

---

## **CHAPTER 5**

### **COMPARATIVE BENCHMARKING RESULTS**

#### **5.1 INTRODUCTION**

This chapter presents the results of the sample survey of domestic manufacturing companies and international data for product benchmarking. The two components of the study have been rolled into one chapter because the study effectively compared selected local manufacturers on various standards and criteria with data collected from 2 other countries. This would allow a direct comparison of domestic manufacturers to international standards. This chapter thus reports the results of these two surveys together in tables that compare the South African average figure with the average figures for the two benchmarking countries used. At the end of this chapter the key issues arising out of the benchmarking study are summarised under the 6 management headings used for the data gathering questionnaire.

#### **5.2 METHODOLOGY**

##### **5.2.1 SELECTION OF COMPANIES TO SURVEY**

The preceding literature survey has pointed out clearly that although certain general competitiveness issues exist (i.e. overall legislative framework, existing distribution channels), each individual therapeutic sub-category has its own competitive environment impacting on suppliers. These include issues such as:

- Size of the market and growth prospects.
- Composition of market structure in terms of patented versus off-patent products vying for the same market (effectiveness of products, prices, number of competing products, etc.).
- Time aspects in terms of expiring patents.
- New possible patented entrants.
- Availability and costs of API's.

- Delivery systems issues.

It is therefore necessary to conduct the identification of attractive manufacturing opportunities at a detailed level, at least for the major therapeutic sub-categories. For this process to take place it is a prerequisite to obtain relevant information at this level of detail.

In addition, it was pointed out in the literature overview that internationally off-patent or generic producers tend to diversify from their existing positions of strength. This situation necessitates that the companies to be included in the benchmarking phase of the study have to be selected within the product categories which are showing the highest potential for further manufacturing.

The first step of the benchmarking exercise was to develop criteria for the identification of eight South African based pharmaceutical manufacturers, as well as two selected manufacturers in both India and Spain. India and Spain had already been suggested by the consultants as the appropriate countries for international benchmarking in the response to the project tender, and the Counterpart Group subsequently agreed with that selection. India was selected as it is comparable in levels of development of the sector and demographic and economic profile of the population as a whole. Spain was selected as it was understood to have been especially successful in developing a generic pharmaceutical manufacturing industry.

In order to select relevant companies for inclusion into the benchmarking exercise, a particular selection methodology was adopted. The details of the approach are attached in Appendix 2 but it essentially involved the identification of attractive molecules in terms of mass, market growth and percentage of sales of non-branded product and then providing a score based on these three criteria. The major groups of therapeutic categories to survey were thus made apparent and companies then selected on the extent to which their products were represented in these categories. This approach was considered necessary to prevent the inadvertent selection of a high number of companies that produce superficially different but ultimately similar pharmaceuticals. Using this approach 8 local manufacturing companies

were selected from this list, split into three major multinationals and five South African owned operations.

The identification of benchmarking candidates in India and Spain was conducted in a similar fashion. Two respondent companies in each country were identified on the basis of:

- Relative representations of products in the identified attractive therapeutic categories.
- Proven capabilities in the export market.
- Willingness to participate in full, regarding the benchmarking information requirements.

### **5.2.2 DEVELOPMENT OF SURVEY TOOL**

A Productivity Study of the Pharmaceutical Manufacturing Industry in South Africa was undertaken by the National Productivity Institute of South Africa in 1988. The study had surveyed companies using a questionnaire format addressing major management areas. This questionnaire was largely applied face-to-face with key managers of the companies concerned. The NPI had succeeded in drawing out a considerable amount of critical data using this approach so it was suggested by the consultants that this approach should be used on this study. The Counterpart Group agreed with this and a draft questionnaire was drawn up for review and approval. The questionnaire covered the major operational functions of the companies to be surveyed and included:

- General Management
- Financial Issues
- Marketing Issues
- Production Issues
- Human Resources Issues
- Research and Business Development Issues

This questionnaire was used for the 8 domestic manufacturers and companies surveyed in Spain and India. A copy of the questionnaire used for this study is attached as Appendix 1.

### **5.2.3 STAKEHOLDER SURVEY**

In parallel with the survey of 8 domestic manufacturers there was undertaken a stakeholder survey of the pharmaceutical sector. This was not intended to be an exhaustive survey but rather an opportunity to enrich the domestic data with information from the surrounding environment – clients, regulators, research bodies, investment advisors, professional associations, organised labour and special interest groups. This information was gathered through semi-structured personal interviews and recorded in typed-up notes. Where information from stakeholders is deemed to be of relevance to the results being presented in this chapter, this information is presented in a box to distinguish it from the survey results.

### **5.2.4 CONDUCT OF SURVEY**

As stated, questionnaires were filled in by line managers and other core staff, largely in the presence of the researchers. This was felt to be most effective in ensuring that the questionnaires would be filled in and would allow the team to capture any other issues of importance. Where respondents refrained from providing data, they were excluded for that topic from calculating average returns. In addition, the line-function respondents also provided feedback regarding their perceptions of the major critical or competitive issues impacting against further investment and manufacturing in the industry, as well as their recommendations to improve the situation.

Whilst completely successful as a way of gathering data in South Africa, the same questionnaire approach applied in India and Spain was not as successful. The problem was essentially that the questionnaires were extensive and detailed and asked for quite a lot of sensitive and competitive information. Whilst domestic manufacturers expressed some concern at the amount of time required to fill in the questionnaires, they recognised that it was largely as in their interest to do this, as it would result in a study that they could use for their own business planning, as well as help develop the sector as a whole. Companies in India and Spain understandably did not regard the development of the South African pharmaceutical manufacturing sector with the same high priority and when they realised the

complexity and sensitivity of some of the information required, some companies finally outright refused to participate further.

Whilst the consulting team and Counterpart Group may have erred in expecting that foreign companies would so readily provide data for a South African study, the initial response to the investigation in both India and Spain was very positive. The final outcome was that in India two medium sized respondent companies were secured. However, in Spain, whilst twelve companies had originally indicated their willingness to participate, only a partial set of completed questionnaires was finally obtained from a respondent company which was more focused on API production than formulated products.

On the basis of this poor survey result in Spain, efforts were made to gather data from another country that bore comparison with South Africa. The Czech Republic was chosen and survey preparations made. However, as in Spain initial interest turned to refusal to participate when the actual survey questionnaire was presented. At this point the rest of the study was at such an advanced stage that there was not time to select a fourth country, nor time to amend and abbreviate the original questionnaire.

### **5.3 SURVEY RESULTS**

A formal distinction in the ensuing discussion between DOMESTIC manufacturers and SPAIN/INDIA manufacturers is made where appropriate. Where relevant a distinction is made between MULTI-NATIONAL DOMESTIC manufacturers and LOCALLY OWNED DOMESTIC manufacturers as there are differences in management style and decision-making between multinationals such as Glaxo Wellcome and local pharmaceutical companies such as Beige, particularly where decisions around globalisation are concerned.

#### **5.3.1 STRATEGIC MANAGEMENT ISSUES**

##### **5.3.1.1 Planning**

###### ***Strategic Planning Process***

The ideal strategic planning process is regarded as one where a formal approach is used, involving all management functions, considering a wide variety of environmental factors. The strategic planning process should be conducted annually during a few uninterrupted days by a strategic planning team, and the strategic plan should be consulted regularly by management.

**DOMESTIC MULTI-NATIONAL:** The multi-national participants generally conform to these requirements, mostly doing the strategic plan on a five-year outlook, revised annually. These companies have to fit into their overall global strategy, but have scope to adjust for local requirements.

**DOMESTIC LOCALLY OWNED:** The situation amongst locally owned operations is less satisfactory. There is a high focus on financial and budgeting issues, rather than looking at all environmental aspects. Planning horizons are also shorter due to major short-term developments in the local industry, such as legislative changes, industry structure and competition from imports. Some respondents have not conducted strategic planning processes in the past, but are now more actively doing this. Widespread restructuring initiatives currently occurring, are also hampering proper strategic planning.

All respondents, having strategic plans, tend to consult them regularly, with formal evaluations varying from weekly to bi-annual.

**SPAIN/INDIA:** The information from Spanish generic companies indicate a more frequent evaluation of overall business strategy, up to four times per year. The Indian respondents indicated a Bottom to Top approach in obtaining feedback from all levels in the company before a goal-based strategic plan is constructed within the overall policy framework of the company. There is also a high level of market information interaction involved in the process. The process is frequently (i.e. 2 to 3 monthly) revisited and updated.

### ***Mission Statement***

A Mission Statement should be clear and simple with all employees be able to identify with it.

DOMESTIC: Three of the locally owned companies could not provide a specific mission statement. This is seen as a serious shortcoming in terms of aligning all employees with the overall strategic focus of the company. All the multinational companies have specific mission statements, in one case adopted for the South African situation. The remaining companies have global mission statements with a strong focus on humanitarian service.

