

The South African Lumber Market

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ABSTRACT

The timber industry in South Africa is about a century old. The first half of 1999 and 1998 will probably go down as the toughest year in the history of this industry. However, survival is not enough. Consists of literature research, this study aims to analyse the South African Timber market. Major developments in this industry are that of Safcol (South African Forestry Co. Ltd.) with extensive publicly owned forestry assets, which are being offered for sale by the government in what is called a restructuring process. Originally the state became involved in commercial forestry for strategic socio-economic reasons, mainly to stimulate industrial activity in rural regions and to reduce the nation's dependence on timber exports. As privatisation emerged as a serious policy, the sawmiller's tenure and other long-term rights were seen to hamper the restructuring process and to inhibit prospects of optimising the price for assets to be privatized. This is where most of the problems of the South African wood industry started. Pressure was applied to induce its customers to accept a significant diminution of their log supply elements. The compound of higher log prices and diminished sawmiller rights would boost the disposable value of the forest to be sold off. The fact that the sawmiller had paid a substantial premium tendered in open competition. Also disregarded, it seems, was the constitutional protection against expropriation without just and equitable compensation. For the very formation of the parastatal, sawmillers found themselves under mounting pressure to sacrifice or diminish key benefits in their contracts against rising log prices. These sacrifices includes benefits as the period of the contract, the volumes of timber assured, identified dedicated sources of supply, favorable credit terms and significantly the method and frequency of log price determinations. Sawlog prices were not determined through normal market trends, but through the biggest supplier. The research problem's to be addressed in this paper is the following:

- *Is it possible for South African sawmills to be profitable and to compete internationally?*
- *How big are the local and export markets?*
- *Can the R.S.A. sawmills compete internationally?*
- *What effect does exports of logs have on sawmills?*

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The South African Lumber Market

Pre-amble

The timber industry in South Africa is about a century old. The first half of 1999 and 1998 will probably go down as the toughest year in the history of this industry. In the proceeding times sawmills were merely trying to survive and stay in the business than trying to make profits. Most business managers realized that to prosper they had to wait for a major renaissance in the industry.

Having survival as the main aim for any business can only keep managers and key personnel going for so long. Survival is not enough. The aim must be to flourish. The industry is in the grip of convulsive change. Out of the 188 sawmills that were active in the formal sector a dozen years ago, hardly 96 are in business today. In 1998 alone, four sawmills were mothballed whilst two others burnt down. Scores of timber merchants have given up or sold out. During 1998 a powerful national timber distributor put up 48 branches for sale by tender.

Numerous furniture factories have closed down, whilst control of the largest furniture manufacturing group in the country has been relinquished by a

major conglomerate. The only furniture manufacturers that are making profits are those that supply the international market.

Major developments in this industry are that of Safcol (South African Forestry Co. Ltd.) with extensive publicly owned forestry assets, which are being offered for sale by the government in what is called a restructuring process. This process has dragged on too long for the good of the industry and its stability. At long last, however, developments are heading for a watershed.

Safcol is owned and controlled by the state and was created in 1993. It was launched to manage the nation's commercial forests (some 270 000 hectares), the related supply contracts, plus five sawmills and two pole plants. Separately managed by the Department of Water Affairs and Forestry (DWAF), emanating from the erstwhile homelands, where plantations of about 140 000 hectares in extent.

Safcol is by far the largest supplier of sawlogs to sawmillers in South Africa. At first, it was not realized that its forests, for many, the only source of supply of logs, were to be sold over the heads of its long-standing customers. The writing on the wall came later.

Originally the state became involved in commercial forestry for strategic socio-economic reasons, mainly to stimulate industrial activity in rural regions and to reduce the nation's dependence on timber imports. Most sawmillers tendered for longterm contracts against a promise of security of

tenure in the long term. It was a promise of security of tenure, together with a guaranteed supply of minimum volumes that induced substantial investment in sawmills throughout the country. As privatization emerged as a serious policy, the sawmiller's tenure and other long-term rights were seen to hamper the restructuring process and to inhibit prospects of optimizing the price for assets to be privatized. A bidder would probably pay more for a forest if it were not lumbered with any long-term log supply contracts.

From inception, the parastatal enjoyed a position of dominance in the market for sawlogs. Apart from its status as an organ of government, it is the dominant supplier of sawlogs. For most of its customers, there is no practical alternative source of supply.

This is where most of the problems of the South African wood industry started. Pressure was applied to induce its customers to accept a significant diminution of their log supply elements. The compound of higher log prices and diminished sawmiller rights would boost the disposable value of the forest to be sold off. The fact that the sawmiller had paid a substantial premium tendered in open competition. Also disregarded, it seems, was the constitutional protection against expropriation without just and equitable compensation.

For the very formation of the parastatal, sawmillers found themselves under mounting pressure to sacrifice or diminish key benefits in their contracts against rising log prices. These sacrifices includes benefits as the period of the contract, the volumes of timber assured, identified dedicated sources of

supply, favorable credit terms and significantly the method and frequency of log price determinations.

This is one of the problems that will be addressed in this paper. Sawlog prices were not determined through normal market trends, but through the biggest supplier namely Safcol. Most sawmillers succumbed to the pressure and Safcol's own sawmills also did not have a choice but to accept given prices. One or two sawmills tried to make a stand, but because of the limited bargaining power they did not achieve much. Raising prices in a falling market is unnatural and untenable. This is a very good example of a powerful supplier who overworked its advantage by denying the industry its established markets. This boils down to the fact that Safcol seriously overworked its power to fix log prices.

The background information given is just to give a novice of the timber industry a feel of which the major role players in this industry are. The research problem's to be addressed in this paper is the following:

- Is it possible for South African sawmills to be profitable and to compete internationally?
- How big are the local and export markets?
- Can the R.S.A. sawmills compete internationally?
- What effect does exports of logs have on sawmills?

Like any industry no quick solutions are expected but the answer may be found in adding more value to the raw product by developing new markets where more value adding can be done.

Chapter 1

Introduction

1.1 Introduction

South Africa consists of 122.3 million ha of land of which 1.2% or 1.5 million ha was under plantations at the end of June 1998 (South African Lumber Index, 1999: 14). This is not a statistical report but the following statistics are important to determine what amount of timber is available for the 148 plants that consume round logs supplied from various plantations.

The 148 plants are divided up as follow:

- 96 Sawmills
- 13 Mining Timber Mills
- 13 Pulp Mills
- 23 Pole Plants

The 148 plants total intake during last year was 14,7 mil m³ with a value of R1 746 million. This boils down to an average of R118/m³. Although the 96 sawmills represent 65% of the processing plants they consume 81% of the round logs supplied by the various plantations.

