

CHAPTER 6**RESULTS, CONCLUSIONS AND RECOMMENDATIONS:
THE PROPOSED OUTSOURCED SUPPLY CHAIN (MODLE C)**

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6 CONCLUSIONS AND RECOMMENDATIONS: THE PROPOSED OUTSOURCED SUPPLY CHAIN (MODEL C)

6.1. Introduction

In Chapter 5, the Research Methodology of the thesis was documented. Point 5.4.3.1 listed details of respondents to the questionnaires, telephone calls and personal interviews. After studying all available information, the results of this research process is documented as MODEL C in this chapter.

In this outsourced approach to the management of the South African recording industry's supply chain, a new player is created to be added to the four players currently involved in the market. The current role players, as discussed in MODEL A in Chapter 2 under points 2.3 to 2.7, are:

- (a) Artists or bands
- (b) Record companies
- (c) The trade (*i.e.* music retailers, dealers, wholesalers and other independent music stores)
- (d) Consumers (*i.e.* the end-users or ultimate target market)

After testing the hypotheses statement (MODEL B), a fifth player was added to the mix, namely: the *independent supply chain management company*. Other terminology used for these supply chain managers are logistics managers or transaction managers.

The six processes currently being followed in MODEL A were discussed earlier in Chapter 3 under points 3.2 to 3.7. After testing MODEL B, these logistical processes were changed and responsibilities were re-allocated and adapted in MODEL C. The six current logistical processes of MODEL A (as was discussed in points 3.2 to 3.7), are:

- Manufacturing
- Warehousing and distribution
- Selling
- Marketing
- Debt collection
- Management of receivables

Chapter 2 (*Players* in the chain) and Chapter 3 (*Processes* in the chain) are now integrated and discussed simultaneously as they would be managed in MODEL C.

In short, the chain and the responsible parties of MODEL C are explained by elaborating on the following nine activities:

- | | |
|---------------------------|--|
| - Contracting the artist: | remains the responsibility of the record company |
| - Manufacturing: | ordered by the record company, but logistically controlled and managed by the supply chain management or SCM company |
| - Warehousing: | performed by the SCM company |
| - Marketing: | responsibility of the record company |
| - Selling: | sales function performed by the SCM company |
| - Inventory management: | managed by the SCM company in its warehouses |
| - Physical distribution: | executed by the SCM company |
| - Debt collection: | by the SCM company |
| - Royalty payments: | remains the responsibility of the record company |

Thus, the only four responsibilities that remain with the record company, are contracting artists, deciding on and ordering the manufacturing of its titles from its SCM partner, marketing its titles and paying the necessary royalties.

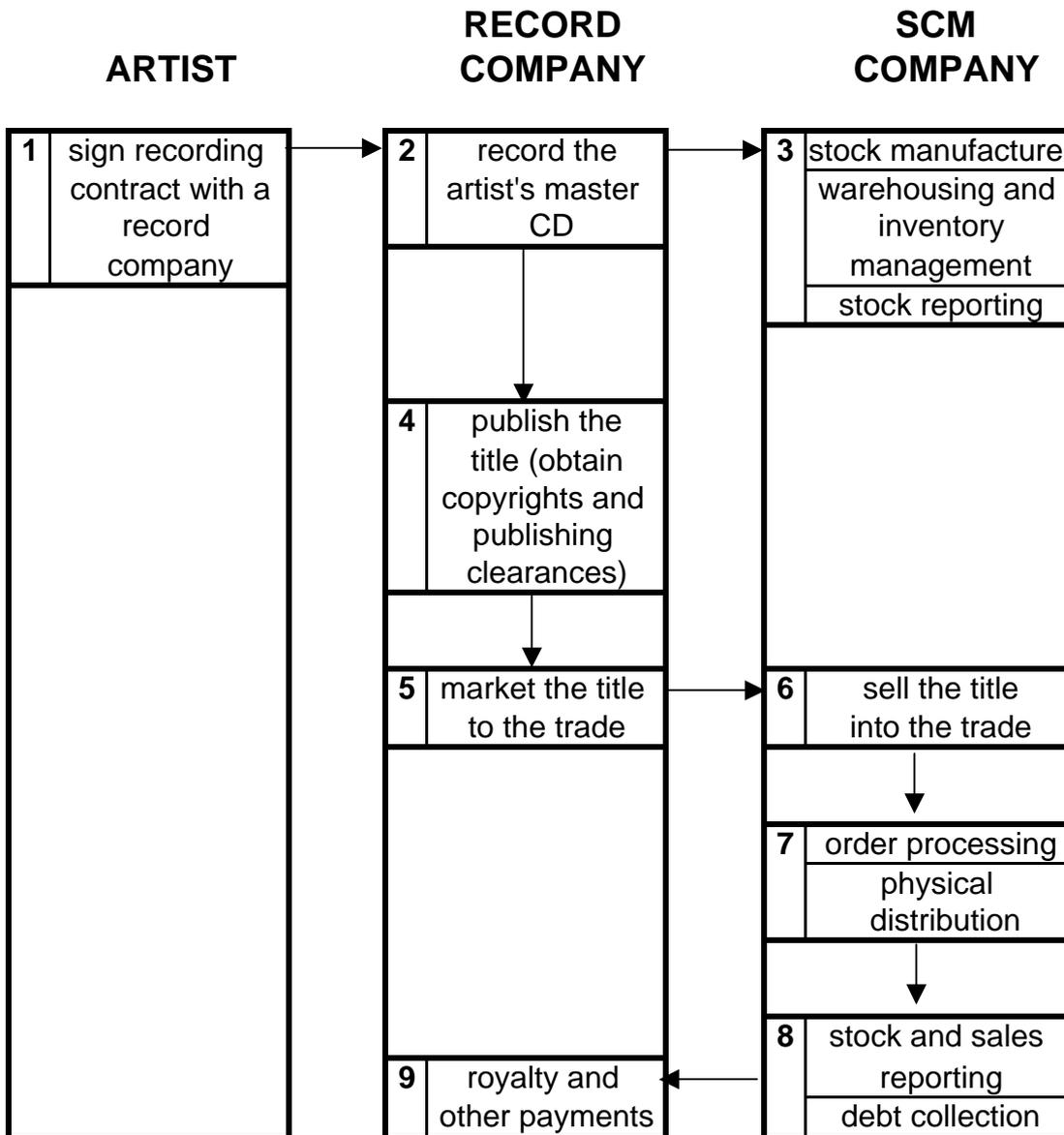
All other functions, *i.e.* controlling the manufacturing process, warehousing the stock, the sales function, inventory management, physical distribution and debt collection are managed and controlled by the appointed SCM company. Refer to the schematic

diagram of the three models in Figure 1.2, as well as to the simplistic diagram of the outsourced model below.

Figure 6.1 A schematic diagram of MODEL C

Source: Own research.

The logistical processes of MODEL C are documented in points 6.2 to 6.10 on the following pages.



6.2 Contracting the artist

In MODEL C, as in the previous two models, artists or bands are still contracted by, or sign-up with record companies (be it an individual record company or one of the five Majors discussed in Chapter 2 under point 2.5.2.1). The record company's main responsibility is directly toward the artist, *i.e.* the management and promotion of their careers. Most other functions are *outsourced* to one specialised supply chain management (SCM) company. The eight proposed processes that follow the contractual phase are discussed in points 6.3 to 6.10 below.

6.3 Manufacturing

The record company, in consultation with the artist, will decide on a suitable number of units (CD, tape, DVD and / or video) to be manufactured. If it is a brand new, untested and unknown artist, as little as 200 units may be manufactured. On the other hand, if the artist is already well known, has a successful previous release and has an established following, it is likely that the record company will invest heavily in any future recordings. Since money will be spent on marketing the new title, it will take a calculated risk on the amount of new units to be manufactured.

6.3.1 Procuring components from strategic partners

In the outsourced MODEL C, the buying of the best product at the best price is one of the main functions performed by the supply chain management (SCM) company on behalf of its clients, the record companies. Important aspects when procuring components, as seen from the SCM company's point of view (Jessop & Morrison 1994: 9 – 10; Hines 1994: 271 – 288; Lynch 2000: 57 – 83; Atkinson 2001: 15 – 18; Burgelman 2002: 137 – 140), include the following:

- (a) In-house manufacturing facilities
Rather procure components (instead of manufacturing them) when the necessary facilities to manufacture are not available in-house, and money can be invested more productively somewhere else. SCM companies are not manufacturers. They must therefore rather concentrate their efforts on their core business, which is offering a complete supply chain *management* solution to their clients and outsource the manufacture of the CD and other units.

- (b) Outsourced buying
Usually companies in other business sectors, such as specialised manufacturers, will go to great lengths to produce all goods in-house, and only buy those components for which the demand is low and only temporary. Since SCM companies are not manufacturers, they follow the complete opposite policy: they outsource buying, and will procure all components if possible. Only when the prices offered by the suppliers of these goods are too high because of very small volumes, the SCM company may consider producing it in-house.

- (c) Cost of manufacturing
SCM companies must procure when suppliers can manufacture at a better price (usually because of the learning curve effect and manufacturing through economies of scale), than what the SCM company can do it for themselves in-house.

- (d) Safety stock
When making use of third parties to provide the necessary raw materials or components needed to manufacture the client's end-item (*e.g.* the CD, the inlays and the jewelcase), it might be wise to order more than what is needed to fulfil the current order. This safety stock (also referred to as buffer stock) is maintained to prevent an excessive number of stock-outs. Two philosophies, namely JIT (as discussed in Chapter 3 under point 3.2.1) and the 'marginal analysis approach', are generally used to determine the optimum level of safety stock to be kept (Johnson and Wood 1996: 321 – 322, Buys 2000b: 1). Marginal

analysis is a mathematical calculation that involves the calculation of the relationship between the number of units in the safety stock, their total value and their carrying costs. Costs derived from stock-outs must also be calculated and then taken into account when procuring.