SPAIN/INDIA: The information obtained from the Spanish generic company indicated no specific mission statement, but rather a focus on teamwork within the organisations. The Indian respondents have clear, concise, statements with either a focus on innovation or affordable, quality products.

### ***Corporate Planning Models***

The ideal corporate planning model should be computerised and inclusive of marketing production, financing, human resources and purchasing planning issues. It should also be accessible to middle and lower management and should also be easy to use for scenario development (“what if” questions).

DOMESTIC MULTI-NATIONAL: The multinational respondents have in general terms, sound corporate planning models, and in some cases are integrated in SAP/MRP (Materials Requirements Planning) type systems. Such systems are generally freely accessible to most management levels, and are also frequently used for sensitivity analysis and forecasting. The multinational respondents are generally satisfied that they can conduct efficient and effective forecasting with their models.

DOMESTIC LOCALLY OWNED: The locally owned companies generally do not have such models and rely heavily on normal budgeting systems to conduct scenario planning. Their efficiency and effectiveness for forecasting is regarded as relatively low.

SPAIN/INDIA: The respondent from Spain indicated a relatively low focus on corporate planning models. Indian respondents indicated a focus on functional planning which is transparent and widely accessible to managers.

### **Objectives, Goals and Targets**

The average scores of respondents regarding elements of good target setting are as follows:

Element	% Conforming			
	Multi-national	Locally Owned	India	Spain
a) Objectives that relate to mission statement.	100	100	100	n/a
b) Interrelated objectives for divisions, departments and employees	100	50	100	100
c) Prioritised objectives	100	100	50	100
d) Specific and general objectives	100	50	50	100
e) Focused key objectives	100	75	100	100
f) Quantified objectives at all levels	100	75	50	100
g) Objectives in real terms rather than monetary terms which are clearly related to overall goals	100	75	100	100

The multinational companies generally have very high standards in objectives, goal setting and targets. The locally owned companies are more focused on prioritisation, which is more similar to feedback received from India.

### **Budgeting Procedures and Policies**

DOMESTIC: Budgets generally are soundly constructed in terms of sales and costs for both locally owned and multinational respondents. The detail level of budgets vary from:

- Product category only (i.e. liquids, solids)
- Product lines
- Per product pack.

Sales budgets are further split between private market, public market and export market sales, by all respondents, except those with an outsourcing focus. Divisional budgets are based on both cost and profit centres, although respondents indicated a trend towards profit centres. Information from India and Spain indicates a similar level of detailed budgeting, with a focus on profit centres, especially for marketing departments.

All respondents indicated that information is sourced from historic company information, as well as market and economic data sourced externally. Capital budgeting is a formalised process within all respondent companies, local and international, usually conducted on an annual basis. Multinational respondents submit a local budget to be incorporated in an

integrated global new investment system. Local management can approve investments up to certain levels, after which approval has to be obtained from Head Office.

### ***Productivity***

DOMESTIC: All multinational and most locally owned respondents have formulated productivity plans and objectives, some as advanced as MRP2 Class A. Only one (locally owned) respondent indicated that they have no formal productivity objectives. Generally respondents are not focusing on only labour productivity, but on all aspects of production. Where the process is not fully developed yet, the focus seems to be on product output productivity.

SPAIN/INDIA: Formal productivity objectives were not found to be a key focus area for all Indian and Spanish respondents.

### ***Co-ordination and Integration***

DOMESTIC: Respondent companies have different methods to ensure co-ordination and integration of departments and divisions within the company. These are mostly based on weekly meetings between department functionaries to sort out problems. Some respondents are operating on fully integrated divisional structures, which contain all functional elements. Only one respondent indicated MRP2 implementation to ensure sound co-ordination.

SPAIN/INDIA: Co-ordination and integration are key focus areas for Indian and Spanish respondents.

## **5.3.1.2 Organising**

### ***Delegation***

All respondent companies indicated that they have decentralised authority and responsibility, which is a positive aspect. At lower levels management and workers are also responsible for own performance. However, some respondents indicated that lower level workers do not want to take responsibility, and that accountability has to be enforced rather than freely assumed. The international respondents also indicated a high level of decentralisation.

### **Organisational Development**

Except for one locally owned respondent, all respondents indicated that they have procedures in place to alter organisational structures to adapt to changing environmental issues and styles, which is a positive aspect. The international respondents also indicated that they have such procedures in place, or in the process of being documented.

### **Organisational Structure**

DOMESTIC: The average scores of respondents regarding elements of good organisational structure are as follows:

Element	% Good		% Average		% Poor	
	Local own	Multi Nat	Local own	Multi Nat	Local Own	Multi Nat
Reducing the cost of managing by using well-trained professional managers at all levels.	50	33	50	67	0	0
Reducing duplication of effort by structured and well-directed delegation.	25	100	75	0	0	0
Reducing fragmentation of effort by working effectively as a team with clear and realistic objectives.	25	100	50	0	25	0
Monitoring the span of management.	0	67	100	33	0	0
Directed effort towards the company's mission, overall objectives and strategies.	50	67	50	33	0	0
Providing effective for a rational management succession plan.	25	33	50	67	25	0

A major area of concern for most companies is the lack of a management succession plan. However, the locally owned companies generally are rated poorly on organisational structure aspects. It is interesting to note that the Spanish respondent also indicated a poor focus on management succession, while Indian respondents regard themselves as average-to-good on all aspects. However, the main focus areas are the monitoring of the span of control and the directed emphasis towards the companies overall objectives through an effective organisational structure.

### **Management Training and Development**

DOMESTIC: Multinational respondents indicated that they have international systems in place to ensure management training and development from within. In some cases these systems are not fully implemented yet in South Africa and there is also Labour Union resistance against measuring systems to identify lower worker candidates for development.

The locally owned respondents indicated a tendency to in-house training and management development, but there is a strong need to utilise outside sources for suitable managers.

INDIA: The Indian respondents indicated a formal approach to management training, as well as encouragement to employees to develop their skill and leadership.

Pharmaceutical industry training has historically been segmented between Standard Operating Practice at the higher levels, machine operator training and related technical fields at the lower levels. This training has been very specific to the industry and not very portable to other sectors such as fertilisers, FMCG etc with which there are many common processes. The sector is, however, currently undergoing change – the Chemical, Oil and Allied Industries Training Board (COAITB) is being replaced by a Sector Industry Training Board in terms of the requirements of the South African Qualifications Act 1995. This will be called the Chemical Industry Education and Training Authority (CHIETA) and comprise employers and unions. Training and accreditation in all sectors will in future be competency-based and it is the responsibility of CHIETA to ensure the production and monitoring of skills sector plans, standards and learnerships. The intention is to recognise skills and experience, not just technical and academic qualifications, thus enhancing the status and potential of lower level occupations, and the mobility and opportunity of employees.

### **5.3.1.3 Leading**

#### ***Communication***

At top management levels most respondents indicated a fairly good level of vertical and horizontal communication, with only two respondents indicating room for improvement. At middle management level vertical and horizontal communication is regarded as relatively good, but two respondents indicated that it is only average, and one below average. At lower

levels, locally-owned operations indicated relatively poor levels of vertical and horizontal communications, whilst other respondents indicated average to good levels of communication. Communication at lower levels therefore seems to have room for improvement. Indian respondents indicated communication across the board is rated good to very good, although there is also room for improvement at lower levels.

### ***Motivation***

All respondents, including Indian, indicated that they believe their leadership style is conducive to motivating employees, and offering them opportunities to use their initiative and to accept responsibility.

### ***Performance Evaluation***

DOMESTIC MULTI-NATIONAL: The multinational respondents indicated that they have a formal performance evaluation system, but this is not always down to lower levels. At higher levels job contracts are entered into. The feedback obtained from these systems is regarded as high quality, but it could be utilised better for succession planning.

DOMESTIC LOCALLY OWNED: Some locally owned respondents have similar systems, but one respondent indicated no system, whilst another indicated that they have a newly introduced system.

SPAIN/INDIA: The international respondents generally indicated they have formal performance evaluation systems (or they are in the process of being implemented), although the quality of feedback is not always regarded as good.

### ***Team Spirit***

DOMESTIC: Teamwork and team spirit is generally regarded as good at top management level with only one respondent indicating a fair level. At middle management the teamwork and team spirit is regarded as below average to good. At lower levels teamwork and team spirit is generally also below average to good, but to issues such as theft control have a negative impact. Implementation of control systems such as MRP2 forces lower level teamwork.

SPAIN/INDIA: International companies indicated teamwork and team spirit at all levels to be good to very good.

#### **5.3.1.4 Co-ordination**

Most respondents indicated that they are experiencing co-ordination problems between functional departments, but these are being dealt with. Respondents with integrated divisions do not have such problems. Resource planning systems such as MRP2 seem to offer a good solution to sort out co-ordination problems. The major problems are within locally-owned companies between marketing and production. Some of these problems were also indicated by international respondents, but they are generally sorted out in meetings.