In the wood industry logs are divided into different log classes ex. A, B, C, D. The A class logs are the logs with the smallest diameter and D class logs

are logs with the biggest diameter. It goes without saying that the bigger the diameter the more expensive the logs are.

Most sawmills don't cut A class logs because the recovery is too low. Recovery means that part of the round log that is recovered or utilised. Sawmills therefore focus on cutting class B-D logs which are the most expensive because they are recovered from older trees which takes longer to be harvest ready. The volumes of class A logs the highest of the four log classes because class A logs are recovered from the top part of big trees too.

The point that this other wants to make is that although the average cost for the total round log industry is R118/m³, the average for the South African sawmills are R145/m³ because they focus on cutting the more expensive round logs. The average sawmill has a recovery percentage of approximately 45%, which means that their raw material cost on average is $R145 @ 45\% = R322/m^3$. If we take exchange rates into consideration this is 11% higher than the worldwide average (Fisher, 1999: 47-49).

This brings us to the point that was made in the introduction that Safcol has unfairly overworked its hand by being the major supplier of round logs.

If there were natural market conditions where there are not just one major supplier, but a few suppliers, prices could be determined by demand and supply which is natural in most markets.

If we look at price increases over the last six years since Safcol started it is staggering to see that there was an effective rise of about 14% per annum in

the weighted average cost of sawlogs. This is against the fact that the industry's selling price declined by 3,75%, whilst costs increased by nearly doubling the PPI of 4,8% (Commercial Timber, 1999).

What could possibly make it prudent or justifiable for log suppliers to ratchet up log prices by 14% annually in a market where supply is higher than the demand? Supply has overtaken demand by as much as 30%. It is therefor obvious to see that prices for logs are not realistically controlled although market signals loudly called for restraint. It is no wonder that more than a third of South Africa's sawmills are running at a loss.

At these price levels for logs, major suppliers like *Safcol* and *Mondi* cannot themselves show a profit in their own sawmills where it has cut prices for sawn timber and losses are in effect subsidized by taxpayers money. The conclusion must be made that the magnitude of log price increases over the years was a mistake. The whole industry has been weakened by it. The market signals called for a positive stimulus, not the discouragement of inexorably higher prices.

The biggest problem that these rising prices of sawlogs caused was that the finished timber got to expensive and traditional timber consumers started to use substitutes. These substitutes will be discussed in the following chapters.

Because of the supply being bigger than the demand a lot of round logs have been exported over the last few years. This should again not have been a problem, but as we know the international markets their standards are

always very high. This was probably why only the cream of South African logs is exported. The local sawmills that were also competing internationally now had to be satisfied with second best logs for which they did not receive a premium. Although there was a lot of resistance sawmillers could not do anything to stop these exports of prime logs. What these exporters did not realise is that although they were selling more round logs in the short term some of their long-term customers were going out of business, which led to additional volumes not being used in the local market. What round log suppliers did not realise is that when a sawmill closed the volumes that they took were lost forever?

Nothing has impacted more severely upon the confidence of the industry than the truncation of established log supply entitlements into short-term contracts. Over and above privatisation, most sawmillers are now subject to notice of termination of three years or so. This leads us to another problem. Sawmiller's trade as if there is no tomorrow. This statement will be discussed in the next chapter.

Formal sector sawmills are the backbone of the industry. Neither the sawmills, nor the trees, are on wheels. Remove or reduce the assurance of raw material supply, and the uncertainties and risks render the industry untenable. This is no way to encourage investment and create jobs.

Most sawmillers think that they are covered if they have long-term log supply contracts. Additional challenges may come by way of controversial legislation trying to be passed through by the courts. In terms of the new

National Forest Act, any sawlog contract may, despite its terms, be terminated upon five years written notice, subject to certain provisos.

It must be mentioned why the above topics are mentioned. The main goal of this paper is to find new markets for the timber industry to enable then to become profitable or to be more profitable. For any business to be profitable it is essential that you must be able to get the required raw materials that satisfies the producers needs.

1.2 Problem Statement

This study is undertaken to understand the timber trade as a whole and to see if there is not a way of making sawmills more profitable. Most sawmills struggle just to break-even, and as mentioned earlier four sawmills closed down in the previous year.

Problems for example productivity, efficiency and effective management is some of the problems that will be addressed.

1.3 Research Methodology

The research methodology applied was mainly to use existing literature and interviews with experts in the industry. No questionnaires or a statistical analysis was done because it falls outside the scope of this study. The literature research consisted of books, articles, the Internet as well as informal interviews with influential roleplayers, colleagues and experts on the timber industry.

1.4 Summary

Having in mind what the aim of this paper is to try to get solutions to make sawmills more profitable, a big part of sawmill problems will be solved if there is better communication between plantations and the sawmillers. If both parties know what the other one needs and understand what is the effect of say when a sawmill is without logs, does not have the right log classes or the right quality, sawmills will have a better chance of functioning as a business.

Chapter 2

The timber industry

2.1 Introduction

A lot of emphasis will be put on management as the culprit for the timber industry problems. For this reason the role of management and its influence on an organisation to be efficient and effective were looked at.

Prior to the twentieth century, business and other organisations functioned in a less complex environment than that of today. Managers or organisations must cope with a dynamic world of increased population, inflation, recession, social consciousness, and shortages of resources such as energy and capital (Cook *et al.* 1998: 15). Consequently, the decision making task of modern management is more demanding and more important than ever. Fortunately, the human nature can use its ingenuity to find new ways to handle confronting problems.

In the current *global village* market environment, products can be shipped worldwide in a matter of days. Communications are instant. The life cycle of products is short and competition is high since there are few barriers to entry. Our world witnesses an incredible amount of change by all historical standards, even those of 50 years ago. The fast pace of change has created what Toffler (1970) calls a “future shock” for those unable to adapt to such change (Mercer. 1992:7).

Because of the historical development the timber sector is sitting with a lot of managers that are not able to handle the fast changing environment. Because the timber industry was traditionally controlled by the state a lot of managers got there not for having what it takes to become a manager but because they had a lot of years service which was the main criteria when promotions was made. It is difficult to teach an old dog new tricks but managers must be helped to be effective and efficient.

Globalisation, the internationalisation of markets and corporations, has changed the way modern managers must think (Wheelen, et al. 1998: 17). To reach the economies of scale necessary to achieve low cost, and thus the low prices, needed to be competitive, managers must now think of global markets instead of national markets. Although the timber industry has all the needed resources very few sawmills are capable to come up with the right mix to make sawmills productive. It must therefore be management that is unable to combine all the natural resources into the best possible combination.