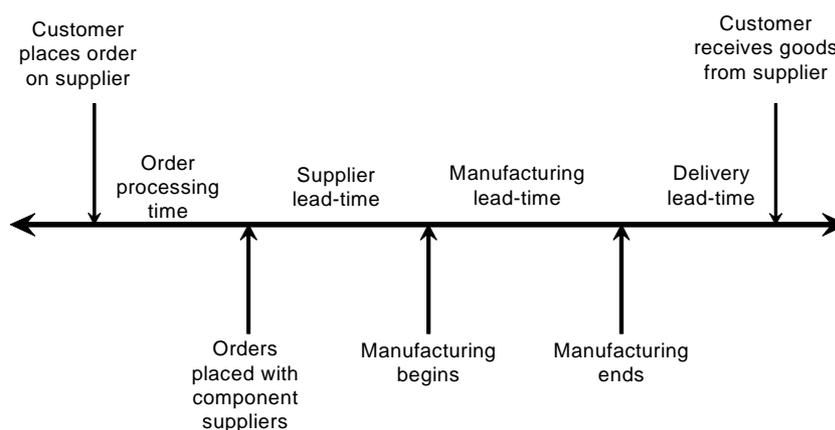
(e) Regulatory limitations

Sometimes a product is protected by patent- or copyrights, which prohibits own manufacturing. This automatically leads to a forced buying situation.

6.3.2 Lead times

After a record company has placed its order for stock to be manufactured on its SCM partner, the SCM company will in turn place a similar purchase order on its preferred supplier for the manufacture of the stock. A phrase that is often used in this context is lead-time, which simply refers to a planned delay before something can take place. Refer to figure 6.1 below for a lead-time time line. The two participants in this time line are the customer (in this case the SCM company) and the supplier (the component supplier, *e.g.* the CD manufacturer).

Figure 6.2 Lead times for a make-to-order company



Source: Own research.

Anderson (1994: 6) also identified four different types of lead-times, which are discussed below (refer to the time line in figure 6.2 on the previous page):

(a) Delivery lead-time

The delivery lead-time is the time it takes for the physical delivery to be executed *i.e.* delivered from the supplier to the customer (which in this case is the SCM company which placed the order for stock).

(b) Operational lead-time

The operational lead-time is the time it takes to complete a single operation, for example the manufacture of one of the components of the finished CD.

(c) Manufacturing lead-time

The manufacturing lead-time is the total time necessary for completion of all the manufacturing operations of a product, for example manufacturing the CD, the jewelcase and the inlays and inserting them all into the jewelcase to achieve a finished product.

(d) Supplier lead-time

The supplier lead-time is the total time a supplier takes after an order is placed to deliver the goods. Depending on the SLA (service level agreement) between the SCM company and their CD supplier, this total lead time can vary between three days (on emergency or expedited shipments) and up to fifteen working days in busy production times. Refer to Annexure F where different aspects relating to a SLA are discussed.

6.3.3 Costs of holding inventory

Inventory costs fall into a variety of categories, with the dominant cost being tied-up capital. By keeping stocks of any kind, a business forgoes the use of the funds it might raise by selling those inventories (or not purchasing them in the first place). In MODEL C, just as in the current MODEL A, the record company is responsible for this inventory

cost. Even though the SCM company places the order to manufacture on its supplier and also keeps the stock in its own warehouses, it immediately creates a duplicate invoice to debit the record company with all the manufacturing costs incurred. Below are listed some of the other main inventory holding costs (Anderson 1994: 20 – 21; Lynch 2000: 86 – 89; Atkinson 2001: 18):

- (a) The building itself
The cost of the space it takes up, *i.e.* the actual warehouse cost of the physical building.
- (b) Operational warehouse costs
Additional costs of running a warehouse like heating and lighting.
- (c) Handling costs
Handling costs of all kinds usually increase with increasing stock volumes. More people and more machinery are needed to achieve the same output when quantities increase.
- (d) Insurance costs
Goods held in store must usually be insured. The higher the amount of stock that is kept in the warehouse, the higher the total monetary value of the goods become and the higher the insurance premiums will be.
- (e) Storage costs
Often these goods need to be protected from environmental damage, which adds additional costs such as racks, pallets, packaging and others.
- (f) Costs incurred from theft
Allowances need to be made for petty pilferage and shrinkage.

(g) Stock obsolescence

The biggest cost of holding inventory in the recording industry, with its unpredictable and sometimes very short product life cycles, is the cost of stock obsolescence.

6.3.4 Benefits of holding inventory

Apart from the seven costs of holding inventory documented in point 6.3.3 above, there are, however, also *good* reasons for holding inventory and five of these reasons are briefly discussed below:

(a) Safety stock

Perhaps the most crucial use of inventory is as a buffer to cope with unpredictable variations in the supply or demand process. Failure to keep sufficient inventory levels leads to circumstances in which the demand cannot be met, usually called a 'stock-out' situation. Having an inventory buffer between the processes of supply and demand mean that they become uncoupled from one another, and it is no longer necessary to closely match their rates.

(b) Unpredictable demand

Even when the demand process is predictable and does not vary, there may be good reason for keeping stock if it is difficult to make the supply process run at a constant rate. This is especially true when a business is 100% dependent on an external supplier for its stock. If for instance the CD manufacturing plant *Sonopress* (as discussed in the MODEL A chain in Chapter 3 under point 3.2.3.3) has a particularly busy month, its lead times may increase from the usual average of seven working days to ten or even fifteen working days.

(c) Delivery costs

Larger stock orders are placed on suppliers when there is a fixed delivery cost associated with each physical delivery of goods to the SCM warehouse. In these

circumstances it is necessary to balance the cost of frequent deliveries against the cost of holding stock.

(d) Set-up costs

When manufacturing a music unit (*i.e.* a CD, tape, DVD or video), there is a fixed set-up cost involved for each batch being manufactured (refer to the *Sonopress* pricelist in Annexure E at the end of the thesis). It is therefore more economical to order the maximum units to be manufactured so that these set-up costs can be absorbed by the greater number of units. At both the big South African CD manufacturing plants (*CDT* and *Sonopress*) this initial set-up cost of +/- R2 000.00 is waived on all single orders of more than 2 000 units of the same title.

(e) Seasonal requirements

Occasionally a business may become aware of likely future changes in the market that might induce it to hold increased stock. A good example is the seasonal requirements in the music industry where, for example, an increased demand of gospel music is experienced over both the Christmas and Easter periods.

In summary it can be concluded that, because of the extremely short expected delivery lead-times into the trade (often less than 24 hours with top sellers), purchase orders placed by SCM companies on its suppliers to manufacture stock, must not only be to fulfil current dealer orders, but must be big enough to make stock so that titles will be readily available and can be prepared for delivery as soon as a purchase order is received from a music dealer.

6.3.5 A re-ordering model

6.3.5.1 Determining the re-ordering criteria

One of the most important functions of the record company / SCM company partnership is to ensure that there is always sufficient stock available to fulfil all dealer orders. Record companies must timeously place their stock procurement orders on their SCM partners, where after the SCM company must order these titles without delay from its preferred suppliers.

When a new title is ordered for the first time, the record company will take a calculated risk when deciding on the amount of units to be manufactured (also known as the opening order amount).

On the other hand, while testing the hypothesis statement (MODEL B), a model was developed on which to base the stock quantity *re-ordering* decisions, *i.e.* how many units to order to replenish stock that has been sold.

The three criteria that are used to calculate how much stock to re-ordered are:

- The amount of units sold during the previous week, *i.e.* a five working-day period (**SALES** amount)
- The amount of stock currently in the warehouse (**STOCK** on hand)
- The characteristics or status of the title (**TITLE STATUS**)

The first two criteria (*i.e.* sales and stock figures) are easily determined from the information on the reports produced by the SCM company's MIS (management information system) and are therefore readily available to the record company.

In determining the value of the last criteria (*i.e.* the status of the title), the three most important characteristics that need to be considered and evaluated, are listed below.

These three characteristics are each awarded with a mark out of ten, with 1 being a very poor mark and 10 being the highest possible achievement.

(a) The status of the releasing artist

Some South African artists or bands are well known and have a large and dedicated local following. Music buyers (the music dealer's customers or end-users) will buy any new release by their favourite local artist, regardless of the amount of publicity or marketing the title has received. If the record company perceives an artist to fall into this 'high-status' category, it will award it a high value on the rating scale, *e.g.* between 6 and 10. If, however, the release is by a new, untested or less popular artist, the record company will award the release with a lower value *e.g.* between 1 and 5.

(b) The number of the release

First releases will automatically be awarded a very low rating on this scale. The more successful titles an artist has released, the higher his / her rating will be. It is suggested that one previous successful release is awarded with a 1 on the scale, two releases with a 2, three releases with a 3 and so on. Some very successful artists may have released more than ten previous albums, but the maximum mark that can be awarded remains a 10.