#### **5.3.1.5 Control**

##### ***Budgetary Control***

All respondents indicated that they operate computerised control systems (or they are in the process of being implemented), and they are satisfied with the levels of control achieved.

##### ***Performance Evaluation***

Only half of the respondents indicated that they have standards of performance for personnel formally derived from industrial engineering processes. Other respondents are relying mainly upon production targets, codes of conduct for senior personnel as well as relative loose evaluation standards derived by HR personnel. Similar comments were obtained from international respondents.

##### ***Performance Excellence Programs***

Performance excellence programs are generally not receiving a high level of attention by most respondent companies. Existing systems are based on:

- Worker of the month awards
- CEO award
- Annual prizes and rewards in departments
- Recognition given to deserving personnel in terms of special increases

None of the respondents indicated a sound quantitative system to evaluate performance excellence, although some respondents indicated that they are in the process of being developed.

### ***Productivity Measurements***

DOMESTIC: Around half of respondents indicated that they have accurate productivity measurement systems for labour, capital, materials and energy. Some of the respondents that do not have measurement systems are in the process of implementing such systems. None of the respondents indicated a focus on certain specific productivity issues only, such as labour productivity.

SPAIN/INDIA: International respondents indicated a focus on materials, capital and materials productivity. These measurements are not always scientific, but they are being done.

### ***Management Information Systems***

DOMESTIC: All multinational respondents all indicated that they have an accurate Management Information System (MIS). The MIS is maintained by a market intelligence team which is sourcing information from internal as well as external sources such as IMS. Most of the locally owned respondents have lower levels of information input into their MIS. These mainly include analysis of new business achieved and manual analysis of data from distributors. Accessibility of management to the MIS is in some cases restricted but at the commercial level the MIS is accessible to most levels.

As far as the accuracy of their MIS systems is concerned, there is a distinct difference between the multinational and the locally owned respondents. The multinational respondents regard the accuracy on the private market as good, while the accuracy of the public market is regarded as poor. The opposite was indicated by locally owned respondents, except one respondent which regard accuracy good at all levels. International respondents indicate good accuracy at all levels.

### 5.3.1.6 Outsourcing & Downsizing

DOMESTIC: All the South African respondents (multinational and locally-owned) indicated recent scaling down of operations, or they are planning future downsizing. The major drivers behind these actions are:

*Multinationals:*

- Global focus on relative few centres of expertise
- Rationalisation of functions such as warehousing
- High cost of compliance
- More efficient to limit South African activities to packaging and labelling

*Locally-Owned:*

- Focus on outsourcing of manufacturing in order to achieve better Economy of Scale
- Rationalisation between multiple plants/lines in order to run continuous lines (20% improvement in productivity)
- Impossible to compete against Indian imports, especially for labour-intensive tablets

INDIA: The Indian respondents indicated that they are not downscaling, but they are resorting to offer spare capacity on an outsourced basis to other suppliers.

## 5.3.2 FINANCIAL ISSUES

### 5.3.2.1 Profitability

*Operating Profit Analysis*

Operating profit is defined as:

$$\frac{\text{Total profit before interest and tax}}{\text{Turnover}}$$

The average operating profit figures are as follows:

Respondent Category	Year, %			
	1997	1998	1999	Average
SA Multinationals	14,5%	11,5%	10,8%	12,2%
SA Locally Owned	n/a	22,6%	15,9%	19,5%
India	6.7%	7.1%	7.2%	7,3%

The locally owned SA respondents have a significantly higher operating profit. This is caused mainly by participants with a strong OTC/branding component. True generic operations are closer to the Indian average.

### *Relative Operating Margins Between Market Sectors*

Some respondents were unable to provide accurate data. As an indication, the relative operating margins between market sectors is as follows:

Market Sector	Relative Operating Margins
<b>Government/Tender Sales</b>	
- Generics	10
- Ethicals	9
<b>Private Sector</b>	
- Generics	31
- Ethicals/Branded	19
<b>Export Sales</b>	
- Generics	12
- Ethicals/Branded	10

The highest margins are achieved in the private sector, whilst public sector and export sales are fairly similar. In India private sector branded products and branded exports sales are achieving higher operating margins.

### *Operating Asset Turnover*

The calculation of operating asset turnover was done on the basis of:

$$\frac{\text{Turnover}}{\text{Operating assets at book value}}$$

The findings are as follows:

Respondent Category	Year, (%)			
	1997	1998	1999	Average
SA Multinational	383%	420%	420%	408%
SA Locally Owned	n/a	307%	316%	312%
India	519%	482%	457%	485%

The Indian respondents have the best ratio, followed by the multinational respondents and then the locally owned respondents.

### 5.3.2.2 Income, Expense and Profit Structures

The average results obtained from respondents are as follows:

#### INCOME & EXPENDITURE: DOMESTIC MULTI-NATIONAL

Item	Year			
	1997	1998	1999	Average
1. Sales	100	100	100	100
2. Total Costs (3+5+6)	85,6	87,8	88,2	87,2
3. Cost of Sales (3.1+3.2+3.3)	57,3	55,4	56,9	56,5
3.1 Materials used	51,1	43,8	50,8	48,6
3.2 Factory labour	4,5	4,2	3,7	4,2
3.3 Factory overheads	1,7	7,5	2,3	3,8
4. Gross Profit (1-3)	42,7	44,6	43,1	43,5
5. Administration Costs	5,8	7,4	5,7	6,3
6. Marketing Costs (6.1+6.2+6.3)	22,6	25,1	25,3	24,3
6.1 Selling costs	16,8	16,9	17,3	17,0
6.2 Distribution costs	0,8	2,5	2,4	1,9
6.3 Other marketing costs	5,0	6,3	5,7	5,7
7. Operating Profit (1-2)	14,4	12,2	11,8	12,8

#### INCOME & EXPENDITURE: DOMESTIC LOCALLY OWNED

Item	Year			
	1997	1998	1999	Average
1. Sales	N/a	100,0	100,0	100,0
2. Total Costs (3+5+6)	N/a	87,8	89,8	89,0
3. Cost of Sales (3.1+3.2+3.3)	N/a	68,0	69,8	69,0
3.1 Materials used	N/a	44,0	48,0	46,0
3.2 Factory labour	N/a	11,8	10,7	11,3
3.3 Factory overheads	N/a	12,2	11,1	11,7
4. Gross Profit (1-3)	N/a	32,0	30,2	31,0
5. Administration Costs	N/a	8,6	9,0	8,8

6. Marketing Costs (6.1+6.2+6.3)	N/a	11,2	11,0	11,2
6.1 Selling costs	N/a	4,4	5,3	4,9
6.2 Distribution costs	N/a	3,8	3,0	3,4
6.3 Other marketing costs	N/a	3,0	2,7	2,9
7. Operating Profit (2-1)	N/a	12,2	10,2	11,0

### INCOME & EXPENDITURE: INDIA

Item	Year			
	1997	1998	1999	Average
1. Sales	100	100	100	100
2. Total Costs (3+5+6)	93,9	94,0	93,9	93,9
3. Cost of Sales (3.1+3.2+3.3)	63,0	60,8	61,8	61,9
3.1 Materials used	45,7	42,7	43,2	43,9
3.2 Factory labour	4,9	5,4	5,8	5,4
3.3 Factory overheads	12,4	12,7	12,8	12,6
4. Gross Profit (1-3)	37,0	39,2	38,2	38,1
5. Administration Costs	15,4	15,0	14,5	15,0
6. Marketing Costs	15,5	18,2	17,6	17,1
7. Operating Profit (1-2)	6,1	6,0	6,1	6,1

The following should be noted when interpreting the above tables:

- SA based multi-national companies are producing higher cost, mostly patented products, in which production costs such as labour are subsequently lower as a percentage of total cost than is the case for local manufacturers producing dominantly generics.
- The SA multinational operations have much higher marketing costs than the locally owned companies due to marketing requirements of patented and branded products. This is one of the key reasons why patented and branded products are more expensive. It should be note that the Indian marketing cost is also reasonably high. This is caused mainly by the fiercely competitive nature of the Indian domestic market.

#### 5.3.2.3 Productivity Ratios

##### *Real Growth in Sales*

Respondent Category	Year (%)			
	1997	1998	1999	Average
SA Multinational	20,1%	1,7%	5,7%	9,2%
SA Locally Owned	n/a	0,0	1,3	1,2

India	10%	13.7%	16.7%	13.5%
-------	-----	-------	-------	-------

Real growth in sales have been significantly higher for multinational respondents, whilst the Indian growth has been the best.