Having a company mission is very important in any organisation. How can managers manage if they don't know where the company is heading, what kind of enterprise are they trying to build and what should the company's future business makeup be? A manager cannot succeed as an organisational leader or a strategy maker without first having drawn some soundly reasoned conclusions about where the enterprise needs to head; the changes in the business makeup that are called for, and the organisational capabilities it will take to meet future customer needs and compete successfully

(Thompson et al. 1998: 5). With a clear, well-conceived strategic vision, a manager has a beacon to truly guide managerial decision making within the organisation.

There is a compelling need for managers to be proactive in shaping how the company's business must be conducted. It is management's responsibility to exert strategic leadership and commit the enterprise to going about its business in one fashion rather than another (Thompson et al. 1998: 8). Without a strategy, managers have no prescription for doing business, no roadmap to competitive advantage, no game plan for pleasing customers or achieving objectives.

There is an equally compelling need to mould the business decisions and competitive actions taken across various parts of the company into co-ordinated, compatible patterns. A company's activities necessarily involve the efforts and decisions of many divisions, departments, managers and employees. The timber industry managers need to be educated on how to bring all the different parts of an organisation together to enable it to function as a working machine.

Like most sectors in South Africa workers have a low motivational level. The motivation of people is most probably the single most significant problem but also the biggest challenge most managers and supervisors face (Coetsee, 1996: 7). Management success and the success of the team members are the result of identifying, unleashing, using and realising people's potential. It is therefore very important for managers to be able to

unleash workers potential by getting them motivated to enable them to be as productive as possible.

It is not an easy task being a good manager. To be effective and efficient managers must be able to have a broad knowledge of all divisions of an organisation and not just specialise on one division. It is also very important that a manager must be able to delegate. If a manager can't delegate there is a good chance that he will not be a successful manager not even thinking that he would be effective or efficient.

To understand the timber market it is essential to know what has happened the past ten years. The annual total sawmilling output at 1.9 million cubic meters had peaked in 1989, of a base in 1980 of 1.3 million cubic meters. Over the last ten years sales have decreased from 1.9 million cubic meters in 1989 to 1.1 million cubic meters in 1998. This is a drop of 31.6%. In any industry this is amazing statistics and it is logical that there had to be some sawmill's that could not stay in business (Anderson, 1999: 47).

In the category of structural lumber, the traditional mainstay of the timber business, sales have declined from 650 000 cubic meters in 1981, constituting about 50% of total sales, to the present estimate of 490 000 cubic meters per annum, or 40% of the total volume sold. This decline is mainly due to the fact that because log prices increased by an average of 14% over the last 10 years buyers started to look at alternatives because timber was becoming to expensive (South African Lumber Index, 1999: 18).

Alternatives for timber products came in different forms. Steel became more popular especially in the construction business. Where the frames of buildings used to be of wood and especially the roof constructions because wood was traditionally lighter than steel. With the new age steel inventions which was lighter and stronger than timber, timber products started to be less in demand.

Other alternatives came in the form of plastics that was formed into construction material. These replacements are normally not visible to the normal eye because they are on the inside of buildings. Where some of these plastic constructions are visible are in public playgrounds where children play.

Total softwood lumber sales for the formal sawmills for the 12 months ending June 1999 amounted to 1 141 298 m³ compared with 1 141 554 m³ for the previous 12 month period. This reflects a decrease of 0.02% over the previous year. In June 1999, sales amounted to 86 875m³ for the formal sawmills compared with 94 825m³ last year June, which is a reduction of 8,3%. The formal sector is now running at 95% capacity and stock are holding there own at 5,6 weeks of production.

The demand for structural timber is continuing to fall. SALMA estimates that sales of structural timber from the formal sawmills to have been 40 594m³ in June, which would equate to 466 820m³ or 41% of formal sawmill sales, or 26% of total sales (Sherrill, 1999: 9-15).

Will the decline in interest rates influence the building industry and if so how long is it likely to take? This is a question that the whole industry would like an answer on. Currently there is no evidence that the market is picking up, on the contrary as seen in the previous paragraph the market is even weakening further. It is a normal market trend that the effect of lower interest rates can normally only be seen 3-6 months after these rates have been reduced.

On average sawmill cost rose by 11% in 1998, of which 6% was due to the decline in volumes. This is because fixed cost have to be covered although production was not the same mainly due to sales that were not on the required levels (Mortimar, 1999: 48).

The only expanding sector of this industry is the furniture re-manufacturing sector. This sector is exporting bulk of their production and this is the main reason why they are able to expand and make profits. The local furniture market is very related to the building market. If people build houses the demand for furniture is normally higher because the average household's spendable income is higher. In a lot of furniture the amount of timber used in the furniture is not always visible. A good example is the inside of most houses, which is made of timber. Because the timber is not visible it is normally of a very low quality.

If the current markets are taken into consideration, what are the challenges posed to sawmills? This is not a very easy question to answer. The key to success must therefor lie in reducing production cost and increasing recovery to be able to stop rising prices which will lead to higher sales

volumes. Most sawmillers are operating with overheads that are too high, and not putting enough emphasis on quality.

To survive current market conditions sawmillers need the passion to identify appropriate markets and service them accordingly. They must also have the ability to produce and sustain quality and supply, and do so at competitive prices. They must have the vision to understand the synergy in competing without destroying each other or the industry.

To know where the industry is currently standing it is necessary to do an industry analysis of the strengths, weaknesses, opportunities and threats. After doing the analyses it should be clearer to understand the industry and it's environment better.

Where is the timber industry going is an important question to answer. The industry has moved through various stages. In 1960 to 1989 price cartels controlled the industry. It was a time when sawmillers lost their focus. A large number of bushmills sprouted, but they did not significantly contribute to the production percentage (Crickmay, 1999: 50).

The current era began in 1990 when sawmillers began focusing their efforts on quality products and servicing their market needs. The new millennium will bring about the focused era where bushmills will dominate, and sawmillers that have survived will begin to reap the rewards. There will also be new entries into the market in the form of high - speed low cost mills with chipper-canter-type lines producing at a low cost.

To be able to survive sawmills must have the passion to be market and quality driven, and supplying customers needs. Because there have always only been one major sawmill in a district, it normally supplied the local markets in the surrounding areas. Sawmillers therefore did not pay a lot of attention to what the market needed and their quality was normally not of the highest standard.

Since South Africa has awakened out of its isolation years there has been a lot of competition from neighbouring countries. Suddenly quality and customer needs have become more important because imports from neighbouring countries and even from other districts started to get a commanding market share.