(c) The amount of marketing performed

An extensive marketing campaign warrants a high mark on this scale. The record company must judge its marketing exposure according to the following four criteria:

- Amount of money spent on television, radio and printed advertisements
- Amount and quality of marketing collateral produced (*e.g.* posters, in-store displays, flyers, caps, T-shirts and others)
- Amount of free publicity received

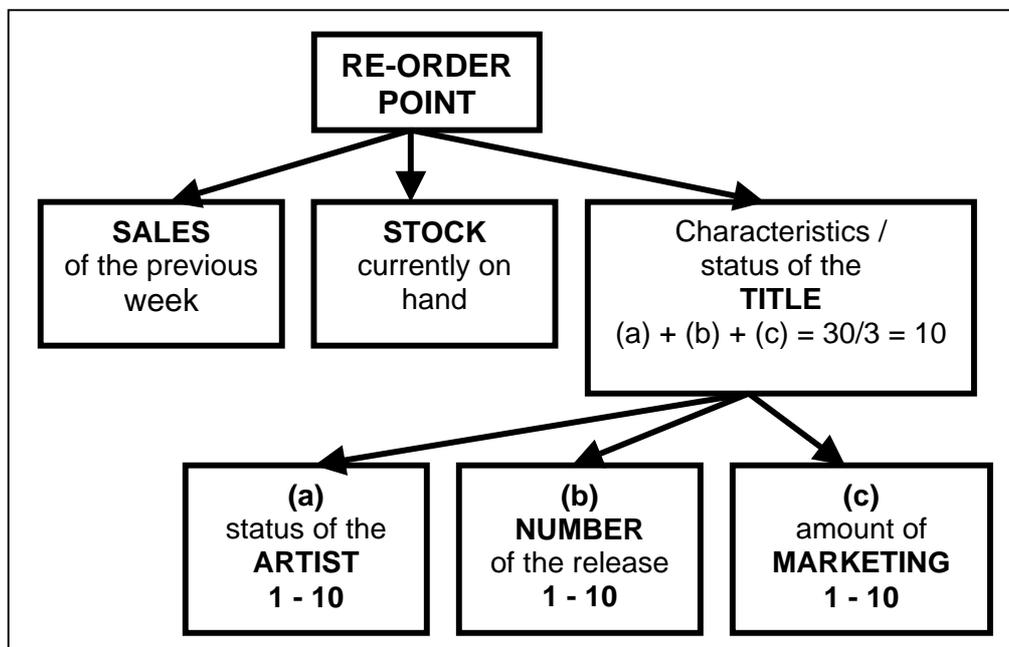
- Amount of public appearances by the artist, such as autograph signing sessions attended and the amount and extent of concerts and tours undertaken and performed

6.3.5.2 Calculating the quantitative value

The three different values (as listed in points a, b and c above) awarded to the release (to the specific title) are added together and divided by the amount of criteria used to calculate the status of the title, which in this case is three. Once again a value out of ten will thus be achieved ($a + b + c = \text{value out of thirty}$, divided by three equals a value out of ten). A detailed example of such a calculation can be found in Annexure G at the end of the thesis.

In order to simplify the re-ordering model, refer to figure 6.3 below for a schematic breakdown of the explanation above.

Figure 6.3 Schematic re-ordering model



Source: Own research.

The characteristics or status of the released title thus now has a quantitative value awarded to it, *i.e.* a mark out of ten depending on the status of the artist, the number of the release and the amount of marketing performed. When an album has a cumulative value of one to three, it is seen as a poor release. A value between four and seven is termed average and a value between eight and ten is judged an excellent release. Refer to the three tables in Annexure G where the re-ordering formula was used to determine the re-ordering values.

6.3.5.3 The re-ordering formula

The aim of stock-holding must be to have just enough units of stock available to fulfil orders, without having a too big surplus of stock which might become obsolete. According to the re-order model, it can therefore be deduced that the stock that is currently on hand in the warehouse must at least equal the sales amount of the previous week. If the stock on hand is less than the sales value of the previous week, more needs to be procured. The amount to be procured can be calculated by using the following very simple formula:

$$\text{SALES} = \text{STOCK} + (\text{RE-ORDER amount multiplied by STATUS multiplication value})$$

$$\text{SALES} - \text{STOCK} = \text{RE-ORDER amount multiplied by STATUS multiplication value}$$

$$S - T = R \times A$$

The units of the equation are:

- SALES: the sales amount of the previous five day-working week
- STOCK: the stock currently on hand in the warehouse
- RE-ORDER amount: the amount of units to re-order when the stock amount will fall below the critical safety stock level

- STATUS multiplication value: the characteristics or status of the title as determined in point 6.3.5.2 above, where the title was awarded with a mark out of 10 (refer to the explanations above). In order to use this formula, the following multiplication values are used:

Title status value of between 1 and 3 implies a multiplication value of 1

Title status value of between 4 and 7 implies a multiplication value of 1.1

Title status value of between 8 and 10 implies a multiplication value of 1.2

Below the re-ordering model is further explained through the use of an example:

Calculation example:

SALES for the previous week: 2 000 units

STOCK currently on hand: 800 units

Formula: $S - T = R \times A$

If the title has a poor status (value of 1 to 3):

$$\begin{aligned} 2\ 000 - 800 &= 1\ 200 \times 1 \\ &= 1\ 200 \text{ units to be re-ordered} \end{aligned}$$

If the title has an average status (value of 4 to 7):

$$\begin{aligned} 2\ 000 - 800 &= 1\ 200 \times 1.1 \\ &= 1\ 320 \text{ units to be re-ordered} \end{aligned}$$

If the title has an excellent status (value of 8 to 10):

$$\begin{aligned} 2\ 000 - 800 &= 1\ 200 \times 1.2 \\ &= 1\ 440 \text{ units to be re-ordered} \end{aligned}$$

In this model, when a title is perceived as having an above average or excellent status in the market, a greater amount of replenishment stock is thus ordered in anticipation of higher future sales. Titles with a lesser status warrant a smaller re-ordering quantity.

6.4 Warehousing

Once the master CD has been replicated by the duplication factory, the stock is delivered to the warehouses of the SCM company. When the stock is received, the units are subjected to a very strict quality control process. All the boxes are opened and checked that they contain the correct quantity of the correct title. The jewelcases are randomly checked for damages. The boxes are weighed on sensitive scales to make double sure that they contain the correct amount of units.

When the receivers are satisfied with the quality and quantity of the consignment, the goods are received into the warehouse, both physically as well as onto the warehouse's MIS (management information system). The goods are stored in the pre-allocated bins for easy and efficient inventory management and control.

6.4.1 Distribution Resource Planning (DRP)

DRP is an inventory method helpful in determining inventory requirements in warehouses. Whereas materials requirement planning (MRP) deals with production inputs, DRP involves finished products (Johnson & Wood 1996: 345 – 346; Buys 2000b: 1; Mayes 2000: 1 – 2; Hossain, Patrick & Rashid 2002: 206 – 212). The key to DRP is centralised order processing by the SCM company, especially when the SCM company owns or operates more than one warehouse. The receiving of finished goods (*i.e.* music CD's) at different regional warehouses or distribution depots around the country, can easily result in an unbalanced inventory of these items throughout the company's regional warehouses.

When the DRP principle is followed, all client orders from the trade are processed at one location, and then the end-items or finished products are sent to the appropriate

warehouse in order to be delivered to fulfil the order, as well as to replenish the inventory that was just sent out on the dealer order. The result is that all stock is then balanced throughout the warehouse system. The central inventory planner, in conjunction with the procurement department, can then ensure that, if shortages do occur, they can be evenly spread amongst warehouses, so that no client needs to accept complete stock-outs while others are receiving almost all of their requested shipments.

6.4.2 Quality control and protection of intellectual property

Control over the quality of all goods that leave the warehouse and are delivered into the market, already started with the SCM company's strategic choice of suitable suppliers. Components of exceptional quality are needed to deliver finished products of the same exceptional, uncompromisable quality. In the competitive recording industry, nothing than absolutely the best is good enough. Products in this industry have:

- A relatively high monetary value
- A high intellectual value
- A high standard of technological advancement - they are expected to perform perfectly every time

Tying in closely with the principle of ensuring and adhering to high quality standards, is the principle of protecting intellectual property. SCM companies often have competitors as clients (*i.e.* different record companies). The SCM company should be able to guarantee each and every one of its clients that the technological and intellectual content of their products are safe.

6.4.3 Pro-active warehouse management

Matthysen (2000: 2) identified how the combination of the automation of clerical supervisory functions, together with the delivery of information, can reduce the time spent on administrative activities and provide SCM warehouse supervisors with the information they need to plan and organise the warehouse operations. Efficient and pro-

active warehouse management will lead to quicker lead-times and improved customer service. Improved warehouse management can generally be achieved by adhering to the following five important principles:

- (a) **Consistent application of business rules throughout the SCM company**
Applying this principle will ensure that every employee, being a manager, a supervisor or a warehouse worker, clearly understand what is expected of him or her. Ultimately, when all employees are treated equally, they will automatically conform to the same working standards and adhere to the same set of business rules and principles.
- (b) **Systematic push mechanisms**
These should be in place to alert supervisors to exception identification. When orders are 'pushed' through the warehouse, they acquire immediate attention. If they are not dealt with as soon as possible and finished on time, the next order will come pushing from behind – leading to a build-up of work to be done.
- (c) **Collection of activity information**
By performing this activity, the objective assessment of productivity can be achieved. Supervisors, or any person in a management position over-seeing workers, need accurate information to be able to assess the capabilities, competence and productivity of the workforce.
- (d) **Scheduling applications**
Scheduling applications will allow the optimal use of the workforce while still adhering to company standards and legislation. When emergency orders that need to be expedited through the channel are received, additional workers can be contracted to help the SCM company keep its delivery-promises.
- (e) **System interfaces**
Interfaces with other systems facilitating a two-way exchange of information, feeding business processes such as billing and extracting activity and workload

information from operational sources, is a necessary tool when combining above-mentioned functions in an organisation.

