from 0.5% to 10%, with an average of 6%. As all reports indicate that employees routinely take all their allotted sick leave, it would be feasible to estimate that absenteeism is above 4%, which approximates the number of paid sick days per year.

Training is predominantly informal or 'on the job', with half of the sample also engaging in formal training. In one case a firm had its own training unit, while in all others training was conducted by the FITB. Forty four percent of the surveyed firms had used the FITB in the past year, although the extent of this form of training is fairly limited. While one firm had exposed its entire workforce to formal training in the course of the past year, other firms had trained between two and twenty percent. Opinions about the usefulness of FITB were mixed. Of those who did not use the FITB half felt that its courses were not relevant to the needs of the labour force. Logistical problems and a lack of information about the FITB's courses were other reasons for not engaging in FITB training. Those who did use the FITB used it for a range of courses, including general life-skills courses, supervisory skills courses focusing on communications, and to some extent production related skills. In general the feeling seems to be that the latter is less useful because of a lack of machinery at the FITB's premises, and the difficulty of freeing up factory machinery for off-line training purposes.

In an attempt to understand why firms did not invest more in training, respondents were asked to indicate their agreement or disagreement with a number of statements. The results are reflected in the Figure Five, below.

Figure Five:



Clearly it is difficult to pinpoint an explanation for why manufacturers are not engaging more fully with training opportunities, which is problematic given the critical role of training in developing international competitiveness. Allowing time off for training appears to be the key constraint. Lack of finances is another reason why manufacturers shy away from further training. Few manufacturers believed that workers were actively unwilling to train. However, the expectation of increased remuneration on completion of training was identified as a problem by both manufacturers and the trade unions. World Class Manufacturing requires a much more comprehensive understanding of the role of labour in production, with emphasis on such aspects as problem-solving and quality control to name just two.

2 INTER-FIRM RELATIONS

As previous IRP research has indicated, a manufacturer cannot be ‘an island of competitiveness in a sea of inefficiency’ (Barnes 1998). No matter how efficiently internal processes operate, manufacturing ‘Best Practice’ cannot be achieved without equally efficient suppliers or without open communication channels for feedback from customers. How manufacturers interact with their customers, their suppliers, and indeed, with each other, has huge implications for their overall performance. It is to these issues that this presentation now turns itself.

2.1 Relationships with Suppliers

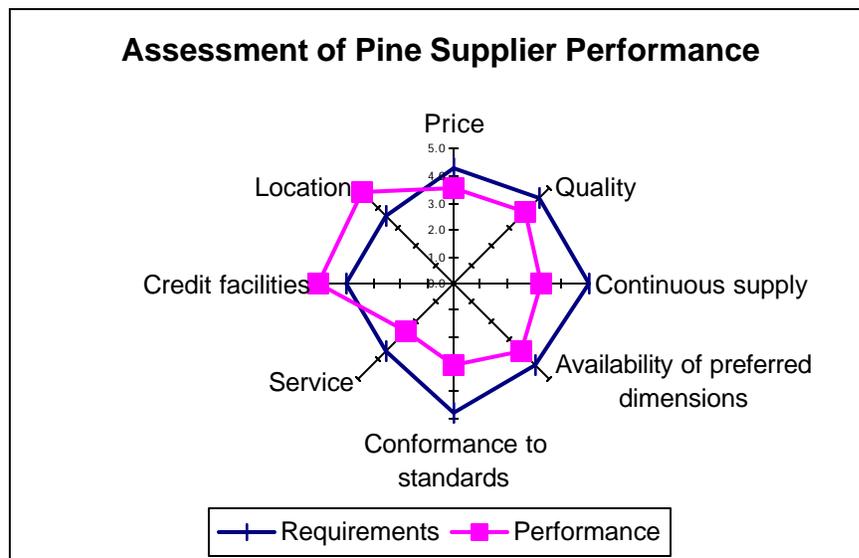
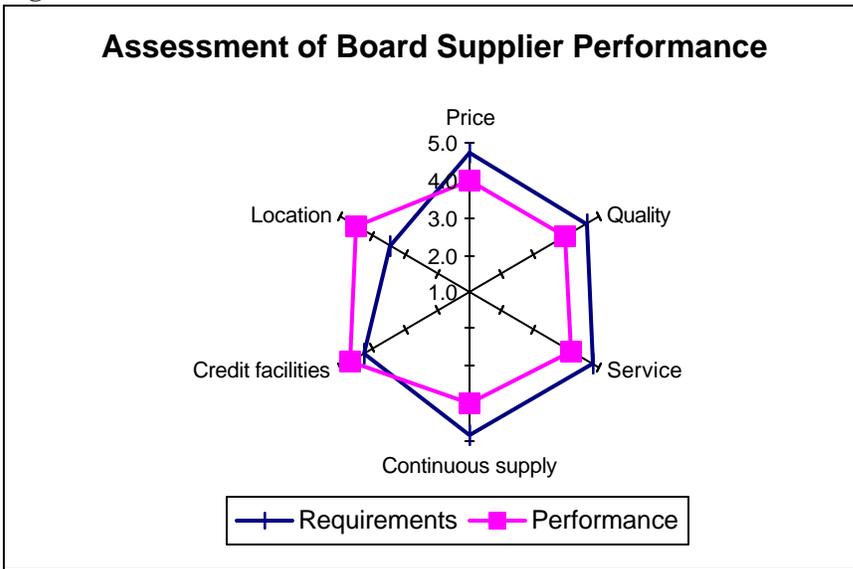
The surveyed furniture firms have an extremely wide supplier base, dealing with, on average, seventy-one suppliers. Relationships between manufacturers and suppliers appear to be of an arms-length rather than an obligational nature, with numerous complaints from manufacturers about the level of service received from suppliers. Nonetheless, relationships appear to be quite stable, with only one third of respondents having changed one of their five major suppliers in the past three years. In each of these cases the quality of service was a key factor in the termination of the relationship, although price played a role in several cases. Most suppliers have local outlets (i.e. in KZN, mainly in Durban and Pietermaritzburg), although some supplies are sourced from Johannesburg. Only two manufacturers source directly from overseas, although imported goods may be sourced through local agents.