It is interesting to look at the current situation in the Western Cape. There are currently two big sawmills, *Mondi* and *Safcol*, which supply this market. Between them they supply 18% of the Western Cape's yearly sales. Why both of these mills are exporting is a very interesting question. If they were getting higher prices for their exports it would have to make sense that they exported. It is a known fact that they do not receive higher prices than in the local market. After having conversations with both of the above mentioned companies the conclusion was made that overseas markets was more constant and did not fluctuate as much as the local markets. It still does not make sense seeing that 82% of the timber market is supplied from outside of the Cape.

2.2 Strengths, weaknesses, opportunities and threats analyses of the timber industry.

An analysis of the strengths, weaknesses, opportunities and threats revealed the following aspects with regard to the timber industry.

2.2.1 Strengths:

- an excellent quality resource,
- reasonable log prices,
- abundant capacity to expand,
- exchange rates that favour exports,
- Forest Stewardship Council (FSC) certified plantations, and
- available information.

The average sawmill has a very good quality of round logs (raw material) supplied by the forest. Sawmills must use this advantage to their favour because a lot of outside competitors have to be satisfied with much lower quality standards. Exports must also be exploited due to favouring exchange rates and FSC. FSC will be explained later, it is mainly a certificate that the green people want to ensure that the environment is treated correctly.

2.2.2 Weaknesses:

- relatively inexperienced secondary processing sector,
- high cost of capital equipment,
- poor productivity and high costs,
- low passion for quality, and

- inflexible sawmillers still stuck on sawing structural lumber.

Productivity and quality is the industries main weakness. Most of the sawmills have very old machinery that is very unproductive and gives a low quality finished product. This weakness can be addressed by getting the write people to see what the advantages are of having equipment that are productive and gives a high quality end product. Motivating these capital expenses will not be that difficult when comparing to the rewards it will bring.

2.2.3 Opportunities:

- potential pine sawlog supply of 1,5-million cubic meters,
- potential eucalyptus sawlog supply of one-million cubic meters,
- potential to cut specific sizes for the market, and
- cutting production costs.

South Africa has a lot of available land that is only suited for growing of timber that is currently not utilised. Pine trees can grow in the bad soil and on mountains were nothing else can grow. If all of the available land can be used to grow trees South Africa can become a major role player in the timber industry.

2.2.4 Threats:

- unnecessary price cutting, both locally and overseas,
- lack of understanding the need to synergise,
- insufficient flexibility to meet market needs, and

- insufficient focus on quality.

The biggest threat in this industry is that of price-cutting. Neighbouring countries like Swaziland and Botswana export timber to South Africa at a below-production cost. They are able to do this mainly because their logs are cheaper and they pay their labourers a lot less than the RSA do.

It is important that the industry does not just focus on their weaknesses and threats, but also to capitalise on their strengths and opportunities. Taking advantage of a mill current strengths can give it a competitive edge over its rivals.

2.3 Needs of Sawmills

To be productive any manufacturing industry requires its raw material supply to measure up to certain standards. From looking out of a raw material point of view, sawmills need the following:

- Consistent supply of logs. To enable a sawmill to have consistent production there must always be logs available. If there isn't consistent log supply, production will also not be consistent.
- Good quality logs. If the quality of the logs is not good then there will be high volumes of unused material and waste, this will lead to higher production cost.
- Competitive log prices. Seeing that 50% of a sawmillers production cost is that of his raw material, log prices play a big part in determining the end products cost.

- Long-term supply. Any production plant needs long-term supply. How can a sawmiller put in new machinery to improve production if he does not know how long he will still receive raw material?

Looking at the above four points South African sawmills don't have a lot to be happy with. The only point that is satisfying for them is that their log supply is normally quit consistent. If supply is not consistent sawmills have to interrupt their production process at regular intervals. As discussed earlier the best quality logs are exported and in most circumstances Safcol supplies its customers with the best logs, while its sawmills have to be satisfied with second best. Log prices has also not gone up according to inflation. Sawmillers are also constantly under threat of losing their long-term contracts.

2.4 Conclusion

Because sawmills were not used to competition, a big aspect that was very neglected was the marketing side. This is an aspect that must be addressed by most sawmillers. Most sawmills have marketing managers that are unfortunately not worth their title. They function purely as a rep. There is no detailed market information available at most sawmills because no market research is being done by the marketing managers. Information such as the size of the market, location of customers, what is timber used for and who makes the buying decision, are some of the basic questions that most sawmillers are not able to answer.

It must be recommended that sawmillers gather information to enable them to make better decisions. If a sawmill does not have people with the necessary experience to gather important information it is recommended that external consultants must be used.

Chapter 3

Timber Exports

3.1 Introduction

A new approach is evident in the South African timber market. Many sawmillers have become to realise they are part of the global market and that there are great opportunities out there. In this chapter timber exports are going to be analysed to identify any opportunities.

To be able to export timber one of the most important factors is how the timber is treated to enable it to preserve as long as possible. Timber preservation has become an integral part of the global industry today. An immense amount of ongoing research and development has taken place by South African companies regarding preservation. Without this co-operative approach, the industry would have difficulty in supplying the required new generation treatments that the international market demands.

In the past timber preservation was based on heavy industrial preservations, since there was a need to develop power and telephone networks and farm and road fencing. These needs still exist, but the demand for aboveground applications have far out-stripped heavy applications. Preservation is currently a major factor when importers decide from where they are going to import timber.

3.2 Market Aspects

Preservation is only one market demand that is going to be important in the new millennium. The following market aspects will emerge as important factors in the new millennium.

3.2.1 Market Demands

Meeting customer demands is one aspect; another is to meet legislative and environmental requirements in the customer's country. Heavy, metal-containing preservatives are already banned in a number of countries and more are expected to follow this example. Chrome and arsenic-containing preparations are being phased out while copper will be in use for a while longer, but is under threat.

It is impossible to think what the above affect will be on the world wide timber industry if certain metals are banned and timber products will be used to replace them. Demand will then be much higher than supply, if that happens the timber industry will see a boom that will exceed the industry's wildest expectations.

Just when things start looking good a different problem is starting to occur. Scandinavian countries have implemented drastic reductions in the amount and types of chemicals that may be used and are intending to only allow chemical free treatments in the near future. Other countries are showing intentions that they want to follow.

To solve the above problems the industry will have to swiftly respond to the changing demands of the customer by doing the following.

- The introduction of envelope treatments where this was not part of local specifications.
- Marketing *copper azole-based alternatives* to CCA, which is now the preferred treatment in Japan.
- Replacing of LOSP treatments with water-based alternatives.
- Updated plant control systems for modified processes that allow accurate timber treatment.
- Glue additive treatments that increase the durability of composite board products.