6.4.4 Designing a functional warehouse

6.4.4.1 Preliminary planning steps

Various authors have documented ways in which to best design and manage a logistics warehouse (Jenkins 1990: 158; Lynch 2000: 103 – 126). Through primary and secondary research and various personal interviews, a six-step plan was identified and formulated to prepare the functional layout of a warehouse. These steps will briefly be discussed in order to provide some background information on the preliminary design and layout of a SCM company warehouse.

Step 1: Determine parameters

Initially company management must decide what will and will not be included in the warehouse set-up, as well as what kind of warehouse needs to be designed (*e.g.* purely a distribution depot or a complex warehouse with various functional areas such as inbound distribution, receiving, assembly, picking, packing and outbound distribution). An evaluation must be done on what the existing space and equipment resources and requirements are.

Step 2: Establish all objectives.

While establishing the project's parameters, the objectives may in turn become evident. This is because *what* is to be studied (within the parameters) is inseparable from *why* (the objectives). Some objectives may be to:

- Provide minimum-cost warehousing even though sacrificing service
- Provide minimum-cost warehousing while maintaining the established levels of service
- Provide a better service (in quantified terms) than the competition regardless of the cost

- Provide a competitive service (in quantified terms) at the lowest possible cost

Step 3: Gather relevant information

Information needs to be gathered in order to determine how best to conform to these above-mentioned directives. As with any complex problem, the solution becomes easier in direct relationship to the amount of relevant information that is available to the decision-makers.

Step 4: Analyse the information

As in any research process, none of the gathered data or information must be ignored. The information must either be assigned a quantitative value, or alternatively it can be decided that the particular data is irrelevant to the current research.

Step 5: Implement the layout plan

No project is complete once the best plan has been devised, even when it is in blueprint or a miniature model form. Implementation is the next crucial step in the planning and erecting of a functional SCM warehouse. The effective, efficient and most orderly way in which to implement the warehouse layout is to start with an empty building that has all the storage racks and other fixtures installed and the floors and ceilings properly lined. Then as the inventories arrive, they are put away and stored according to the pre-established plan. In future, no outbound shipments should be made until inventories and paperwork systems are in place and the MIS is fully functional.

Step 6: Review the initial plan

The last step is to evaluate the entire plan and its implementation and to reconcile any differences. Constant review and analysis is necessary to ensure that the warehouse continues to fulfil the company's needs.

6.4.4.2 Physical lay-out

Information gathered during the above-mentioned Step 3 include many facets. The physical layout of the warehouse must be in line with the major functions it will be performing. Various trade-offs will need to be made in the warehouses of the SCM company, three of which are listed below:

(a) Space devoted to aisles versus space devoted to racks

As aisle space increases, storage capacity decreases. This implies that aisles must demand equal engineering attention as storage areas, and both have to be planned together to arrive at a functionally efficient warehouse.

Probably the single most important element affecting aisles is the handling equipment employed. It is calculated that a typical order picker spends 60% of his / her time in a warehouse moving from location to location, and this is why a worthy objective of a layout design should be to lose the least space possible, in order to minimise travelling distances and time (Johnson 1996: 364). This is why narrow-aisle lift trucks, side loaders, 180-degree turret lifts, deep-reach forks and stacker cranes were developed – mainly to minimise space consumed in aisles.

Another important consideration regarding aisles is that both sides of the aisle must offer access to stored goods. A warehouse should never be designed with an aisle running along the side of a wall. Also, a single row of pallet racks with aisles on both sides of the rack should never be used. Racks should be back-to-back so that aisles permit access to storage on both sides.

(b) Horizontal versus vertical high-rise layout

This trade-off arises between building costs that decline on a cubic-metre basis as a building is built higher, and warehouse equipment costs that will necessarily increase. Building height translates to storage height. Height is even more important than width and depth in determining total storage capacity. Changing

this dimension, if needs be, also has the least effect on building costs for the same increase in capacity.

In the past, the implementation of high storage was not always possible because equipment manufacturers did not provide for reaching higher. The high-rise hoists necessary to perform this function, have only been developed fairly recently, but is already in use in all major SCM company warehouses.

(c) Productive production flows

Product titles that are ordered and despatched most often and in the greatest volume, must be stored in the most efficient area for material handling. This simple notion can reduce the warehouse worker's material handling and travel time by up to 50% (Jenkins 1990: 176).

6.4.4.3 Vertical space

Taking all of the above-mentioned elements into account (refer to points 6.4.4.1 and 6.4.4.2 above), it can be concluded that the single storey warehouse construction is more productive and economically viable to be used as a SCM company warehouse. The following six reasons summarise why it is thus better, in most cases, to erect single storey warehouses:

(a) Volume building cost

The cost per cubic metre of storage space is usually much cheaper in a single storey construction, because the shell can be of lighter construction than is possible with a building having upper floors.

(b) Structural considerations

The weight-carrying capacity of an upper floor is always limited by structural considerations. Forklifts and other machinery or equipment needed to reach high warehouse shelves, are very heavy and their weight will not be supported by a floor that has not specifically been reinforced to support this weight.

(c) Material-handling costs

Material-handling costs are likely to be less in a single-storey warehouse than in a multi-storey building where goods have to be transported up and down between floors.

(d) Electricity savings

More use can be made of natural daylight in a single storey layout, effectively lowering electricity costs.

(e) Lower ventilation costs

Adequate ventilation is cheaper and easier to arrange when there is only one ground level floor involved.

(f) Efficient equipment

Modern high-rise equipment enables the efficient use of vertical space from a single ground floor, effectively making it unnecessary to have more than one storey.

6.4.5 Outsourced warehousing

A great amount of capital equipment, human resources and management expertise are tied up in the warehouses itself, as well as in the management of the stock there-in (Fawcett *et al* 1992: 113). However, logistics and supply chain managers claim that the existence of warehousing activities can be justified on the following grounds:

(a) Assembly area (make- and break-bulk)

In its warehouse assembly areas, SCM companies can assemble end-items from supplied components (for example manually inserting the actual CD or the inlays into the jewelcases). SCM company warehouses are also used to facilitate break-bulk operations, where large bulk quantities are broken down into smaller individual orders before onward transit to the client, or the client's client (*i.e.* the music wholesalers, dealers and retailers in the trade).

(b) Safety stock

Warehouses provide a buffer between the rates of supply and manufacture, and that of demand. The supply of the end product can be planned in advance, whereas actual demand from clients and their customers are usually unpredictable. In the event of a sudden unexpected increase in sales demand, or component supply failure, inventory held in the warehouse (also referred to as safety stock or buffer stock), can then be used until the problem is resolved or an alternative source is found.

(c) Reduction of costs

By warehousing stock, production cost savings can be optimised by permitting longer and larger production runs which will minimise set-up and changeover costs. This will help keep manufacturing and processing costs down by means of economies of scale. Refer to Chapter 3 (point 3.2.3), as well as to the *Sonopress* pricelist in Annexure E where the high set-up costs of CD manufacturing are discussed.

(d) Seasonal demands

Anticipation inventory can be created, especially for goods with a seasonal demand pattern (*e.g.* gospel music that enjoys increased sales over the Easter and Christmas periods). In order to make provision for such demands, and yet maintain consistency in levels of production, goods to service this seasonal demand sometimes need to be built-up over an extended period of time.

(e) Customer service

SCM company warehouses aid in the maintenance and improvement of customer service levels. The closer their clients' stock is located to the market, the greater the availability of goods to fulfil individual orders, and the shorter the lead times become. When the points of supply and demand are far removed from one another, providing high levels of customer service become more demanding on the distribution system, as well as more costly. SCM companies can use their logistics and distribution management function to set up these

warehouses to help maintain customer service levels in a more cost-effective and efficient manner.

In addition to these five reasons for justifying the existence of warehouses, there is also a need for companies to protect their investment in their inventory. The most convenient way to achieve this, is for them to stock their goods in a secure and suitable environment such as the warehouse of their outsourced SCM partner, where the risk to inventory from damage, deterioration and unauthorised removal will be minimised.

At any given time, a record company must know its exact stock quantity on its SCM partner's premises. The relevant SCM account manager must generate reports from the MIS and forward it to its client, usually on a weekly or monthly basis (depending on the predetermined SLA or contract). Information included in these reports deal with the quantities on hand, information of possible work in progress, information on stock that is currently in transit and all sales information. Refer to Annexure H at the end of the thesis for examples of these reports.

6.4.6 Geographic location

6.4.6.1 Factors influencing location

Many factors influence facility location. Inappropriate locations could result in poor service to customers, high operating costs, excessive loss due to theft and unnecessary high freight costs. The difference between carefully selected locations and random selections could well mean the difference between a successful warehouse system and one that is doomed to failure. The three factors discussed below should all influence the SCM company's warehouse location decision to a greater or lesser extent:

(a) Infrastructure and transport

Infrastructure and the available transportation services are in many cases the most important location considerations. The warehouse should be located in such an area as to permit the lowest total inbound and outbound freight costs.

Transportation costs are relatively easy to measure and highly visible. It also directly affects inventories as related to transit times, the likelihood of damage and service reliability.

The warehouse location decision as influenced by the availability of adequate transportation facilities, can also take on a more personal nature. A different type of transportation that should be considered is the one that involves moving people, more particularly employees, because the overriding consideration in conducting business is, and should always be, people. Therefore, the accessibility of the warehouse to employees and others who come to conduct business there, is also an important consideration in determining the warehouse location.