#### 5.3.2.4 Operating Asset Utilisation

Operating asset utilisation is evaluated according to the relative investment (at book value) required to generate R1 million of sales. The results from this exercise are as follows:

Asset Item	Rand/Million Rand Sales		
	Domestic MultiNat	Domestic Local Owned	India
1. Fixed operating assets	144 424	272 001	137 447
1.1 Land and buildings	74 752	40 500	55 937
1.2 Plant and machinery	40 596	190 167	52 607
1.3 Motor vehicles	6 651	11 717	15 163
1.4 Office furniture/equipment	22 425	29 617	13 740
2. Current assets	524 712	440 760	323 088
2.1 Debtors	230 328	238 625	156 478
- Trade	199 979	176 625	109 568
- Other	30 349	62 000	46 910
2.2 Stocks	294 384	202 135	166 610
- Finished items	195 165	83 083	68 380
- Work-in-Progress	52 426	13 341	35 428
- Raw materials	34 821	50 777	31 046
- Packing materials	11 972	54 934	31 756

The Indian figures indicate a significantly lower fixed and current asset requirement to generate turnover.

#### 5.3.2.5 Other Indicators of Asset Utilisation

Other indicators of asset utilisation such as debtor days are as follows:

**Note :** Averages only include respondents which have indicated positive figures. All zeros have not been taken into account.

Indicator	(Days)		
	Multi National	Locally Owned	India
1. Debtor collection period (total)	-	-	-
1.1 Private sector local debtors	63	49	56
1.2 Public sector local debtors	83	86	56
1.3 Export sector debtors	82	110	32
2. Stockholding	-	-	-
2.1 Finished good	119	49	34
2.2 Work-in-progress	69	7	19
2.3 Raw materials	34	37	10
2.4 Packing materials	30	56	34

Debtor collection periods, especially for public sector and exports sales are very long. Indian stockholding, especially finished goods, also indicates a problem area for SA respondents.

### 5.3.2.6 Liability Structure

The analysis of the liability structure is as follows:

Items	(%)		
	SA Multinational	SA Locally Owned	India
1. Fixed liabilities	41,8	65,0	34,8
1.1 Shareholders equity	24,6	49,7	9,9
1.2 Long term loans	16,1	13,5	11,0
1.3 Other	1,1	1,8	13,9
2. Current liabilities	58,2	35,0	65,2
2.1 Creditors	20,8	26,7	21,0
2.2 Bank overdraft	3,8	7,9	29,2
2.3 Short term loan/other	8,4	0	2,0
2.4 Other	25,2	0,4	13,0
3. Total liabilities	100	100	100

There is excess manufacturing capacity in this sector. It was stated that a newcomer could come and set up a manufacturing operation of substantial size in South Africa without having to build a factory. He/she would merely contract out the manufacturing to one of the numerous companies now doing that to cover their overheads.

### 5.3.3 MARKETING

#### 5.3.3.1 Product Aspects

##### *Registration Process of New Products*

DOMESTIC: The time required for the registration of new pharmaceutical products in South Africa was indicated as follows by respondents:

- **Register a new chemical entity** : time varies from 18 months to three years, with most respondents commenting 24 to 36 months on average. In India this period is from 6 months to just over 12 months.
- **First generic registration** : The registration time indicated by respondents is similar to new entities, namely 24 to 36 months. In India this period is estimated at 6 to 18 months.
- **Subsequent generics**: Time varies between respondents, from 8 to 18 months up to 24 to 36 months. Overall the registration time seems to be around 6 months shorter than new entities at first generics. In India this period is around 3 to 12 months.
- **Registration of an existing product for a new application**: Average registration times are around 12 to 18 months, although some respondents indicated up to 36 months. In India this period is around 2 to 12 months.
- **Registration for a new production site**: Average registration times are 6 to 12 months, with some respondents indicating up to 18 months.

**The comparative data indicate that the South African situation is substantially negative compared to India, which severely impacts on the sustainability of manufacturing, especially for smaller, generic operations.**

##### *Cost of Registration*

DOMESTIC: The cost of registering a new medicine in South Africa varies considerably depending the level of development work, clinical trials, etc. involved. Actual registration fees are relatively low (i.e. R2 000). The cost of conducting clinical trials can be up to R2 million for a new chemical entity (NCE). However, it is not a pre requisition to conduct full clinical trials to obtain registration. It is the prerogative of multinational companies whether

South Africa will be used for these trials. Application costs exclusive of technical tests are around R30 000 to R50 000. Similarly, the total development cost and trials leading to registration of a new generic can also be in excess of R2 million. Overall registration costs for subsequent generics is estimated at R100 000 to R500 000 per product.

INDIA: In India the cost to a company for the registration of products vary from US\$1,000 for an additional application of an existing product, to US\$5,000 for a registration of a new entity.

The registering authority in South Africa is the Medicines Control Council (MCC). The MCC was set up in 1965 and has, over the past 35 years, registered around 14 000 new products. However, by 1994 the MCC was not coping at all well with the increasing pressures of the commercial world, fundamental reason being that it was still completely tied to the mother department. Most similar registration bodies elsewhere in the world had uncoupled themselves from government in order to run on business lines. The Minister of Health at that time, Minister Nskosana Zuma, initiated a study that recommended the MCC be moved out of government. It would become a parastatal, goal-oriented and business-driven. This intention was reflected in the SAMMDRA Act No 132 of 1998 which has not yet been promulgated. This act was challenged legally by the pharmaceutical industry because it contained sections dealing with parallel imports and generic substitution. A new South African Medicines and Medical Devices Act (SAMMDRA) was drafted, excluding these contentious sections but including the new location and focus of MCC. This was implemented in April 1999 but did not have the necessary full set of regulations for its proper implementation. For these and other reasons the SAMMDRA Act was taken to the Supreme Court and set aside. The result is that the MCC is still functioning in terms of the 1965 Act. It will be at least another 3 to 4 years before a new Medical Act that includes the revision of the MCC is in place and operational. The industry has suggested to the DOH that they look seriously at introducing aspects of SAMMDRA using the existing legal framework if possible so that progress can be made without waiting for a new Act. The DOH is considering this favourably.

**Legal Requirements for Registration of Generic Products**

DOMESTIC MULTI-NATIONAL: Among multinational respondents there is a perception that despite it being technically illegal development does take place before patents have expired (thus dossiers for registration are submitted to the MCC, but active registration and sales have to wait until expiry date). However, there is also the view that the law states that no development work may be conducted before expiry date (difficult to prove legally). The MCC's acceptance of dossiers containing clear evidence of development work conducted is also not legally acceptable. DOH comment: MCC is free under Act 101 to register generics, even if under patent, as long as file is complete. Generic company must wait with marketing until patent expiry. (i.e. paclitaxel case)

DOMESTIC LOCALLY OWNED: There is also a difference of opinion between locally owned operations. According to some respondents it is allowable to conduct formulation development, but where process patents exists, no production runs to provide samples are allowed, which therefore prevents applications for registration. Other respondents believe that as long as they can source actives they can conduct development and make application for registration before patents expire.

INDIA: Indian companies are of the opinion that with their existing legislation they can develop and apply for registration within six months of patent expiry. India historically did not respect patent rights, but they are now getting in line due to their membership of the WTO and TRIPS.

The legal challenge of the Medicines and Related Substances Control Amendment Act of 1997 was primarily due to conflict between the state and multinational pharmaceutical companies on parallel imports and patent protection. Essentially the Act would have allowed the Minister of Health to order the importation of a medicine having the same proprietary name as one already registered with the Medicines Control Council. This would have allowed the government to buy medicines at lower prices outside South Africa, and encourage multinational pharmaceutical companies to align their local and international prices in order to win public sector tenders. Related to this, the Act would, in order to protect public health by providing more affordable medicine, allow the Minister to prescribe

conditions in conflict with the 1978 Patents Act, and the TRIP's Agreement to which South Africa is a signatory. The two provisions for parallel imports and overriding of patent protection have resulted in South Africa being put onto the United States "Priority Watch List" of countries where US intellectual property rights are deemed to be under threat. There is currently some easing of this situation, with South Africa and the US has coming to some agreement.

### 5.3.3.2 Pricing

#### *Historical Ex Warehouse Price Movements of Medicines*

##### DOMESTIC:

- **Private sector generics:** Overall consensus is that prices increased at a level similar or below the CPI.
- **Private sector ethicals or patented medicines:** For most respondents' increases were above CPI, but some indicated the same (i.e. CPI) or lower).
- **Public sector generics:** Consensus is that price increases were below CPI.
- **Public sector patented medicines:** Most respondents indicated price increases around CPI. Public sector tenders to provide compensation for exchange rate influences on imported products, which result in further increases.

INDIA: In India, there is in the private sector, no differentiation between patented and generics price increases, both increasing at the Medical Price Index. Public sector prices are monitored by the NPPA.

The interdicted Medicines and Related Substance Control Amendment Act 1997, which is not yet implemented, allowed for the setting up of a Pricing Committee to regulate a pricing system for all medicines and scheduled substances sold in South Africa, as well as appropriate dispensing fees to be charged by pharmacists. NAPM comment: they are not convinced that this has more benefit than harm. They have yet to see if these types of measures will increase barriers to entry, hinder competition and actually drive prices up. A study conducted by Boston Consulting Group on behalf of Warner Lambert indicated no reduction in pharmaceutical spending by countries with price controls compared to those

without controls. However, countries with price controls tend to have slower adoption and lower use of innovator drugs. Also, by limiting competition in the market place, price controls often lead to higher prices.