3.2.2 Legislation

Throughout the world this is constantly changing. New awareness of risks to people, the environment and scares natural resources have resulted in the introduction of protective legislation. The treatment industry keeps abreast of these developments to service the changing needs of its market. Chemicals banned in one country are often in use elsewhere, and exporters have to be aware of the specific requirements of the destination country.

3.2.3 Lower chemical use

Many end-users are demanding lower chemical use without loss of effectiveness or service life. The treatment of timber has always been based by placing kilograms of chemical into one cubic meter, such as 100kg of creosote per cubic meter or 15kg of CCA per cubic meter. Compare this with the application of 500ml of aphid-controlling Dematon on one hectare of maize.

A whole bucketful of new generation chemicals is available for timber treatment but, as is the way with these matters, tend to be more expensive and require better control. The timber preservation industry should be very aware of the need for cost-effective treatment and much effort must be channelled in this direction.

3.2.4 Environmental considerations

Environmental considerations grow daily. Neither sawmillers nor chemical suppliers want to be involved in activities detrimental to the environment. Proactive measures are the best way to deal with this. Given responsible approach to plant establishment and control, most risks can be minimised or even eliminated.

The establishment by large sawmilling groups of centralised treating facilities build to exacting specifications must be the correct route as far as proper cost and environmental control is concerned.

3.2.5 New products

New products, some of which have been mentioned, are the response of the preservation industry to changes in world market demands in the new millennium.

For years, only a few industrial treatments were available for marketing treated timber. The market had to adapt to this.

Change in demand was not unforeseen nor forced onto the industry. Researchers with foresight and vision have worked on numerous projects. The introduction of any new treatment is preceded by many years of development and testing. CCA replacements, such as Tanalith-E, have been in the development stage for the last nine years. Registration of researched products can take two years, prior to marketing.

3.2.6 New processes

The general trend towards lower chemical use of new generation chemicals has led to the development of more accurate and quicker processes. Upgrade plants with high output require better and faster processes to offset higher plant and chemical costs.

A swing away from process control to results orientated control places heavy demands on daily chemical and plant operating control, and on service aspects by chemical suppliers. New insights into the science of timber treatment have led to vastly altered treating methods. Operating

selection and training must be made a top priority to be successful in the new millennium.

3.2.7 Research and development

Investment in R&D is essential for the preservation of the timber industry. Apart from the cost of such research, the time invested is enormous and requires absolute dedication. The industry must invest the money and time to be successful.

In the past R&D tended to be competitive and confined to the company picking up the considerable costs. This is giving way to co-operative approaches. The establishment of the International Research Group (IRG) has led to more focused research on market-related problems and open discussions of results and projects.

Sawmillers must all contribute to the IRG to enable them to do as much research as possible.

3.2.8 Uniform world specifications

Uniformity is becoming a possibility. The general adoption of the H₀ to H₆ hazard classification by a number of countries is an indication of this. Retentions, while still expressed in different terms, can be traced to uniform levels. End-use classification is easier to specify, resulting in greater understanding in export markets.

The activities of numerous working groups in many countries tend to be more focused. European Union negotiations have resulted in the amalgamation of specifications from a number of countries into a more understandable and practical approach, which will benefit the timber industry.

South Africa is already a leader in this field seeing that they are the founding member of the International Standard Organisation (ISO), which will produce specifications that, will make global trade practical.

3.2.9 Money, time and effort

More money, time and effort will have to be invested in the timber industry in the new millennium. The industry, inextricably tied with the forestry and sawmilling industries, is a long-term investment. There must be faith in timber because it is the best renewable resource in the world and has a great future because of its ability to respond to change.

3.2.10 FSC

The FSC trademark indicates that the wood used to make the product comes from a forest that is well managed according to strict environmental social and economic standards.

The forest of origin has been independently inspected and evaluated according to the principles and criteria for forest management agreed and approved by the Forest Stewardship Council. FSC is an international, non-

profit association whose membership comprises environmental and social groups and progressive forestry and wood retail companies working in partnership to improve forest management worldwide (FSC: 1998).

The objectives of FSC are to provide consumers with reliable information about the management of forests and the origin of forest products through a voluntary certification program. It will evaluate and monitor the certification of forests and forest products based on their adherence to the FSC principles. The certification process ensures that foresters and wood producers manage their production processes by adhering to high environmental management standards that are socially beneficial and economically viable.

There is a huge public concern about the destruction of the world's forests. The concern has precipitated the adoption of a number of measures geared towards protecting particularly the world's indigenous forest. The debate around the protection of natural forests has inspired strong arguments in favour of sustainable forest management.

As a logical development, more and more people have come to demand that the wood products to buy be sourced from environmentally well managed forest. This consumer demand has in turn spawned a proliferation of trade and certification labels on forest and timber products. Some of the labels may be genuine but many are not, and the consumer has no way of knowing what lies behind the claims. The FSC will help to eliminate confusing and false claims by evaluating and accrediting certifiers according to internationally agreed guidelines and standards.

The FSC is the only organisation offering a credible worldwide timber certification scheme for all forest types and plantations, and as such has already received endorsement and active commitment from a wide range of respected non-governmental organisations. Furthermore, FSC has the support of a large and growing number of companies, who have united themselves in various countries into buyer groups.

The FSC labelling scheme is the preferred scheme for buyer groups in the UK, Netherlands, Belgium, Austria, Switzerland, Germany, Brazil, USA, and Japan. Individual consumers support the FSC by insisting on purchasing only those wood and forest products that are FSC certified and labelled.

If we look at all the above countries where FSC is the preferred scheme it is important that all South African exporters obtain this certificate to be able to export to these countries. *Safcol*, which is the major role-player in the South African timber market obtained FSC membership in 1998. This is a major competitive advantage for South African exporters, which is already being used to the advantage of some exporters.

FSC is also very important because the certification process provides the company with the means to benchmark its operations against an internationally accepted standard. An additional benefit is the fact that environmental quality is certified as part of the products sold and consumers are given the assurance that the products they buy are from a well-managed source.

The above points were discussed to try and explain that the playing field is not the same in all countries. Some countries have higher standards than others and some countries legislation differ. It is important to make sure that timber that is exported must comply with the clients exact needs. There is currently a dozen cases where accounts are not paid because there are discrepancies between the in- and exporter.

It is therefore important for any exporter to make sure that all the appropriate contracts is in order and that both parties know exactly what is expected of them.

Before any exporter start to export it is important to know how the current market share is divided. The following figures show the current market share of how South African timber is distributed (South African lumber Index. 1999: 38).

Gauteng	42.2%
Kwa-Zulu Natal	17.8%
Western Cape	13.1%
Eastern Cape	8%
Orange Free State	4%
Namibia	3.8%
Export	11.1%

The following figure gives a clearer picture of how the market share is divided in the industry.