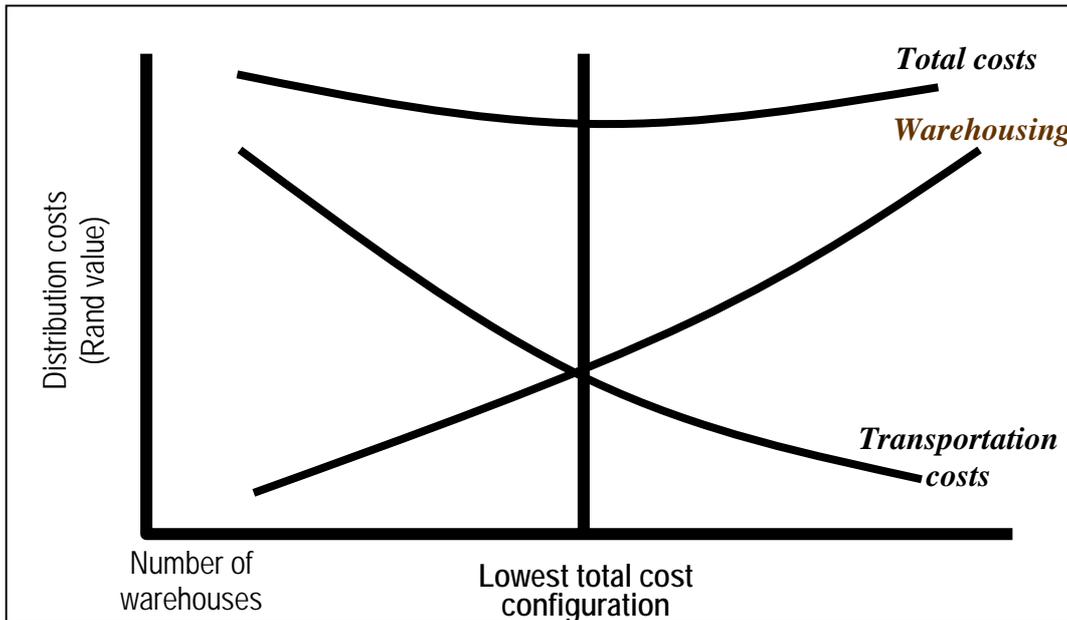
(b) Community resources

Being close to a labour force and other community resources are location necessities of a more personal nature, but is just as important as any other operating requirements. While labour availability is not as great a concern in warehousing as it might be in many other aspects of the industry (such as those requiring a greater number of workers, or more specialised training), it is still an important factor to take into consideration.

(c) The client

Being close to the client and its market is of crucial importance to any SCM company and its warehouses. As discussed above, delivery times will be directly affected by the location of the warehouse. Many SCM companies set up strategically placed warehouses (or just some kind of presence in the form of a distribution depot) in different parts of the country to better service all their clients' physical distribution needs. A trade-off needs to be made between transport costs, and the cost of setting up a number of strategic warehouses or distribution depots around the country.

Figure 6.4 Relationship between warehouse and transport costs



Source: Fawcett, McLeish & Ogden. 1992. *Logistics Management*.

Figure 6.4 above depicts a well-known graph on the relationship between warehouse costs and transport or physical distribution costs.

6.4.6.2 Factors influencing delivery lead-time

Various factors directly and indirectly influence the delivery time (or lead-time) from the SCM company into the trade. By enlisting primary research (*i.e.* the personal interviews, telephone conversations and electronic mails with managers at SCM, logistics and freight companies as discussed in Chapter 5 under point 5.4.3.2), four factors were singled out as having the greatest influence on the SCM company's delivery lead-time. Through interviews, these factors were confirmed by the discussions of Section (d) of the Questionnaire (Annexure I). These factors are listed and discussed on the following page:

(a) Client Service Level Agreements

The time available or required to meet the client's stated service objectives are determined by the earlier agreed-upon SLA between the SCM company and its client (the record company), as well as with its client's client (the trade). Refer to the proposed outline and content of a SLA in Annexure F at the end of the thesis. Sometimes seen as detrimental to normal business practice, preference is often given to big, important clients who are responsible for a large percentage of the SCM company and the record company's profits. Sometimes special arrangements need to be made to handle emergency orders that need to be delivered urgently.

(b) Rates payable or receivable

Taxes and subsidies can have a huge impact on choosing a location to set up a warehouse. Some real estate taxes are based on market value, others on initial cost. Complicating this even more, is the fact that percentages and ratios of the market value and initial cost are used to determine taxes to be paid.

(c) Available capacity

The availability and costs of transportation to make these required and agreed-upon delivery times possible should be considered. On some occasions, even SCM companies will need to outsource their physical distribution or delivery workload if they are unable to accommodate it all in-house.

(d) The distance factor

The travel distance to the record company's customers, which can be very long and costly when delivering to outlying dealers in small towns must be taken into account.

(e) The time factor

The actual travel time to customers, which radically multiplies when goods have to be delivered to outlying rural areas with a poor infrastructure or road network, also affects delivery time. Most small South African towns have a shop that sell

music, and the SCM company need to carefully plan their deliveries to these remote areas in order to make it an economically viable process.

Academic authors and business leaders agree that the two most important and main all-encompassing considerations to locate close to customers, are of a psychological and physical nature (Jenkins 1990: 76 - 81). Psychologically, customers generally 'feel' that if their SCM company, or at least some kind of presence (like a warehouse of some kind or a distribution outlet) is close by, they are better off to deal with them than with suppliers that are more distant. The physical part of this is, as mentioned above, that it is normally the shortest distance between the SCM company and its customer that result in the least travel time.

6.5 Marketing

According to Mariotti (2002: 6), marketing is the practise of understanding the needs and wants of customers, creating products or services that meet those customers' needs and wants, and then communicating this both internally to the organisation which must create and deliver the products or services and also externally to the customers for whom they're intended, so they will desire and buy them. In an old but thorough and comprehensive definition of the marketing function (Hisrich & Peters 1991: 4) further explained that marketing is "the process by which decisions are made in a totally interrelated changing business environment on all the activities that facilitate exchange in order that a targeted group of customers are satisfied and the defined objectives accomplished."

6.5.1 The business plan

Marketing is an integral part of any company's business and the activity should be contained as a detailed description in the company's business plan. A business plan is a statement of the actions and resources required by a business to sustain and grow its activities (Fewell and Wills 1993: 172; Craft 2000: 1 – 20). A business plan must therefore precisely define the business, as well as identify the company's goals (Barrow

2001: 1 – 18). It helps to allocate resources properly, handle unforeseen complications and guides company management to make the right decisions. A business plan serves as a company's resume and must contain the following supporting plans (www.be.up.co.za/businessplans):

- A Strategic plan which substantiates the viability of the venture. It should contain a summary of the vision and mission of the company, as well as strategic priorities and objectives
- The Production or Operational plan which includes a description of the company's physical operations and operational infrastructure
- An Organisation and Management plan which includes a description of the type of business, the structure of the organisation, key competencies of the team and the human resource budget and activities
- A Financial plan which should make provision for capital requirements and financial strategies, loan securities, income statements, cash flow statements and balance sheets
- The Marketing plan that should include a detailed description of the product or service, the position of the competition in the market, a summary of the company's clients and customers, information on the market size and market share, the pricing structure, sales forecast, the promotional strategy and the budget. The content of a detailed marketing plan is discussed in more detail in point 6.5.2 below

6.5.2 The four marketing questions

In MODEL C (the outsourced SCM model), the marketing of an artist and his / her releases, remain the responsibility of the record company that contracted the relevant artist or band. The first important point related to marketing is that a business' strategy and the marketing function are inextricably intertwined. The record company must develop a strategy and decide what to sell, to whom, where and how.

Deciding on what kind or type of music will sell is not obvious. There are some occasions (*e.g.* with a follow-up release of a very popular artist's album) when it should be simple for the marketing department to know or predict what will sell. There are records and reports of what has sold in the past and market research information about what customers buy (refer to the information regarding pas sales figures contained in the *Recording Industry of South Africa's* website at www.risa.co.za). However, the problem remains that everything marketers know is about the past or based on conjecture on the part of others. Everything that will happen occurs in the future, which is uncertain.

If the record company's marketing team has managed to sufficiently answer the 'what' to sell question, then come the 'to whom', 'where' and a little later, the 'how' questions. Deciding 'to whom' to sell a product is perhaps marketing's most critical job (Mariotti 2002: 9). If the target market is picked well and researched and studied, the new music release will have a chance to succeed, but if the market is picked poorly, the release and even the performing artist will almost certainly fail.

The 'where' to market and sell question can mean the geographic location of the chosen target market or the scope of the geography the record company chooses to target. This question is important because it is also about focus, which means deciding where the company is going to focus and spend its resources to achieve the desired results.

The fourth marketing question, being 'how' to sell the product, will be discussed in point 6.5.3 below as part of the record company's comprehensive marketing plan.

6.5.3 The marketing plan

The record company (in conjunction with their SCM partner) must draw-up a marketing plan, in which the basic four marketing questions will be answered (*i.e.* 'what', 'to whom', 'where', and 'how' as discussed in point 6.5.2 above). In MODEL C, it is the record company that is responsible for the marketing of its artists and their titles. Through both primary and secondary research it was determined that a successful marketing plan must include detailed information relating to the six important aspects

discussed below. The items included in the proposed marketing plan of *BE at UP (Pty) Ltd* (the Business Enterprise department at the University of Pretoria) were also considered (www.be.up.co.za/businessplans).