The pool of timber and board suppliers is much smaller, consistent with what we know of the very high level of concentration in the South African timber milling sector. On average manufacturers deal with four timber or board suppliers. Most board is sourced directly from PG Bison, and most pine directly through the large milling groups, however, some manufacturers choose to source some timber through agents. This appears to be a cost effective option, with intermediaries providing improved service.

Manufacturers were asked to rate the performance of their timber or board suppliers respectively, and were subsequently asked to rate the performance of these suppliers. When asking manufacturers and retailers to rate demand and performance, a simple scale of one to five was used. In the case of demand criteria, a score of one meant that the criteria in question was rated as not at all important to the manufacturer, while a score of five meant that the criteria was critical for competitiveness.

The same scale was then used to measure performance, with one reflecting extremely poor performance, and five reflecting performance that surpassed manufacturer requirements. These scores were then translated into ‘radar charts’ that allow one to easily compare market demand with firm performance. The outcome of this exercise, for both domestic market-focused manufacturers (using chipboard) and exporters (using pine) is reflected in the radar charts below.

Figure Six:



It is clear from the above graphs that South African furniture manufacturers are far from happy with the performance of their timber and board suppliers. The timber growing and milling, and board industries in South Africa are characterised (as is much of the economy) by the dominance of several large firms, and a significant state presence. This has made for a very rigid industry, slow to respond to changing market signals. Compounding this, in the case of solid timber, the furniture industry has never been a dominant user-group from the perspective of the timber industry. Initially, timber plantations were established to cater to the needs of the mining, paper packaging and pulp, and to a lesser extent the construction industries. Only 12% of locally grown timber is destined for the furniture market (IDC 1998). Clearly, the needs of the dominant user-groups are significantly different from those of furniture manufacturers, and the legacy of the origins of the South African timber industry continue to impact negatively on furniture manufacturers today.

It is only in the areas of credit facilities and geographic location that suppliers meet and surpass the

requirements of their customers, the furniture manufacturers. In the case of board suppliers manufacturers are unhappy with their performance in terms of price, quality, continuous supply (that is, availability) and service. The gaps appear to be wider in the case of pine suppliers, with significant gaps between supply and demand in terms of both continuous supply of timber and conformance to standards. Price, quality and service requirements were also not met, while manufacturers were unhappy about the difficulties they experienced in obtaining timber in the preferred dimensions.

Another aspect of the supplier-manufacturer relationship which impacts on competitiveness is the frequency of delivery. Frequent and reliable delivery means that manufacturers do not need to hold large stocks of raw material inputs, which can be a significant drain on both finances and flexibility. Timber and board is delivered frequently - more than once a week in 63% of the cases, and once a week in the remainder. However, the concerns about availability that were reflected in Figures Six and Seven result in a tendency to hold buffer stocks. Continuous supply is obviously less of a problem in the case of board suppliers, and this is reflected in the average ten days of raw material inventory held by domestic market focused firms. In the case of pine, the tendency for sudden supply shocks is much greater, and the pine manufacturers thirty three days, or one month of timber inventory. The existence of such buffer stocks, while rational under the circumstances, call into question the assertion by several manufacturers that they operate on a JIT system. Clearly supply chain relations are a crucial aspect of improved competitiveness in this sector.