This report concludes that the agenda for Government should include the following:

- Continued commitment to maintaining a strong system of intellectual property protection
- Emphasis on reducing barriers to competition for both patented and off-patented products
- A move towards market pricing across the product life cycle, allowing the market to reward innovation early while rewarding low costs later
- Consideration of ways to encourage active decision making by both physicians and patients that is scientifically and economically informed

### ***Pricing Issues and the Public Sector***

DOMESTIC: The public sector purchasing system (COMED) is regarded as efficient in sourcing competitively priced medicines for the public sector, but it is known to provide inaccurate information regarding actual requirements (volumes, timing). Respondents were asked to estimate the cost savings which could be realised should the COMED system provide accurate information in this regard. The feedback is as follows:

DOMESTIC MULTI-NATIONAL: The multinational companies are less dependent upon COMED sales from a volume perspective. However, they indicated those price savings of between 10 and 25% could be realised with an accurate COMED purchasing system. This could therefore lead to substantial savings in the public sector.

DOMESTIC LOCALLY OWNED: The locally owned respondents indicated that the inaccuracy of information is causing serious production and planning problems, but they do not foresee significant savings achievable with more accurate information. Savings of less than 5% is foreseen, except for one respondent which indicated 20%.

### ***Pricing Issues and Generics***

DOMESTIC: The relative pricing levels of generic or off-patented medicines are dependent upon the level of competition which exists in the market. According to respondents, the historic tendency was that the first generic on the market sold at discounts of 20 to 30%

compared to the original product being copied. However, it is alleged that in some instances discounts of up to 50% are offered in order to obtain fast-track registration (i.e. to bypass 2 - 3 years waiting to market). Subsequent generic products are generally sold at price levels of 10% or more below the original patented products, with prices in some cases as low as 20% of the original. However, with good marketing and branding subsequent generics can hold their prices up.

INDIA: In India a first generic substitute generally is sold at a 30% discount, with subsequent generics selling at around 75% discount level.

### ***Pricing and Theft Prevention Measures***

DOMESTIC: There is currently an evaluation underway to look at the special marking of public sector medicine purchases as a measure to combat theft. The theft has a major effect not only on the Department of Health's budget, but also in the private sector where stolen drugs are sold at low prices and therefore erode the market base. Respondent's comments regarding the costs associated with these measures and the expected influence on prices are as follows:

#### **Special marking on products (i.e. pills, tablets)**

Initial costs will be high as special dies are required. Stockholding will also increase for specially marked products, which will be exacerbated by the poor information regarding COMED volumes. Some respondents indicated that this could lead to price increases of 20 to 30% for locally made products, whilst others indicated a much lower figure.

For fully imported products from multinational companies, the cost impact will also be severe. South Africa is less than 1% of global demand, and international facilities would have to run special short runs. This could lead to price increases of up to 30% for some products.

#### **Special markings on packaging only**

If COMED improves accuracy on off-take volumes, overall cost effect should be minimal. However, under current conditions cost increases are estimated at 5 to 18%.

Respondents commented that special markings are addressing the symptoms but not the fundamental cause of theft. Improved security such as outsourced distribution and control of public sector medicines is regarded as a better solution.

### **5.3.3.3 Distribution**

#### ***Private Sector***

DOMESTIC: The major problem areas identified are:

- Lack of access by manufacturers of end-user information.
- Lack of control by manufacturers of end-user prices.
- Too many points of sale(i.e. pharmacies).
- Theft and round-tripping.
- Mark-ups all the way from distributor to pharmacy, without consideration of actual costs and value-adding.

#### ***Public Sector***

DOMESTIC: The major problems identified are:

- Poor efficiency and lack of adequate control leads to theft and round-tripping, especially at regional level.
- Poor information systems regarding drug requirements at hospital level.
- Need professional distribution system.
- Poor payment by medical departments.

#### ***Exports to Africa***

DOMESTIC: Major problem areas are:

- Lack of infrastructure.
- Storage conditions.
- Distances.
- Corruption
- Registration requirements and efficiency vary considerably. Need to develop a harmonised registration domain at least for SADC.
- Conflicts and war situations.

**Exports Elsewhere**

DOMESTIC: Fierce competition and pricing. Respondents make use of freight forwarders. Logistics is therefore not their problem.

It is a widely held view that significant cost is added to South African medicines due to the marketing and distribution chain. Some estimates are that the cost of goods is around 20 to 25 % of the retail price. For that reason, pharmaceutical manufacturers have been concerned that the focus of legislation has been to reduce the cost of the goods leaving the factory and has taken insufficient account of the cost added by the distribution chain. However, recent legislation such as the Pharmacy Amendment Act is attempting to bring distribution costs down by widening pharmacy ownership, whilst the Medicines and Related Substance Control Amendment Act will allow for licensed medical practitioners, dentists and nurses to dispense medicines, as well as for a Pricing Committee (see above).

**5.3.3.4 Promotion****Breakdown of Representatives Visits**

The breakdown of representative's visits according to customer sector is as follows:

Sector	% of Total Visits		
	SA Multinational	SA Locally Owned	India
General practitioners	61,7	40,8	16%
Pharmacists	10,7	37,5	33%
Institutional :			
- Doctors	4,3	2,8	16%
- Nurses	3,0	2,5	n/a
Specialists	17,0	2,5	33%
Clinics with nurses only	0,7	7,8	
Wholesalers	1,0	4,3	2%
Others	1,0	1,3	
<b>Total</b>	<b>100,0</b>	<b>100,0</b>	<b>100.0</b>

INDIA: In India specific market research is conducted on products to determine prescription potentiality of doctors and institutions. Based on this research a programme is designed for representative visits.

DOMESTIC: It is interesting to note that the locally-owned respondents have a higher focus on pharmacists and clinics, mainly due to their focus on generics. The multinational companies with a focus on patented medicines have a significant focus on prescribers such as specialists.

### *Number of Calls*

DOMESTIC: The average number of calls made by representatives are as follows:

<b>Respondent Sector</b>	<b>Average Number of Monthly Calls</b>
SA Multinational	201
SA Locally Owned	196

INDIA: In India representatives calling on doctors are doing around 250 calls, while visits to chemists are around 100 per month.

### *Sales Cost Per Representative*

The average annual total sales cost per representative is as follows:

<b>Respondent Sector</b>	<b>Average Total Annual Sales Cost Per Representative (Rand)</b>
SA Multinational	220 000
SA Locally Owned	217 000
India	44 000

Although costs per representatives are fairly similar between locally-owned and multinational respondents, it is clear that India sales costs are five times lower. The level of salaries in India is linked with aspects such as cost of living and availability of labour in India. However, in the export market these lower salaries is an advantage to Indian companies in that their overall cost structures are lower.

### *Costs to Establish Products in the Export Market*

DOMESTIC: Some multinational respondents are responsible for market development in the whole of Africa. For them the cost of launching a new product in an African country is

estimated at R60 000 to R260 000 per product. For locally owned companies the cost of establishing a new product in an African country is estimated at R50 000 to R100 000.

INDIA: For Indian companies these costs are estimated at US\$ 1 000 to 20 000. These costs include mainly direct expenses in the export countries, and not the share of local overheads.

### *Infrastructure and Methodology to Promote Exports*

DOMESTIC: The multinational respondents which are responsible for exports to Africa from South Africa either utilise distributors in those countries which operate under their own cost structures (not part of local costs) or they have proper export departments manned with up to 45 people. The locally owned respondents combine export sales management for Africa and elsewhere with the local sales function, or they utilise export sales agents to generate sales leads.

### *Breakdown of Marketing Costs*

The breakdown of average marketing costs is split between domestic and export marketing costs.

#### **BREAKDOWN OF AVERAGE MARKETING COSTS**

Marketing Cost Element	SA Multinational		SA Locally Owned		India	
	Domestic	Export	Domestic	Export	Domestic	Export
Selling	57,5	40,0	49,0	51,0	33	60
Distribution	6,5	9,0	21,3	28,0	28	40
Sampling & adv	25,0	51,0	10	9,5	20	0
Market research	3,0	0,0	11,5	11,5	8	0
Other	8,0	0,0	8,2	0	11	0
<b>Total</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

Distribution costs for locally-owned companies are relatively more critical compared to multinationals. For multinationals a higher focus is placed on sampling and advertising.

### *Promotions of Generics and Self-Medication*

DOMESTIC: The multinational respondents included in the exercise do not have a focus on generics and therefore have no specific programme to promote generics. However, they tend to keep on promoting established brands after patents have expired. The promotion of self-medication is based on brandbuilding of individual products. This is usually done by means

of a dedicated self-medication or OTC sales team. Some of the locally-owned companies have a dedicated effort to educate patients regarding the use of generics. However, most respondents expressed the need for a DOH or NAPM driven consumer education programme for generic substitution. As far as self-medication is concerned respondents also have the view that individual brandbuilding programmes are sufficient to educate consumers regarding the use of these medicines.