A marketing plan must research and study the following six aspects, and special attention must be paid to the points highlighted under each section:

(a) Markets

- Define the market, the market size and the probable growth rate
- Define any primary target segments
- Perform a detailed current and projected situation analysis
- Perform a market opportunity analysis (*i.e.* review external opportunities)
- Perform a competitive analysis (*e.g.* benchmarking of internal strengths and weaknesses compared to those of the competitors)
- Perform continuous market research

(b) Products

- Define the relevant product (the artist, album title, music genre, release date and other product criteria)
- Define the features and specifications of the product (*e.g.* the product format such as CD, cassette tape, video or DVD)
- Define the product line structure (*e.g.* a gospel CD line or a dance music series)

(c) Sales (also discussed in point 6.6 below)

- Develop sales strategies (the ‘what’ to sell marketing question is answered here)
- Decide on the sales implementation steps (answer the ‘how’ to sell question, also refer to the discussion on selling skills in point 6.6.1 below)
- Formulate specific sales tactics or operational action plans

- (d) Promotional activities
 - Develop a communication plan (both internal and external)
 - Develop the advertising and promotion plan
 - Decide on the packaging of the end-product (*i.e.* the design of the inlay and the printing on the CD)
 - Confirm release dates with launch plans (consider timing and available resources)
 - Decide on ways of measurement and continuous feedback methods

- (e) Operational activities (to be executed by the SCM partner company)
 - Develop sourcing plans (*i.e.* manufacturing or procurement of both the primary product, *i.e.* the CD, tape, video or DVD, as well as any marketing collateral such as posters and pamphlets)
 - Confirm production plans (in accordance with the preferred supplier)
 - Develop detailed distribution plans (both warehousing and physical distribution)
 - Develop order fulfilment plans (*i.e.* order entry on the SCM company's MIS, as well as picking, packing, invoicing and any other order fulfilment activities)
 - Implement an after-sales customer service by utilising 'telesales' for example (also performed by the SCM company, but with close conjunction with the record company)

- (f) Economic aspects
 - Determine the feasibility and viability of the release of the specific title
 - Perform a detailed economic analysis (to justify the investment in studio time, the manufacturing costs and the marketing expenses)
 - Determine budgets
 - Analyse the ROI (return on investment)

It is clear to see that marketing is not simply sales - sales is only one aspect of a complex marketing strategy (refer to the discussion on the sales function in point 6.6

below). Sales are different in that it involves the presentation of the outcomes of marketing's efforts. However, since marketing and the sales effort go hand-in-hand, it is clear to see that it is crucially important for the record company and SCM company to work closely together in both these functions. Neither of the two functions (marketing or sales) can be performed optimally if they are not executed in close collaboration with one another and with the other party.

6.6 Sales

While the marketing of artists and their titles was performed by the record company, the responsibility of the sales effort in MODEL C falls into the hands of the SCM company. The SCM company must employ nation-wide sales executives to sell the titles of all their clients, *i.e.* the various record companies. This sales team must be highly motivated and knowledgeable about the product (*i.e.* the music titles) that they are selling. Music buyers are notoriously difficult to sell to, they will try to negotiate to either pay as little as possible, or alternatively they will want some free stock or other incentives before placing their orders.

6.6.1 Selling skills

The debate on whether a true salesman must be born or can be made, is still widely discussed and debated. Miller (2001: 206 - 207) identified the following five sales skills that every successful sales executive should possess:

(a) Product knowledge

This simply means having, knowing and understanding information about the goods or services that are being sold. A sales executive selling the titles of a record company, must know to which music genre each title belongs (*e.g.* gospel, dance, blues, rap or other), as well as any other relevant information such as who the performing artist is, what the best tracks on the album are and what the release date was.

(b) Selling skills

A sales executive must be able to show sales cycle control, qualifying skills and a strong value creation ability. Refer to the practical usage of these selling skills in point 6.6.2 below.

(c) Communication skills

Although a sales executive must possess various important and diverse communication skills, the three most important ones seem to be:

- Behaviour profiling (in order to correctly judge and interpret the type of buyer, as listed below under point 6.6.2)
- Effective listening skills
- Effective negotiating skills

(d) Presentation skills

Apart from the important in-person or group presentation skills, a successful sales executive must also possess over-the-phone presentation skills that are used for instance in 'telesales' or selling over the telephone.

(e) Personal growth

Personal growth, learning and growing skills are all trademarks of a successful sales executive.

6.6.2 Types of buyers

Academic authors and managers in the field have identified various different types of buyers and how sales representatives can cope with each of them (Miller 2001: 213 – 218; Zoltners 2001: 122). Personal interviews with sales executives employed by record companies and SCM companies have mostly concurred with these findings. Refer to the sources of knowledge in the previous chapter under point 5.4.3.2 – sales representative from independent South African Record companies such as *Select*, *Fantasia*, *Rhythm Records* and *African Cream* were interviewed, as well as the sales team of a supply

chain management company called *Bowl*. Below is listed a short summary of the combined findings of academic authors and actual sales representatives working in the field.

The ten types of buyers are:

(a) Friendly type

This type of buyer is friendly and sympathetic with everything that is being said, but is usually very difficult to pin down in order to make a decision. The salesperson should try not to get drawn into the 'friendship' but should keep pushing to close the sale.

(b) Talkative type

'Talkers' can easily fill up all the time of the sales call with interruptions and sidetracks and then never gets round to ordering. Talkers are often poor listeners, so the salesperson must be prepared to make his / her point more than once.

(c) Silent type

This type of person says little but listens carefully to what is being said. It is difficult to gauge his / her interest or to know what queries or objections he / she might have to the sale (*e.g.* to the product or the price). The salesperson must try to draw the buyer into the conversation - one way of achieving this is by asking open-ended questions.

(d) The Prevaricator

This buyer talks on a grand scale and is full of promises, but unfortunately the big order just never seems to materialise. The salesperson must try to talk about details and pin the buyer down to place a firm order.

(e) The 'Mule'

Just like the stubborn animal, when his mind is made up, nothing will change it. Mules will often make a wrong decision rather than change their original points of view. The salesperson should not criticise the buyer's original decisions, but should rather try to angle him / her into a more favourable position with regards to the company or the product.

(f) Pompous type

This type of buyer is full of his / her own importance and power, he / she is motivated by status issues and recognition from superiors. The salesperson must try to give credit where credit is due, but still stick to the facts of his / her sales pitch.

(g) Experienced type

This buyer sees through poorly-reasoned arguments, but equally will also recognise a good presentation, product or price. He / she should be treated with respect and given the specifications of the sale upfront. Sales executives have stressed the fact that the salesperson should not try to bluff this experienced type of buyer.

(h) Inexperienced type

New or young buyers will be worried about making mistakes, therefore the salesperson will have a golden opportunity to lead the meeting and teach the buyer as much as possible about his / her company and its products.

(i) Shy type

Shyness is not a measure of lack of experience or intelligence. The salesperson can again use open-ended questions and try to draw the buyer into discussions about the music titles.

(j) Busy type

Their phones are always ringing and people are continuously coming in and out of their offices. The salesperson must try to schedule his / her appointments at the least busy times but must then politely request that the buyer gives him the necessary attention and respect during their allotted time.

The SCM company must meticulously analyse all available information regarding its market and the specific buyers, as well as any other information it can obtain regarding past sales. A good source of information is *The Recording Industry of South Africa* (RISA), since they keep statistics of all local sales figures (www.risa.org.za). The meticulous scrutiny of all relevant information is important because the SCM company must analyse the demographics of each area in order to forecast sales. This includes population characteristics such as age, nationality, occupation and income group. It is safe to assume that a 25 year old Zulu male, working as a labourer in the sugarcane plantations of Kwa-Zulu Natal, would rather buy a music CD by the popular traditional Zulu artist 'Oleseng', who releases gospel music under the *Cool Spot* label (*Cool Spot* is the biggest South African black independent record company), than the latest Afrikaans release by Rina Hugo. The SCM company sales executive will rather sell his / her Rina Hugo title in Afrikaans speaking areas, e.g. some of the towns in the Free State like Welkom or in cities such as Potchefstroom or Pretoria.

6.6.3 Sales management formula

Miller (2001: 58 – 64) developed a very simple formula to manage the success of a company's individual sales executives:

$$\mathbf{R = F \times C}$$

Revenue equals Frequency times Competency

(a) Frequency

In simple terms, it is obvious that any company would want its employees to work hard and do a lot. Frequency relates to the actual amount of work that is

being done in a specific period of time (*i.e.* quantitative output). Unfortunately the communication between company management and its employees is not always very clear. Because they spend a lot of time on the road and are not often in the office, the sales team in particular might not always know what is expected of them. Management must communicate to their staff specifically what they want or need them to do. Good communication will significantly improve the company's and the sales team's chances of success. Below is a list of frequency metrics with which management can measure the output of their sales team:

- Amount of sales calls per week
- Amount of weekly prospects (possible new clients) gathered
- Quantity of reports submitted on time
- Quantity of sales proposals submitted per week
- Amount of demonstrations delivered per week

(b) Competency

While frequency of work is important, the quality of that work is just as important. Any company wants its employees to display a high degree of quality and competency in the tasks they perform. Below is a sample list of various sales competencies:

- Selling skills (discussed in point 6.6.1 above)
- Sales focus
- Presentation skills
- Professionalism
- Sales cycle control
- Customer knowledge
- Negotiating skills
- Customer relationships
- Personal confidence
- Prospecting skills

6.7 Inventory management

In MODEL C, the huge task of stock control and inventory management rests squarely on the shoulders on the SCM company. What makes this an even more daunting responsibility, is the fact that the SCM company is not managing its own stock, but that of its various record company clients.