South Africa is currently exporting 11.1% of its available timber. It is not easy to determine what percentage of available timber should be exported.

Concerning other Southern Hemisphere sawmilling countries it is interesting to note their export figures. Table 3.1 illustrates what the five biggest sawmilling countries in the Southern Hemisphere production capacities are and what they export.

Table 3.1: Production capacities and exports.

Country	Lumber Production	Export	% Exports to production
Chile	3 800 000 m ³	1 150 000 m ³	30.3%
Australia	3 600 000 m ³	0	0%
New Zealand	3 147 000 m ³	1 200 000 m ³	38.1%
South Africa	1 870 000 m ³	208 000 m ³	11.1%
Zimbabwe	382 000 m ³	106 000 m ³	27.7%

From the five countries, only Australia does not export any of their timber. This is because their domestic demand exceeds their supply. It is interesting that some countries import more timber than they export. They do this because of a lack of certain species, which does not grow in their country.

Out of the above five countries it is only South African sawmills that do not flourish. Could it be that our export quantities are too low? South Africa only exports 11% of its available timber. Compare the South African situation with that of Zimbabwe, the following must be noted. Zimbabwe's average wages are 45% lower than that of South Africa sawmills.

Zimbabwean cost of round logs are also much lower because at the moment they are just raping their forests. In South Africa we plant 3 little trees for every tree that is cut down. In Zimbabwe there is currently no replacement policy and where there was once miles of plantations there is not a tree to be seen.

A factor that further hampers our competitiveness with other countries is that South African production capacities are in most instances not efficient. The South African machinery is in most mills not up to what the international standards are. If we replace machinery it is normally outdated and there are a few newer models on the market. South African production rate per hour is therefore much lower than the countries South African companies are competing with.

It is therefore not the right question to ask whether the 11.1% that South Africa exports are enough or not. South African timber tends not to get much higher prices on the export market than in the local market. Exporting timber is thus a less lucrative option to South African sawmillers.

In 1996 there were hardly any timber exports to talk about. In 1997 a constant level of approximately 4 000m³ were exported per month. In 1998 exports rose close to the 12 000m³ where it seems to have struck a ceiling, because it is currently still running at that level.

Is 12 000m³ South Africa's export potential? It is not easy to determine but taking our current cost structures into account 12 000m³ seems to be what is cost effective for the export market. To export more the current sawmills

would have to be more productive, which means that they would have to saw more m³ with the same cost structures. If they don't, South African timber will always be too expensive for the export market.

Looking at the *Pine Price Index* that was published in the Southern Hemisphere Forestry journal, the average price was US\$ 180/m³ or R1080/m³ compared to the average price of R880/m³ published in the SA Lumber Index. The Southern Hemisphere's average price is R200 or 23% higher than the local market. This higher price does not compensate for additional cost that accompanies timber exportation. (On average, transport and chipping costs are approximately R200, thus nullifying the better prices).

The European market is improving and they are currently buying a wide range of products. Major buyers of *wet-of-saw* and *crating* have recently visited RSA in an effort to source large volumes. Once again, the problem is that the price structures offered by the European markets are, ultimately, not more beneficial than those from the local market.

3.3 Conclusion

Substantial research awaits any potential exporter before the decision could be made whether to export or not. A lot of exporters fell into the trap of not drawing up contracts that are legally binding in both the countries. As mentioned, there are currently a lot of cases where there are discrepancies between in- and exporters. Proper business contracts, or rather the lack thereof, is to blame in the majority of such instances.

It is also recommended that potential exporters take all cost into consideration when considering exportation. Cost like transport to the harbour or airport, duties, administrative, docking and holding cost is just some of the cost that exporters must take into consideration. After taking all these cost into consideration a lot of sawmills will see that the difference in selling price between the local and the export market is not that big. The important question remains: *Is the additional risk of exports worth it or not?*

Chapter 4

Performance Areas

4.1 Introduction

After analysing all the information, the conclusion is made that the following three reasons are the main reason why sawmills don't prosper.

- Recovery
- Productivity
- Markets

This chapter will discuss the above three problems and attempt to supply some solutions to them.

4.2 Recovery

By means of an example, the meaning and importance of recovery will be explained. Mill Z has an intake of 100 000m³ per year. *Intake* is the number of round logs that a mill takes in, it could also be defined as raw material. After cutting the logs there is a big part of the log that does not go into timber. Mill Z has an output of 44 000m³, the recovery of the mill is calculated as:

$$\begin{aligned} &\text{Output: } 44\,000\text{m}^3 \\ &\text{Intake: } 100\,000\text{m}^3 \\ &= 44\% \end{aligned}$$

If mill Z with intensive efforts and some upgrading manages to better their recovery percentage from 44% to 47%, the effect of the 3% recovery increase led to an additional 3 000m³ output which means that the sawmill has an additional 3 000m³ to sell. At an average selling price of R880 this accumulates to R2, 64 million.

All over the world sawmills are faced with the problems of trying to maximise recovery while reducing costs. While it is necessary to closely examine methods of working to see where improvements can be introduced, it is also useful to research the range of new equipment on the market that could assist in achieving this goal.

The focus must therefor be to become internationally competitive by increasing recovery, quality and flexibility. It is fascinating to see how a small sawmiller, *MZ Holzwerk* achieved it. (*MZ Holzwerk* is a secondary processor specialising in manufacturing door and window frames from kiln-dried spruce.) The group realised how a relatively small plant uses a Mohringer Autojet Junior laser edger with a roundabout system to gain maximum recovery from its boards.

The recently installed automatic, double-sided optimisation system allows the sawmill to find the ideal edging line that separates the heartwood from

the rest of the wood. A triangulation laser measures each board before entering the edger and a computer calculates the edge point while optimising the data and selecting the desired cutting program. The board is then aligned and edged along its tamper at feedspeeds up to 180 meters per minute to achieve parallel grain (Nortje, 1999: 22-25).

MZ Holzwerk's machine is set to produce three widths of six meter long products on each side of the board. After grading and sorting for different qualities, the components are finger-jointed and planed before transportation to the next processing plant.

Another perspective can be seen at Sagewerk Nedlitz where they are currently demonstrating exactly how flexible a sawmill can be when they combine a Autojet Junior laser edger with *Mohringer's* multi-purpose Autochipper-Autoduo chipper-canter line.

Nedlitz, which is situated in eastern Germany, last year commissioned *Mohringer* to build a log yard, wetmill incorporating a chipper-canter and board edger, board sorting system and waste handling systems so that it could meet its changing market demands hand-on.