A key factor in the South African pharmaceutical market is that the market in the country is not large, and certainly not large enough to sustain the number of pharmaceutical companies that have existed in this country. Short production runs are expensive and economies of scale is a major requirement for competitiveness. This is more or less what Adcock was seeking to do in taking over South African Druggists, a move blocked by the Competition Board in early 1999.

### 5.3.4 PRODUCTION

#### 5.3.4.1 Productivity

##### *Material Yields*

The overall material yields reported by respondents are as follows:

#### OVERALL MATERIAL YIELDS

Medicine Category	Overall % Yield After Packaging		
	SA Multinational	SA Locally Owned	India
Tablets	93,4	97,2	98.0
Capsules	94	96,3	97.5
Creams	94	93,3	97.0
Liquids	94	97,6	96.0
Steriles – Wet	75	96,0	N/a

Material yields for the locally-owned respondents are generally higher than for multinationals, possibly due to a greater focus on cost savings.

##### *Factors Contributing to Material Losses*

The major factors contributing to material losses are as follows:

### FACTORS CONTRIBUTING TO MATERIAL LOSSES

Material Loss Factor	% Contribution to Total Losses		
	SA Multinational	SA Locally Owned	India
Production loss	39,3	47,0	35.0
Materials handling loss	6,8	7,3	7.5
Start-up/Set-up losses	25,0	31,8	44.0
Sampling loss	2,5	4,7	14.0
Pilferage	15,8	3,0	0
Other	10,6	10,3	0
<b>Total</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

The above table only breaks down the loss shown on the previous table and is generally in the order of 2 to 5% for all respondents. However, there are some interesting observations that are evident from the above. The locally-owned respondents have a higher contribution to losses by production and start-up/set-up factors, possibly due to age and size of equipment (generally older and lower capacity equipment, a legacy of the past protectionist policies). However, pilferage seems to be a bigger problem with multinational companies, as they produce higher value products. Pilferage is no problem at all for Indian respondents.

#### 5.3.4.2 Raw Material Purchasing

##### *Local Versus Imported Sourcing of Raw Materials*

The average percentages of locally sourced raw materials are as follows: (by value)

### AVERAGE PERCENT LOCALLY SOURCED MATERIALS

Raw Material Type	SA Multinational	SA Locally Owned	India
Actives <sup>*1</sup>	1,5	38,8	92.5
Packing materials	35,9	97,0	100
Excipients	20,1	48,8	100
Consumables	30,0	100,0	100

\*1 Includes sourcing of imported actives via local subsidiary.

Evident from the above table is that:

- A low percentage of locally manufactured actives is clear; even the 38.8% sourced by locally-owned companies includes purchases from importing agents
- SA multinationals generally source far less locally (especially packing materials), presumably due to transfers from holding companies, but also due to quality concerns regarding SA produced raw materials

### *Order Quantities, Pack Sizes and Prices*

An analysis was included for a selected group of actives (based on relative market attractiveness) and other raw materials regarding typical pack sizes, order quantities and delivered pricing.

The findings regarding typical order quantities are as follows. The gaps in the table are due to no respondent in that particular category reporting data:

PRODUCT TYPE Actives	Average Order Quantity (kg)		
	India	SA Multinat	SA Locally-owned
ACETYL SALICYLIC ACID		50	50-2000
ALLOPURINOL			400
ALUMINIUM/ALUMINIUM SALTS	500		100-1200
AMINOPHYLLINE			25
AMITRIPTYLINE			150
AMOXICILLIN	50-250		600
ASCORBIC ACID	250-750		200-550
ATENOLOL			75-150
CAFFEINE		100	200-1000
CALCIUM/CALCIUM SALTS		275-5000	150-1000
CARBOCISTEINE		150	100-250
CEFALEXIN	100		
CIMETIDINE			100-500
CITRIC ACID	100	20-18000	30-2000
CLOXACILLIN			
CODEINE		5	20-350
DOXYCYCLINE			50-500
ERYTHROMYCIN			25-500
ETHAMBUTOL			500
HYDROCHLOROTHIAZIDE		200	50-500
IBUPROFEN	50-500		50-5000
INDOMETACIN		50	40-1000
MAGNESIUM/MAGNESIUM SALTS	100	300-2000	400-4000
METFORMIN	250		7300
NALIDIXIC ACID			500

PRODUCT TYPE Actives	Average Order Quantity (kg)		
	India	SA Multinat	SA Locally-owned
PAR ACETAMOL	1000	150	800-10000
PAR AFFIN OIL			500-1700
PHENOBARBITAL			18-300
POTASSIUM/POTASSIUM SALTS		1-50	50-300
PROMETHAZINE			25-4000
PYRAZINAMIDE			300
SULFAMETHOXAZOLE		100	400-2000
THEOPHYLLINE			25-150
TRIMETHOPRIM		6-240	50-750
ZINC CHLORIDE			
Excipients and packaging			
Ethyl alcohol		1300	50-13500
Glucose	900	100-600	350-7500
Propylene glycol	200-1075	210	420-3000
Sodium chloride	50	5-800	50-100
Sorbitol	3000	50-2000	800-14000
Starch	500-1000		1000-11000
Guar gum		500	100
Xantham gum			20-50
Magnesium stearate	20-50		100-500
Talc	500-1000	25-100	300-6000
Methyl cellulose	1000		20-600
Blister Packaging	250-500	500-1000	1000

Order quantities vary considerably, but on average can be regarded as rather small and therefore logistically expensive to supply. However, the Indian respondents did not indicate significant differences. It should be taken into account that the Indian respondents are medium-sized operations, smaller than the larger SA respondents. The results indicate that order quantity is not a significant differentiating factor because Indian respondents have smaller or similar order quantities, but they are competitive in the highly competitive Indian market.

Typical pack sizes used are as follows:

PRODUCT TYPE Actives	Average pack size (kg)		
	India	SA Multinational	SA Locally- owned
ACETYL SALICYLIC ACID		25	25-50
ALLOPURINOL			40

PRODUCT TYPE	Average pack size (kg)		
	India	SA Multinational	SA Locally- owned
ALUMINIUM/ALUMINIUM SALTS	25		25-300
AMINOPHYLLINE			25
AMITRIPTYLINE			25
AMOXICILLIN	25		
ASCORBIC ACID	25	25	25-100
ATENOLOL			25-50
CAFFEINE		50	25-50
CALCIUM/CALCIUM SALTS	25	25-50	25-100
CARBOCISTEINE		50	25-50
CEFALEXIN	25		
CIMETIDINE			25-250
CITRIC ACID	25	5-25	25-100
CLOXACILLIN			
CODEINE		1	1-10
DOXYCYCLINE			50
ERYTHROMYCIN			25-50
ETHAMBUTOL			50
HYDROCHLOROTHIAZIDE		50	25-50
IBUPROFEN	25		25-50
INDOMETACIN		25	50-100
MAGNESIUM/MAGNESIUM SALTS	25	10-50	15-100
METFORMIN	50		85
NALIDIXIC ACID			25-50
PARACETAMOL	25	25	25-5400
PARAFFIN OIL			180-1680
PHENOBARBITAL			25-50
POTASSIUM/POTASSIUM SALTS		1-50	25-50
PROMETHAZINE			25-50
PYRAZINAMIDE			
SULFAMETHOXAZOLE			50
THEOPHYLLINE			25-50
TRIMETHOPRIM		2-50	25-50
ZINC CHLORIDE			
Excipients and packaging			
Ethyl alcohol		200	200
Glucose	300	50-250	25-1850
Propylene glycol	215	210	210
Sodium chloride	50	1	25-50
Sorbitol	50-270	25-270	100-290
Starch	25-50	25-50	25
Guar gum		25	25
Xanthan gum			25

PRODUCT TYPE	Average pack size (kg)		
	India	SA Multinational	SA Locally-owned
Actives			
Magnesium stearate	10-25		15-25
Talc	50	25-500	25-500
Methyl cellulose	250		20
Blister Packaging		25	25

It is clear that bulk pack sizes are only used for a few products, which is a negative cost aspect. However, the Indian situation is similar. Therefore, pack size is not regarded as a differentiating factor as far as competitiveness is concerned

Average delivered prices for products are as follows:

PRODUCT TYPE	Delivered Price R/kg		
	India	SA Multinational	SA Locally-owned
Actives			
ACETYL SALICYLIC ACID		31	28-35
ALLOPURINOL			195-307
ALUMINIUM/ALUMINIUM SALTS	9		29-202
AMINOPHYLLINE			67
AMITRIPTYLINE			438
AMOXICILLIN	306		241
ASCORBIC ACID	66		37-105
ATENOLOL			273-452
CAFFEINE		135	49-61
CALCIUM/CALCIUM SALTS	9	5-6	5-6
CARBOCISTEINE		286	120-136
CEFALEXIN			
CIMETIDINE			128-243
CITRIC ACID	11	10-198	8-14
CLOXACILLIN			
CODEINE		5072	5500-6240
DOXYCYCLINE			328-925
ERYTHROMYCIN			462-560
ETHAMBUTOL			243-501
HYDROCHLOROTHIAZIDE		485	144-158
IBUPROFEN	144		61-136
INDOMETACIN		1840	218-405
MAGNESIUM/MAGNESIUM SALTS	8	14-28	1-20
METFORMIN	33		96
NALIDIXIC ACID			439-518