If the SCM companies has a fully integrated MIS (management information system), this task becomes much more streamlined and easier to manage. The following basic processes regarding stock must be executed and / or controlled:

- Creating new album titles on the system (*i.e.* assigning part-numbers and creating BOM's or Bills of Material for components and end-items)
- Ordering the individual components of the BOM from the relevant suppliers (placing purchase orders)
- Checking and receiving the stock into the warehouse and onto the MIS
- Frequent stock counts to control and verify stock movements and quantities (inventory management and control)
- Entering sales orders from music wholesalers, dealers and retailers
- Picking and packing of sales orders to be delivered
- Generating the necessary documentation to accompany the delivery (*e.g.* the invoice and delivery note)

6.7.1 The Management Information System

It is not a new concept to have a formal computer system in place in order to organise and manage inventory. More than two decades ago, Murdick (1980: 11) formulised the following comprehensive definition of a Management Information System (MIS):

“The system which monitors and retrieves data from the environment, which captures data from transactions and operations within the firm, and which

filters, organises and selects data and presents them as information to managers is called the Management Information System (MIS).”

In the past, managers were only able to process information on a personal basis, which meant that different managers would operate according to their own different and unique paradigms and perceptions of their environment. Also, systems that were being developed had a functional bias, concentrating exclusively on inventory control, production, accounting or distribution planning.

6.7.1.1 MIS functions

Fortunately, some fundamental changes are now occurring in progressive companies. In the new millennium, management is becoming increasingly system-orientated and more sophisticated in their management techniques. Information is now planned and is made available to managers or other decision-makers as and when needed. This leads to a system that is able to tie planning and control to operational systems of implementation. In today’s leading SCM companies and other logistics organisations, order fulfilment should be the central focus. Every activity should be targeted at supporting this process together with the correct organisational structure and information systems.

Having correct, relevant and timeous information available, is crucially important to the SCM company and its clients. Through the SCM company’s MIS, many customisable reports can be compiled to relay information to their client, regarding amongst others:

- Item stock levels (current stock on hand in the warehouse)
- The monetary value of this stock
- Purchase orders placed (in-coming stock still to be delivered by suppliers)
- Possible work in progress
- Sales orders received (reports are generated by title and by dealer)
- Deliveries executed
- Invoices delivered and paid

Refer to Annexure H at the end of the thesis for examples of some of these reports.

6.7.1.2 MIS development

The basic steps in the development of a MIS (Murdick 1980: 27; McLeod & Schell 2001: 77 – 91), basically consist of three simple processes which follow each other chronologically.

The three steps of MIS development are:

(a) Determining information needs

The determination of information needs is the primary concern in MIS development. The type of information that will be needed by the SCM company to effectively manage its client's account, must initially be decided upon. Just as important, is what information will be needed by the client, in order for him to best manage his outsourced business and have some control over his stock. The SCM company's client is almost never the end-user – they in turn need their stock to be sold-on into the trade.

(b) Determining objectives

Secondly, specific MIS objectives need to be set. Here the SCM company has to decide exactly what its chosen MIS has to be able to do. The relevant important aspects are, amongst others: ease of use, being able to cover a wide range of functions and drafting and printing comprehensive reports, charts and graphs.

(c) Developing the plan

The next step is to develop a specific MIS implementation and execution plan, together with a proposal for management approval. Usually an operational team will develop this plan, which will stipulate all above-mentioned requirements. This plan will then be proposed to the relevant decision-making authorities.

6.7.1.3 MIS advantages

The MIS performs many functions with respect to decision-making. Firstly, it helps managers to make decisions by supplying crucial information that offers guidance in solving problems. Secondly, the MIS aids in the making of repetitive decisions where the decision process remains constant but the input varies. Also, as listed by Fawcett *et al* (1992: 84 - 88), information systems can have the following four additional purposes:

(a) Trigger mechanism

The MIS serves as a trigger mechanism by producing instructions or documents necessary to activate other components of the system. For example, a proportion of the lead-time between a music dealer placing and receiving an order, is accounted for by the length of time that it takes to process the order and initiate picking, packing and delivery by the SCM company.

(b) Control system

Information systems monitor and control the whole system performance, ensuring that established cost and customer service objectives are met.

(c) Coordination

The MIS coordinates functions both within the system and between distribution and other key decision areas of the SCM company.

(d) Integration

Information systems link the SCM company's internal MIS to interrelated external systems such as those of their suppliers, clients and third party distribution operators.

Through further primary research and interviews with supply chain and logistics managers, the following five distinct advantages of implementing an MIS on the SCM company network was identified:

(a) Cross-functional integration

An MIS uses electronic data-capturing mechanisms to calculate the quantities of all items (components, work in progress and finished goods) in the warehouse. This will assist in the reduction of errors because of greater standardisation and better procedures whenever stock is moved, *i.e.* received, issued, picked, invoiced or delivered. In most cases it is easier to achieve technical integration of system areas than it is to integrate across functional boundaries. As a result, information systems provide the prime mechanism to enable cross-functional integration.

(b) Shorter lead times

When items are correctly received when they arrive at the warehouse, the processes that follow (such as order entry, picking and packing) can occur fluently without any unnecessary system hold-ups. This preparation-time improvement will have a positive effect on lead times, customer service and ultimately on the capital budget.

(c) Generating of reports

Charts, graphs and lists can be drawn off the MIS that will reflect quantities on hand, quantities on order and quantities to be delivered. This will directly aid the keeping of a better historical record system. Also, it will improve management's understanding of the business and free their time for higher-level contributions.

(d) Minimum stock holding

The keeping of stock will be down to a minimum when an MIS is used correctly. This will mean that as little as possible capital will have to be tied-up in inventory.

(e) Minimum out-of-stock situations

If avoiding an oversupply were the only problem associated with inventories, the solution would be simple: store fewer items. Unfortunately, not having enough stock is almost worse than having too much stock on hand. In other words, in

conjunction with keeping stock levels to a minimum, an MIS will also help to avoid a stock-out situation and the inevitable resulting loss of orders and poor customer service.

A stock-out occurs when the supply of an item is exhausted and a client has placed an order and expects delivery. Stock-out costs are difficult to determine and often inexact, but nevertheless very real (Johnson and Wood 1996: 316, 319 – 320). Estimating the cost or penalty for a stock-out involves an understanding of client reactions to the SCM company being out of stock at the time the clients want the product. In order to better control this situation, the monetary value of these lost orders must be calculated.

A company's MIS is its heartbeat. All information is entered into it and all reports are drafted from the information entered. Some of the processes which are generated from a MIS are listed and discussed under points 6.7.3 to 6.7.5 below.

6.7.2 SAP supply chain management

Enhancing market position is a fundamental goal for every company interested in staying profitable. *SAP* (the information technology and software development company discussed in Chapter 3 under point 3.2.2) recently developed an MIS system specifically focused on supply chain management companies. The system is called 'mySAP Supply Chain Management', or 'mySAP SCM' in short (www.sap.com/solutions/scm). This system supports the fundamental company goal mentioned above by giving companies a competitive edge that can directly affect market standing. The system will enhance a company's supply chain planning and execution capabilities and will improve all other internal business and operational processes. 'mySAP SCM' claims to be the only complete supply chain solution that empowers businesses to adapt their supply chain processes to an ever-changing competitive environment.

By implementing this or another similar MIS system, a SCM company will be able to offer its clients a value adding service by means of measurable and sustainable

improvements through cost reductions, service-level increases, productivity gains and improved profit margins.

6.7.3 Order processing

The order processing system triggers all other operations in the SCM company's logistics and distribution management function. Whilst in theory it is possible to manufacture, procure or warehouse a product in anticipation of its sale to a client, in practice it is obviously much more profitable and efficient to do so in the certain knowledge of future sales. It is imperative that the moment an order is placed by a client (be it the record company or a dealer in the trade), this event must trigger a string of actions to satisfy that order.

The SCM company needs to receive a formal purchase order from its dealers before any goods can be issued, picked, packed or despatched for physical distribution. When the SCM company receives an order from a music dealer, the first step will be to ensure that there is sufficient items in stock to fulfil this order. If not, more needs to be procured. In a real-time system, entering a specific purchase order into the system will immediately reflect the relevant quantities involved (*e.g.* stock on hand, stock on order and others).

6.7.4 Invoicing

It is important that the quantity and monetary value displayed on the sales order, corresponds directly with the relevant invoice. Many SCM companies generate their invoices from the delivery notes, to ensure that the quantities are correct.

SCM companies invoice on behalf of its clients. This happens because the SCM company delivers directly into the dealer channel, and not first back to its own client, the record company.

6.7.5 Shipment reporting

This report tracks the exact size, value and whereabouts of the record company's stock. This function is especially important because the music titles from one purchase order (placed by the record company on the SCM company to manufacture a certain title) is now being sold into the trade and are travelling in many different consignments to many different locations. If the record company receives a daily or weekly shipment report it will always be fully aware of where its stock is being sold and delivered and how many units are still left in stock in the SCM company's warehouse. Refer to an example of sales reports in Annexure H at the end of the thesis.

6.8 Physical distribution

The establishing, maintaining and enhancing of a company's distribution network, in order to provide a reliable and cost-effective service to its clients, is of utmost importance to the SCM deal. The way in which the final product reaches the market - important aspects are short lead times, good condition and competitive pricing - all hugely influence the success of its introduction into the retail and dealer channel. For most SCM companies, road transport is the only means of transport that is relatively easy to own and operate as part of its in-house own-account sector. Because of the relative shortness of many journeys (as explained earlier in this chapter, SCM companies are often situated very close to its clients and clients' clients), road transport has become the dominant means of transport in many areas of logistics and distribution.

6.8.1 Outsourced distribution

It does, however, happen on some occasions that even the SCM company can not handle all aspects of distribution successfully on its own. This often occurs in peak seasons when orders increase dramatically - this function is then outsourced to companies who specialise in purely physical distribution. This so-called *third party logistics*, where certain elements of logistics are outsourced to third party service providers, is a fast growing trend internationally (Forker 1997: 7). It is also an area of

logistics in South Africa that has seen significant changes in recent times, particularly so in transport and distribution. How information is then traded with these carriers, will directly affect the level of service the SCM company can expect and deliver.