Once the logs are scanned, sorted and cross-cut to lengths up to nine meters, they are fed by a *Mohringer* stepfeeder into the sawmill. Savings are made because the log yard is not labour-intensive and no debarker is needed. The fully automated mill is equipped with *Mohringer's* Autochipper-Autoduo chipper-canter line with roundabout system and the Autojet Junior laser edger. A single operator assisted by computer runs each machine.

In general, the perception of many a sawmiller is that they must invest millions of Rand to improve on their recovery. This is not always true. By optimising sawpatterns, the maximum amount of timber can be utilised from a sawlog. There is a lot of sawing programs on the market that have proven themselves overseas, but currently there is only a hand full of South African sawmills that work to these already proven sawing patterns.

Looking at the previous example, a mill can increase its recovery by 3% by investing in a program of between R2 000 and R5 000. It is difficult to understand why sawmills still rely on what they have learned over the last twenty years and not use modern technology.

4.3 Productivity

Productivity is divided into two parts, namely people and machine productivity.

People productivity or the lack of it is a know fact in South Africa. South Africa is currently at the bottom of most productivity tables. This is not an easy problem to solve seeing that in most organisations it is a culture that has developed over a number of years, and the solution is therefore a long-term one. Currently there are only a hand full of sawmills that work on a production bonus system. If workers aren't motivated it is difficult to get maximum production out of them. By implementing and driving production

bonus systems productivity will increase and higher production will be obtained with a lower average cost per product.

The latest program to initiated in the timber industry to improve and co-ordinate the human productivity problem is the Total Quality Management philosophy. TQM can be defined as a management philosophy that builds a customer driven, learning organisation dedicated to total customer satisfaction through continuous improvement in the effectiveness and efficiency of the organisation and its processes. The goal is therefor to manage the organisation in such a manner to ultimately serve customers with every wish and desire. Unfortunately wishes and desires are constantly changing, and the company therefore needs to adapt and improve in a never ending cycle.

Customers can be broadly classified into two categories. External customers are easily recognised, as they are the people buying the products manufactured. Internal customers, on the other hand, are not always that visible. For instance, the production plant is a customer of the sales division, the sales division is a customer of the financial division, and so most divisions are customers of each other.

This chain of internal customers and suppliers is what ensures ultimate satisfaction to the external customer, and it is therefor clear that each and every individual in the organisation needs to be involved in the process through the formation of cross-functional improvement teams. These teams analyse processes and procedures and suggest incremental improvements or even radical changes. Teams are formed on all levels of the organisation,

and a project is only completed once the recommended changes are implemented, documented and repeatable. The team is then disbanded till the next project comes along.

The concept of TQM stems from the fact that the process involves every individual, every product and every procedure. Nobody is excluded, not even the receptionist answering the telephone.

The main objective of the strategy is to create security and wealth for all stakeholders in the organisation. This goal can only be achieved through increased productivity and competitiveness, which will lead to wealth creation and job security. The following are absolutely necessary elements for achieving such an increase in productivity and competitiveness.

- Empowering people to execute their jobs in a meaningful way and participate in the management of their responsibilities.
- Bringing processes and practices to international standards and cost competitiveness.
- Absolute customer satisfaction with the organisation being the preferred supplier, responding to customer requirements with quality products and excellent service.

TQM focuses the organisation on improvement through the formation of Quality Improvement Teams. These teams can either focus on the product, the process or the procedure. Improvement projects are identified throughout all aspects of the business, with teams assigned to solve each project at a time (Dedwith, 1999: 1-4).

The definition of quality in TQM is to satisfy the needs of the customer, meaning that all improvement should be with the customer's requirements in mind. This customer can either be an external or internal customer. By improving the quality of the products, processes and procedures on a project by project basis, the division stays on the road of continuous improvement. At the same time all processes and procedures are documented, with defined standards of performance. This allows every individual to measure his/her performance against the standards and take the necessary corrective action. It also allows reward and recognition of above standard performance to be measured.

A number of factors are critical to the success of any improvement program. To start with, management and employees alike should have a shared vision and common goals. Dreams and goals are not enough, unfortunately. To ensure that these goals and objectives are met, management needs to be committed to the success of the program. As important is the participation and support of each and every individual.

Having achieved a shared vision with full participation, existing structures need to be integrated and aligned to support the vision and objectives. Individuals need to be enabled to perform to the expected standards, meaning that they should receive the necessary training and other resources to support them. There should also be a formal program and methodology, which should enable individuals to follow the improvement process consistently.

Failures should be analysed to prevent repeating the same mistakes. At the same time successes should be recognised, rewarded and celebrated. This is normally where the fun starts.

By using and implementing TQM sawmillers can solve the current low productivity of people. As soon as workers feel that they can make a difference productivity and willingness to perform will increase.

To understand why most South African sawmills still have old machinery the history of this industry must be explained. In the early 1950's the state erected a few sawmills with the main aim to supply jobs. As the years went by there was no further investments done at these sawmills. State owned or previous state owned sawmills have such old machines that they can't compete with sawmills that has new technology, not even to speak of some of the high tech overseas sawmills. The average sawmill's productivity is therefor far from what it should be to be competitive.

Generally, by world standards, the technology in South Africa's sawmills is not up to scratch since few sawmills have sophisticated log scanners, thin saw kerfs, optimising edgers and optimising cross-cut saws. Accurate kiln-drying of boards is a key to developing the industry, as is increased recovery, value recovery and improved product quality.

John Mortimer, chief executive of South African Lumber Millers Association (SALMA), gave the following closing address at the Nukor seminar. He said millers are constantly being told to raise their level of technology. Government must realise that jobs must be created in areas such

as the service sector through the tourism and hospitality industries, and not through existing primary processing plants. The sawmilling industry, like the metalworking industry, has to face the fact that jobs are going to be lost in the near future (McColm, 1999: 53-56).

South African's sawmilling has been neither criticised for nor introducing new technology. SALMA has established that there are presently 19 000 employees in the primary processing industry, and if all the sawmills invest in new technology, 11 000 jobs could be lost, which would affect as many as 88 000 dependants (Kearns, 1999: 32-33).

Highly skilled employees are needed to run high-technology equipment in the sawmilling industry, like the metalworking industry, is suffering from a lack of qualified artisans. It is not possible to get return on investment from technology if there are no artisans to run the machines. The new-formed industry training board must be used to help with the above-mentioned problem.

As seen in other industries, the only way to go is to invest in new technology. If sawmills keep on working with their old machines they will never be productive or even internationally competitive.

4.4 Markets

Traditional sawmills supplied their timber into the structural (housing market), or the industrial market (furniture market). Some sawmills have

started with additional value adding by starting to make profiles like flooring and ceiling.