PRODUCT TYPE	Delivered Price R/kg		
	India	SA Multinational	SA Locally- owned
<b>Actives</b>			
PARACETAMOL	42	30-31	27-36
PARAFFIN OIL			5-6
PHENOBARBITAL			142-230
POTASSIUM/POTASSIUM SALTS		28-396	7-16
PROMETHAZINE			176-548
PYRAZINAMIDE			252
SULFAMETHOXAZOLE		95	62-80
THEOPHYLLINE			60-120
TRIMETHOPRIM		160	123-230
ZINC CHLORIDE			n/a
Excipients and packaging			
Ethyl alcohol		4-5	3-4
Glucose	3	3-6	3-8
Propylene glycol	11	8-9	7-9
Sodium chloride	3	1-178	2-8
Sorbitol	4	4-5	2-21
Starch	3	3-40	3-4
Guar gum		80	127
Xantham gum			12-93
Magnesium stearate	10		15-17
Talc	1-14		3-18
Methyl cellulose	5		155-210
Blister Packaging	15-40	47-178	n/a

DOMESTIC: There is a large variation in delivered prices for similar products. This can be caused by different specifications, but it is likely that inefficient purchasing practices are employed in certain cases. Most noticeable is the comparatively high prices that SA multinationals are paying, in comparison with locally owned companies. In theory, multinational companies with their global purchasing power should be paying less. This may be indicative of high transfer pricing. This is a critical aspect as material costs account by far for the major proportion of total costs.

There is also a wide variation in prices paid by locally owned respondents for similar raw materials. This is indicative of inefficient purchasing practices. One possible solution is to evaluate co-operative buying over the Internet.

***Raw Material Quality Problems***

**Actives:** No major problems are experienced, except poor communications by suppliers. Indian respondents indicated some minor quality concerns.

**Excipients:** Some problems are experienced with local excipients such as black specs in alcohol and SO<sub>2</sub> in starch. Indian respondents indicated limited pack sizes and colour variations.

**Packing Materials:** Significant problems exist, including damaged containers, wrong dimensions, leaking caps, discoloured containers, dirty bottles and caps, negligence, i.e. print colour does not meet standards, overglueing of cartons, missing labels on rolls, misalignment of labels. Indian respondents indicated poor quality as well as limited number of suppliers

Packing materials are therefore causing the most significant quality concern.

**5.3.4.3 Materials Handling*****High rise storage systems***

Only half of the respondents indicated that high rise storage systems, which is regarded as highly efficient, is used in warehousing. This lack of usage is caused mainly by the old age of plants. Indian respondents indicated both use and non-usage of systems.

***Standardised modular containers***

Less than half of the respondents indicated that efficient standardised, modular containers for storage, transfer and feeding of production processes are utilised. Again, the old age of plants is a major factor. Indian respondents indicated both the use and non-usage of modular containers.

***Elimination of containers***

Only one third of respondents indicated a focus where feasible on the elimination of containers in transfer (i.e. pipe transfer). One respondent indicated a focus on pipe transfers only for big volume products. Indian respondents indicated a focus on the elimination of containers.

**Gravity feed**

Just more than half of respondents indicated an effort to utilise cost-effective gravity feed wherever possible, with one respondent indicating a current study to evaluate possible gravity feed. Indian respondents indicated a focus on gravity feed.

**Manufacturing process-flow**

Logical and economical manufacturing process flows throughout the manufacturing and packaging plants by elimination of back-flows, cross-flows, etc. is a strong focus by two-thirds of respondents, although old factories with bad design are creating problems. Indian respondents indicated a focus on economical process flows.

**5.3.4.4 Productivity****Manufacturing Personnel**

The relative percentages of total personnel involved in manufacturing and packaging activities are as follows:

<b>Respondent Group</b>	<b>% Personnel in Manufacturing and Packaging Activities</b>
SA Multinational	33,7
SA Locally Owned	60,0
India	65,0

The figures in the above table indicate that the multinational respondents have a larger focus on marketing and sales compared to the locally owned companies.

**Education Analysis**

The education breakdown for manufacturing personnel is as follows:

<b>Education Level</b>	<b>(%)</b>		
	<b>SA Multinational</b>	<b>SA Locally Owned</b>	<b>India</b>
Doctorate	0	0	0.3
Masters Degree	0,2	0,1	4.3
Honours Degree	0,2	1,2	-

Education Level	( $\%$ )		
	SA Multinational	SA Locally Owned	India
Bachelors Degree	4,3	6,6	30.0
Diploma	11,5	4,4	5.5
Matric	25,7	28,2	40.0
Standard 8	31,8	32,3	15
Less than Standard 8	26,3	27,2	5.0
<b>Total</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

DOMESTIC: Education levels are similar for South African respondents, except for a slightly higher focus on diploma qualifications by multinationals.

INDIA: The higher level of education in India is remarkable – 34.6 % of company personnel in India have bachelor degrees or higher, compared to between 5 and 8% for SA based respondents

### ***Labour Utilisation***

Labour utilisation is calculated on the basis of:

$$\frac{\text{Productive hours worked}}{\text{Total labour hours available}} \times 100$$

The average figures obtained are:

Respondent Group	% Labour Utilisation
SA Multinational	84,2
SA Locally Owned	76,0
India	94.6

Labour utilisation of South African multinational respondents is slightly higher than locally-owned respondents. The Indian rate is significantly higher. There are many reasons for this difference in productivity, notably shorter SA production runs, old equipment, as well as possibly poorer quality of labour and management

### ***Labour Efficiency***

Labour efficiency is calculated on the basis of:

$$\frac{\text{Hours required at standard work rate}}{\text{Actual hours}} \times 100$$

## Hours required at actual work rate

The average figures obtained are:

Respondent Group	% Labour Efficiency
SA Multinational	77,7
SA Locally Owned	86,7
India	88.3

It should be note that standard hours required are based upon the state of equipment in use, irrespective of age or condition. Labour efficiency of South African locally-owned respondents are higher than multinational, which makes up for poorer utilisation. Indian respondents indicated the best rate.

### 5.3.4.5 Capital Productivity

#### *Age of Equipment*

The average age of production equipment was indicated as follows:

Product Category	Average Age in Years		
	SA Multinational	SA Locally Owned	India
Tablets	12,5	15,2	12.5
Capsules	30,0	12,6	11.5
Creams	13,0	15,7	8
Liquids	10,5	10,2	15
Steriles	8,0	15,0	-
Packaging	9,0	14,2	9
Other Dosage Forms	10,0	n/a	

If one summarises categories where all respondents reported data, it is interesting to note that the total age of Indian companies is around 46 years, compared to around 70 years for SA based operations. Locally-owned respondents generally have the oldest equipment, mostly in excess of 10 years of age. For capsules, though, the multinationals have very old equipment.

#### *Machine Utilisation*

Machine utilisation is based upon the percentage of productive hours (excluding set-up, reset, loading and inspection) compared to total hours available for a single shift. The average results are as follows:

Product Category	% Machine Utilisation		
	SA Multinat	SA Locally Owned	India
Tablets	10	74,2	70.0
Capsules	15	71,7	20.0
Creams	16	67,5	10.0
Liquids	27,5	73,0	75.0
Steriles	50	75,0	-
Packaging	85	79,0	60.0
Other Dosage Forms	49	n/a	-

There is a significant difference between South African locally-owned and multinational respondents, with locally-owned respondents generally at a much higher rate of utilisation. Indian respondents indicated varying rates compared to the SA situation.

### *Number of Shifts*

Two thirds of respondents operate on a single shift basis for most operations. One operation is on two 9 hour shifts and three operations are on a double shift for a portion of their plant. Indian respondents indicated single shifts mainly

### *Size of Production Runs*

The average production run sizes are as follows:

Product Category	SA Multinational			SA Locally Owned			India		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
Tablets (units)	358300	2 000 000	1 066 700	197 500	1 567 000	833 000	1 000 000	5 000 000	3 000 000
Capsules (units)	187 500	225 000	225 000	408 000	950 000	667 000	100 000	200 000	150 000
Creams (litres)	150	300	200	520	2 110	1 800	2% of Capacity	18% of Capacity	10% of Capacity
Liquids (litres)	1 200	3 000	2 200	350	5 550	2 000	10 000	30 000	20 000
Steriles	100	200	200	60	300	100	N/a	N/a	N/a
Packaging (units)	180	90 000	16 300	3 320	63 870	28 950	30% of Capacity	90% of Capacity	60% of Capacity

For South African respondents the locally-owned companies tend to have higher production runs, except for tablets and steriles, most likely due to a focus on larger volume generics. Of particular interest is the significant higher Indian volumes for tablets and liquids, which is due to a combination of a generic focus and a much larger home market.