The prime reasons for outsourcing the physical distribution component, is demonstrated by the following five benefits accruing from the use of these specialised, third-party service providers (Franz *et al* 1994: 53; Johnson *et al* 1996: 230; Lynch 2000: 18 – 20; Atkinson 2001: 15 - 18):

(a) Improved customer service

The SCM company can offer an improved service to its clients by utilising the extensive, well-established distribution and service networks of the third-party contractor. Improved levels of service can be achieved especially when servicing clients or markets in out-lying or rural areas, and most particularly when the client does not demand a particularly dedicated service.

(b) Concentrate on core competency

Specialist distribution contractors allow the SCM company increased flexibility regarding its range of services offered to its clients. Specialised management of logistics operations by professional transport and distribution operators release the SCM company's management to concentrate on its other mainstream business activities. Distribution-related problems are left to be dealt with by the contracting company, relieving the SCM company of unwanted pressures.

(c) Reduce costs

The outsourcing of the physical distribution service can greatly reduce costs in the long run. Economies of scale will be realised when a SCM company uses a third-party contractor with an extensive network of services. General distribution of more than one client's goods at the same time, make contractors' operations financially viable and profitable, thereby achieving a more realistic cost for the SCM company's client and ultimately for the end-user. Service

Level Agreements (SLA's) are negotiated in order to meet all requirements and achieve reasonable and competitive bottom-line prices.

(d) Improve management

More efficient management control can be achieved when SCM companies enter into strategic partnerships with third-party providers of distribution services. Contractors usually provide their customers with a weekly, monthly or quarterly report and account (depending on the SLA) for services during that period. Distribution costs are therefore known in advance, enabling the SCM company to budget accurately for the particular service.

(e) Utilising capacity

When the SCM company owns and uses a dedicated fleet, these vehicles are more often than not under-utilised. Even delivery trucks owned and operated by specialist delivery or freight companies, have an under-utilised capacity of between approximately 9% and 11%. On the other hand, research has shown that companies who acquired their own specialised fleet of delivery vehicles, can have an under-utilisation capacity of around 25%, even up to 50% (Forker 1997: 27).

6.8.2 Emergency shipments

When a new release is in production and extensive and successful marketing has been performed for the title, there will probably be a great demand for the item. Music dealers and retailers will place pre-bookings, *i.e.* order the title even before it is ready to be delivered. When the title then finally becomes available, the trade will all expect to receive their orders as soon as possible. The sooner the title is in the shops, the sooner profit-generating sales can begin.

The policy on emergency shipments and the expediting of orders differ between industries. Franz *et al* (1994: 53) calculated that, in the case of emergency shipments, 46% of companies generally outsource the additional capacity required. Some industries

(like the beverage industry in South Africa) do not outsource emergency shipments at all. Since it is the primary goal of SCM companies to offer a value-adding solution through superior service levels to their clients, they often need to employ outside contractors to help them cope with the needed capacity when they suddenly have to expedite emergency shipments.

6.8.3 A competitive advantage

The very nature of logistics and physical distribution, with vehicles on the road facing all kinds of dangers – from hi-jackings to stock losses and delays of various kinds – make it difficult to have what every business needs to be successful: information at its fingertips.

Only recently have local companies been able to track and trace their vehicles and shipments using a combination of hand-held devices like scanners which are coupled to cellular technology (Hoare 2003: 1 – 2). The ability to record electronically when a vehicle leaves a warehouse, know where it is on the road at any given time and see what the various parcels it is transporting contain, with the added capability of updating route-information in real-time, give these businesses a multitude of benefits that will directly impact on the bottom line.

When the SCM company delivers an order to a music dealer in the trade, the barcode attached to the parcel can be scanned immediately and transmitted back to the central system using SMS (short message service) or other cost-effective wireless technology. An invoice can then be printed on-site at the music dealer's premises which will eliminate the cost of recovering information and late payment due to lost delivery notes. Route information is another critical area for concern, particularly when the SCM company owns or operates a large fleet of trucks that has to make many stops on each trip. In a typical delivery scenario a truck driver would receive route instructions that might include a map of the area. Having this on a small mobile computing device with two-way communication capabilities would mean that information could be updated dynamically, more closely allied to the environment in which these vehicles operate.

New route information could take into account additional orders that need to be picked-up or delivered, congested traffic to be avoided thereby removing idle, revenue-losing time, protest marches or other forms of mass action and adverse weather conditions. Customers could be updated dynamically via the World Wide Web as changes occur, giving them an estimated time of arrival and thereby improving service levels.

Management can use the information gathered by the mobile system to enhance efficiencies. Information can be gathered on how long it takes to perform deliveries, how many are made to each area, the exact routes that drivers in fact follow and whether or not routes need to be further optimised due to too many empty miles travelled.

6.9 Debt collection

This value-adding service offered by SCM companies is utilised because the consignment of stock is not delivered back to the primary client (the record company), but rather physically distributed to the appointed music dealers.

The SCM company will execute the sales function and will call on all customers which fall into the record company's target market (*i.e.* music wholesalers, dealers, retailers and others), who will then not place their orders with the record company, but directly with the SCM company. The orders which the SCM company delivers into the trade will include a delivery note and an invoice. It is then up to the SCM company to collect the payments from these dealers, and forward it to their primary client, the record client.

6.9.1 Management of receivables

Refer to the calculation under point 6.10 below for an example of the calculation of the monies that need to be paid over by the SCM company to the record company.

This complex system of financial management by the SCM company provides a central point to monitor, manage and control the financial viability of all assets. The financial

value of the goods are managed by the SCM company's MIS, from procurement right through to the final distribution process.

6.10 Royalty payments

In Chapter 3 under point 3.7 the management of receivables in the current recording industry were discussed (MODEL A). It was explained how the money received from the sale of a single unit has to be divided into many receiving channels. Duties or royalties that need to be paid are:

(a) Ad Valorem

An *Ad Valorem* duty is payable to the South African Receiver of Revenue. Refer to the calculation of this duty in point 3.7.1 which is payable on the manufacturing cost of each music item manufactured.

(b) Mechanical royalty

A mechanical duty or royalty payment has to be made to one of the South African governing bodies, *i.e.* the South African Music Rights Organisation (SAMRO), the South African Recording Rights Association Limited (SARRAL) or the National Organisation for Reproduction Rights in South Africa (NORM). Refer to the discussion on these organisations in Chapter 2 under point 2.3.

(c) Artist royalty

An artist royalty is payable to the artist or band that recorded the album. This payment is calculated as a percentage of the album's selling cost into the trade, also called the PPD (price per dealer). This percentage was negotiated when the artist was signed or contracted to the record company and will be included in the contract between the two parties.

In the MODEL C outsourced SCM model these duties still need to be paid, and it is proposed that the payment thereof remains the responsibility of the record company. If for instance a title is sold into the trade at a PPD of R50.00, the SCM partner company

will collect these monies due from the music dealer and will then subtract the agreed percentage as its service fee, where after the balance will be paid over to the record company.

It is proposed that the SCM company charges a single percentage fee for its combined service offering, but the fee can also be split if the record company is only outsourcing some of its logistical or business activities. If we assume that the PPD of a title to be sold is R50.00, a typical example could be calculated as follows:

Sales fee or commission:	10% of PPD	R5.00
Handling fee:	15% of PPD	<u>R7.50</u>
Total SCM service fee:		<u>R12.50</u> per unit
Payable to record company:		R50.00 – R12.50 = R37.50 per unit sold

The following services are included in the above fees:

- The sales commission includes all aspects related to the management and selling of the product, *i.e.* the cost of employing sales representatives to call on the dealers in the trade, as well as the cost of employing order entry clerks which must capture these sales orders onto the company's MIS
- The handling fee includes all costs related to the handling and physical movement of the stock, *i.e.* warehousing, picking and packing, physical distribution and delivering of the invoice and delivery note or POD (proof of delivery)

Out of the R37.50 that the record company has received for the sale of one of its music CD's, it must therefore pay the three duties or royalties mentioned above, where after the remaining balance will be the record company's gross profit before expenses. Also refer to table 3.1 in Chapter 3 where the breakdown of the unit selling price by the record company is discussed.

6.11 Summary

Most record companies perform many or all of their business processes in-house, even those which are not at all part of their core competencies. Mainly because of a lack of alternatives, record companies have been forced to integrate backward and forward in order to deliver their products into the market.

Managing the logistical and other processes involved in manufacturing, selling and distributing a music title is a complex process that involves all the skills one can expect from experienced managers in the various logistical areas. Keeping an in-house supply of such qualified and effective experts in all fields of logistics management is a very costly task requiring continuous skill-upgrades and industry and best-practise education (Lloyd 2003: 1 – 2). In tight economic times it comes as no surprise that the number of logistical experts in businesses (other than specific logistics companies) are decreasing while their workload is increasing – with the obvious negative effects on quality and customer service.

This study proposes a change in the way in which record companies handle their logistical and other business operations. It is proposed that all non-core business activities, especially those related to their supply chain such as manufacturing, warehousing, inventory management, sales, physical distribution and debt collection be outsourced to a third-party SCM partner. Outsourcing these processes will lead to a huge improvement in quality of work, customer service and ultimately cash flow. The SCM company should be able to add enormous value to the business operations of its record company client. Managers will be free to concentrate on what it is they do best and will not have to worry about the logistics of getting their product to the market.

Woodruff and Gardial (in Mariotti 2002: 91) explain that value is as a customer perceives it, thus the SCM company must find ways to draw out from their clients how they see this value and how it can be added to their businesses – now and in the future. It is concluded in this thesis that the greatest amount of value can be added when all