The answer for sawmills is definitely to go into value adding. Sawmillers have become so accustomed to supply the chain upwards that they rarely think of adding value themselves. If we look at the average selling price of R880 of timber compared to R2 100 of profiles it must be motivation enough for sawmillers to look at adding additional value.

Because of the traditional way of thinking South African's do not build timber houses. Currently 0.03% of houses that are built in South Africa are timber houses. If South Africa is compared to the Americas where 72,6% of houses are built of timber, South Africa still have a long way to go. There is a perception in South Africa that timber houses are not as strong or last as long as brick houses. This is not true; timber treatment these days is so good that even the maintenance of timber houses have to be done less frequently than that of brick houses.

If with the help of an awareness/information program the number of new houses that are built can increase to between 20-30% that are of timber the timber industry will see growth that is unknown. It is recommended that one of the leading organisations in the timber industry, like SALMA start a country wide campaign that will inform potential house builders of what timber houses are all about.

The government can also solve a lot of its housing problems if they start to build wooden houses for the under privileged community. Houses can be

build at a much faster rate and at a lower cost. If the demand for timber is increased less round logs will be exported, which means that South African sawmills will do more value adding which at the end will lead to higher selling prices which will ensure bigger profits in the sawmillers back pocket.

New developments in most sectors occur except in the timber industry. When was the last time that a new product relating to timber was introduced? It seems as if the industry is in a stagnating phase where no new product innovation programs exist. Just think of all the possibilities that there is for timber products, if timber can be used for the outside of houses ex. roofs, it will lead to a much higher demand for timber. Why do South Africans only use traditional materials like tiles or corrugated galvanised iron? It must be possible to develop a timber roof that keeps out all the elements of nature, like rain, wind and sun, to name but one example!

It is therefor recommended to develop new markets for timber products that an awareness must be made under potential users of timber and that new uses for timer products must be researched and developed.

4.5 Conclusion

The South African sawmilling industry must remember that it is not alone. The May 1999 issue of the Southern Hemisphere Forest Industry Journal says that the sawmilling industry in the Southern Hemisphere is facing its biggest challenge for many years, including:

- the collapse of Asian markets

- the overflow of products that is dragging down prices
- markets
- resistance by wood suppliers to lower prices
- exchange rate fluctuations

In this chapter a lot of emphasis was put on recovery and productivity.

A lot of sawmillers do not put enough emphasis on recovery. As seen in the example used in this chapter a small improvement in the recovery percentage of a mill leads to a big percentage increase in profits. It is also important for a mill to mechanise as much as possible because it will lead to better productivity that will lead to a drop in the average production cost per product manufactured.

Quality has become one of the critical competitive factors seeing that all manufacturers can obtain the same technology. The difference between two manufacturers can easily be determined by the quality of there products. Some buyers will even tend to pay a bit more if the quality of a product is very good.

It basically boils down to what ever a sawmiller can do to get a competitive edge, he must do.

4.6 Recommendations

Making recommendations is not always that popular under existing sawmillers because they tend to think the old way is the only and right way.

The following is the most important recommendations to improve the sawmilling sector.

4.6.1 Log Supply

Sawmillers must start standing together and negotiate with log suppliers that they want the best logs at negotiated prices. As discussed in chapter one the best logs are exported and local sawmillers have to be satisfied with second best. If all the sawmillers stand together and demand that they want the best logs, log suppliers would have to listen to them because the local market takes the biggest percentage of logs.

The problem of sawmillers just being told what log prices are must also change. Each year without negotiations the log price is just increased. The average percentage increase over the last 3 years was 14.1% which is much higher than inflation. It is not possible for sawmillers to compete internationally if their raw material prices increase unrealistically.

Prices and therefore margins are and always will be under pressure. The industry cannot afford to waste time on substandard material at any point of the supply chain. Each profit centre has to ensure that its input is as appropriate as possible for the end product. If the tree is not going to provide what the mill needs to satisfy its customer, don't cut it down.

4.6.2 Existing Mindset

Without a radical mindset change sawmilling will be treated the same as the old farming sector. In the past farmers was seen sitting on their stoops and not having any drive. Today farming is like a business and a lot of farmers see themselves as businessmen.

As long as this same mindset change does not take place in the sawmilling industry it will never start to prosper. New blood must be brought into the sawmilling industry. People with business experience must be placed into management positions and the change in this sector will be unbelievable.

4.6.3 Technology

Those sawmills that haven't started to invest in new technology will have to start if they want to stay in business. Without investing in new technology a sawmill can never be competitive. New machines increase recovery and the effect of a small increase in recovery has already been explained in this paper.

New machines must be installed because they increase production and make the production process much safer. The sawmilling industry is known for its high injury rate. New machines have proven to reduce the injury rate, which leads to savings in medical cost and hiring of additional workers to replace injured workers.

4.6.4 Marketing, Market Research and Advertising.

This is one of the biggest shortcomings in the timber industry. How many timber companies do the average person on the street know? Most likely one or two although there are a lot of different timber companies that is in business. There is some market information available, but this is mainly on past statistics. There is no market research to speak about; this is most unlikely in any other sector.

It must be recommended that a structured body to do market research and advertising for its clients must be established. Direct marketing must still be done from the separate business units, but it must be recommended that qualified people with experience must be used to bring in some new blood in the current structures.

The above four points are the most important recommendations that must be implemented to bring a change in mindset in the sawmilling industry to enable them to become more profitable.

4.7 Summary

The biggest mistake anyone can make is trying to predict what is going to happen in the timber industry. After recent reductions in interest rates no changes have been seen in the demand for timber products. This is funny because interest rates and building of houses normally go hand in hand.

What is clear is that the timber industry is not as effective as it should be. Management should be trained to be business orientated and not to accept things for what they are and how they have been done over the years. New

ideas must be generated and new uses for timber products must be found and marketed.

Management must focus on the timber process from the beginning till the end. The right quality timber must be purchased at competitive prices. The right machinery must also be in place to insure maximum production at minimum cost.

If we look at the original goal of the paper, to understand the timber trade as a whole and to see if there is not a way of making sawmills more profitable by developing new markets. The first objective was met because this paper will teach any newcomer a lot of how the timber industry works. The second objective was to make sawmills more profitable by developing new markets but this objective changed a bit as the paper went on.

Ways was given how to make sawmilling more profitable but the author realised that the main reason why sawmills were not making profits was not because of a lack of markets, but because of a number of other problems

like, log supply, recovery and old machinery. The local market is more than big enough for all the sawmills in the country and there is actually still lots of countries to where South African sawmills can export if they can produce higher volumes of timber. It will be a much better option to export timber with a higher value than exporting logs as currently being the case.

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