2.2 Relationships with Customers

The subject of the relationship between manufacturers and retailers was covered in some depth in an earlier IRP report on the furniture industry – this survey did little more than to update and confirm earlier findings. In the case of the domestic market, key aspects of the relationship include a heavy dependence on a small number of retail groups, and regular deliveries (from several times a week to once a month) to stores throughout South Africa and the neighbouring countries. Only one manufacturer supplied on a regional basis only. Frequent deliveries and a growing tendency to produce only to order, rather than for stock is reflected in the low level of finished goods inventory held by domestic market manufacturers, with half of the sample reporting holding only a single day's finished goods stocks. The average finished goods inventory holding was 7 days.

In the case of the export market the finished goods stock holdings varied vastly between the surveyed firms. However, larger orders and less frequent deliveries can generally be expected to translate into higher finished goods stock levels. The top exporting destination was the UK, although exports also go to a number of other European countries, and to the French Islands. Very little goes to Australia, the Far East or the USA.

2.3 Relationships between Manufacturers

There appears to be generally very low levels of interaction between furniture manufacturers. Historically such interactions have been limited to membership of formal organisations such as the Chamber of Commerce, the Furniture Manufacturers' Association and the Timber Products Exporters Association. Benefits from membership in these organisations appear to be limited at best. This situation appears set to change, with the advent of a number of initiatives aimed at encouraging competitiveness through co-operative efforts. The Workplace Challenge and the Export Council are two such initiatives, while the Saligna Value Chain Group is another. All of these efforts recognise that the problems faced by individual manufacturers are by no means unique, and that through co-operating with traditional competitors

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manufacturers may be able to improve their performance and overcome common problems. All of these initiatives work on the principle of shared information and learning, so that benefits accrue not only directly to individual firms, but also indirectly to the industry as a whole.

CONCLUSIONS

The aim of this study was to develop a better understanding of trends and relationships within the chosen subsectors of the timber products industry, and to provide a baseline against which to measure future developments in the industry. One of the key conclusions of the report relates to the low incidence of comprehensive performance measurement in the sector. Firms tend to measure financial performance only, and to pay little attention to indicators that reflect other aspects of competitive capacity such as human resource development, quality and lead times. At the same time, little emphasis is placed on developing relationships with suppliers and customers. Moreover, there certainly seems to be no systematic drive to improve firm performance in any of these areas.

This situation is changing however. The Workplace Challenge aims to “assist South African industry to meet the challenges of a continuously changing environment” through “encourag(ing) workers and management to work together to improve the way in which South African industry delivers products and services to the market “ (Nedlac 1999). This project not only deals with the very real challenge of improving firm level competitiveness, but also deals with the critically important issue of human resource development and improving relationships between management and labour. Similarly, the Saligna Value Chain Group aims to improve the competitiveness of Saligna manufacturers by improving communication between suppliers and manufacturers, and overcoming a number of common problems relating to raw materials and marketing. The Furniture Export Council focuses on promoting co-operation amongst furniture exporters.

While recognising the difficulties and time-consuming nature of restructuring industry, if these efforts are successful, they are likely to transform the face of the South African timber products sector. It is hoped that this study has gone some way towards developing an understanding of the critical issues of the industry, as well as to providing a point against which we can benchmark future industry achievements.

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APPENDIX ONE: SUBSECTORS OF THE VALUE-ADDED TIMBER PRODUCTS INDUSTRY

This table covers the main segments identified in the course of the past year's research into the South African value-added timber products industry. The permutations are numerous, however. The very different experiences of small or informal enterprises in each of the identified subsectors is a case in point.

Subsector	Segmenting Characteristics	Possible Issues for Investigation
Chipboard furniture for the domestic retail market	Supply to retail groups or to independent retailers. Very low level of foreign competition.	Implications of supplying groups versus chains. Relationship with board manufacturers.
Pine furniture for export	Locally grown softwood. In competition with other developing countries, e.g. Brazil, Poland	Problems inherent in exporting – marketing, transport, amongst others. Relationship with mills.
Saligna furniture for export	Locally grown hardwood with higher value-added potential than pine. Environmentally sustainable hardwood.	Problems inherent in exporting – marketing, transport, amongst others. Relationship with mills.
Upholstered furniture	Fabric and foam as key inputs. May be mass produced or customised. Some exporting.	Relationships with fabric and foam suppliers. Availability of local versus foreign inputs. Problems inherent in exporting bulky lounge suites.
Customised kitchens and wardrobes	Flexible production. High level of customisation. Relatively low start-up costs.	Impact of informal sector on formal manufacturers. Need for quality control and regulation.
Customised bedroom, dining and other furniture	Solid timber or chipboard. Middle or upper end of the market. Possibly imported timber – oak, beech etc. Almost all for domestic market.	
Pine shelves and doors	Low level of value added relative to furniture manufacturers	Basis for competitiveness – low wages, cheap inputs, automation?
Office furniture	Customised or mass produced. Solid or chipboard. Other inputs include metal and upholstery. Room for small manufacturers to compete with larger firms	Experiences of small enterprises.

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