### ***Toll Manufacturing***

The relative percentages of existing production output which is toll or contract manufacturing is as follows:

Product Category	% Toll Manufactured		
	SA Multinational	SA Locally Owned	India
Tablets	0	30,8	0
Capsules	0	32,5	0
Creams	0	30,0	50
Liquids	1,3	35,8	15
Steriles	1,0	16,7	0
Packaging	5,3	33,3	0
Other Dosage Forms	1,1	25,0	0

The locally-owned respondents have a significantly higher focus on toll or contract manufacturing. One of the locally owned respondents is a fully outsourced operation, and some of the other are outsourced manufacturers for multinational companies.

### ***Planned Maintenance Time Allocation***

The relative percentage of total maintenance time spent on planned maintenance is as follows:

Respondent Category	%Planned Maintenance
SA Multinational	26,7
SA Locally Owned	22,0
India	6.0

Multinational respondents have a slightly higher focus on planned maintenance. In general planned maintenance is not implemented at high levels, which is a negative aspect taking into account the age of equipment. Indian respondents have newer equipment, but they should pay more attention to planned maintenance

**Maintenance Cost**

The relative percentage of total maintenance cost compared to the book value of plant and equipment is as follows:

<b>Respondent Category</b>	<b>% <u>maintenance</u> cost Book value plant &amp; equipment</b>
SA Multinational	13,3
SA Locally Owned	12,1
India	5.0

Maintenance cost in South Africa is higher due to the relative low book value of old equipment, as well as high cost of maintaining old equipment.

**Planned Maintenance Equipment Allocation**

The relative percentage of total plant and equipment involved in planned maintenance is as follows:

<b>Respondent Category</b>	<b>% of plants involved in planned maintenance</b>
SA Multinational	83,7
SA Locally Owned	31,0
India	75.0

The locally-owned respondents have a significantly lower portion of equipment enrolled in planned maintenance. Part of the cause for this low focus is that breakdowns are persistent and maintenance personnel are fighting fires.

**Production Stages Completed**

Production can be based upon complete formulation from basic ingredients, formulation of pre-blended ingredients, or packaging of products completely imported in bulk. The relative percentages of production stages completed per product category are as follows:

<b>Product Category</b>	<b>% of production stage completed</b>		
	<b>SA Multinational</b>	<b>SA Locally Owned</b>	<b>India</b>

	A	B	C	A	B	C	A	B	C
Tablets (units)	78,7	0	21,3	85,0	3,4	5,8	70.0	-	30.0
Capsules (units)	76	0	24	89,7	1,7	8,6	75.0	-	25.0
Creams (litres)	66,7	0	33,3	99	0	1,0	20.0	-	80.0
Liquids (litres)	100	0	0	97,8	0,6	1,6	60.0	-	40.0
Steriles	35	0	65	97,5	0	2,5	-	-	-
Packaging (units)	56	5,3	38,7	91,3	1,2	7,5	-	-	-

A = % completely manufactured from base raw materials

B = % manufactured from pre-blended raw materials

C = % packaged only

The locally-owned respondents have a significantly higher focus on production from base raw materials. This is caused to an extent by their limited access to pre-formulated products.

### ***Imported Capital Equipment***

The relative percentage of total capital expenditure spent on imported equipment is as follows:

<b>Respondent Category</b>	<b>% of Capex imported</b>
SA Multinational	90,0
SA Locally Owned	70,8
India	0.0

The multinational respondents reported a significantly higher focus on imported capital equipment. Indian respondents indicated no expenditure on imported equipment, due to a well established equipment manufacturing industry supplying more than 1000 producers

### ***Breakdown of Imported Equipment Costs***

The relative breakdown of the cost structure for imported equipment is as follows:

#### **DOMESTIC**

Free-on-board cost	:	90%
Transportation cost	:	7,0%
Duties	:	1,7%

Other (insurance, documentation) : 1,3%

### 5.3.4.6 Quality

#### *Formal Quality Systems*

DOMESTIC: The formal ISO 9002 quality system is generally not introduced, although multinational respondents indicated that their global standards employed are generally more strict than ISO 9002. There is a focus on CGMP (Good Manufacturing Practises) specifically developed for the pharmaceutical sector.

INDIA: Indian respondents indicated they are employing cGMP according to minimum standards set by WHO.

#### *Quality Personnel*

The relative percentages of quality control personnel (including laboratories) versus total production and packaging personnel are as follows:

<b>Respondent Category</b>	<b>% Quality control personnel Production &amp; packaging</b>
SA Multinational	22,7
SA Locally Owned	20,0
India	27.5

There is no significant difference between the various respondent groups, although India is slightly higher. It should be noted that Indian respondents are manufacturing according to minimum cGMP standards as laid down by WHO, which could imply a higher focus on quality personnel.

#### *Product Recalls*

The average percentages of number of product recalls compared to total number of packed end-products for the latest financial year are as follows:

Product Category	% product recalls		
	SA Multinational	SA Locally Owned	India
Tablets (units)	0	0,2	0.75
Capsules (units)	0	0,2	0.01
Creams (litres)	0	0,2	-
Liquids (litres)	0	0,2	0.04
Steriles	0,1	0	-

The locally-owned respondents have a slightly poorer record on product recalls. Overall recall rates are fairly low.

### 5.3.4.7 Planning and Control

#### *MRP (Materials Requirements Planning) Systems Employed*

All except one respondent have a formal MRP system in place, although some are relative basic, in-house developed systems. The Indian respondents indicated both the use and non-usage of MRP systems.

#### *MRP Training*

All companies that have an MRP system in place claim to provide extensive training to all users of the system.

#### *Planning and Control Meetings*

All respondents indicated that they have regular (weekly or monthly) meetings to address problems arising from production planning and control.

## 5.3.5 HUMAN RESOURCES ISSUES

### 5.3.5.1 Personnel Policy

#### *Communication of Personnel Policy*

All respondents, including India, indicated that their personnel policies are being made available and effectively communicated to all personnel. However, one respondent indicated that new personnel have not been satisfactorily exposed to personnel policies. The Spanish respondent indicated a very firm personnel policy, which is well communicated to all.

### ***Affirmative Action Policy***

DOMESTIC: Around half of all respondent companies as yet do not have fully implemented affirmative action policies, but all of them are working at this according to the Employment Equity Act. At management level the current focus is to develop a pool of skilled people at middle management level first, based on a quota system. At senior management levels it is difficult to find candidates with the necessary skills.

### ***Personnel Department***

The multinational respondents indicated a strong representation of human resources at top management decisionmaking. At some of the locally owned respondents human resources had a relative low key input level in the past, but a higher focus is being placed on this now. The Spanish and Indian respondents indicated that Human Resources is represented at Board level.

## **5.3.5.2 Manpower Planning**

### ***Manpower Planning System***

Only one respondent company indicated that they have a formal manpower planning system, inclusive of succession planning. However, most respondents have identified manpower planning as a need and they are looking at formalising it. The Spanish respondent indicated that succession planning is also not formally introduced, whilst the Indian respondents indicated good planning.

### ***Labour Turnover***

Labour turnover percentage is calculated as follows: (including voluntary and involuntary leavers)

$$\frac{\text{Total number of leavers for year}}{\text{Average number employed for year}} \times 100$$

The respondents reported figures from as low as 2% to as high as 21%, with an average of 11,9%. The Spanish respondent reported a low turnover of 2%. The Indian figure is 5%.

### ***Labour Shortages***

DOMESTIC: The major labour shortages are experienced in qualified management and technical level specialists such as chemists, pharmacists, especially with experience in regulatory affairs, laboratory analysts, brand/product managers with experience in FMCG, clinical research specialists, manufacturing equipment maintenance specialists and buyers.

SPAIN/INDIA: Spanish respondent indicated labour shortages in lower qualified process operators, whilst the Indian respondents indicated shortages in marketing skills.

### ***Absenteeism***

Absenteeism percentage is calculated as:

$$\frac{\text{Time lost due to absenteeism}}{\text{Possible working hours}} \times 100$$

DOMESTIC: The respondents reported figures from as low as 2,6% to as high as 11,4%, with an average of 5,4%.

SPAIN/INDIA: The above compares poorly to the Spanish situation, where a rate of 0,5% was reported, and the Indian situation of 3.5%

### **5.3.5.3 Reporting Ratios**

#### ***Employees: Supervision***

The employees:supervision ratio varied from 9 : 1 to 27 : 1, with an average of 19 : 1. The Spanish respondent reported a ratio of 15 : 1, and the Indian situation is 5:1

#### ***Supervision : Managers***

The supervision :managers ratio varied from 5 : 1 to 0,3 : 1, with an average of 2 : 1. Some operations included management involved in marketing, sales and Head Office functions, which skewed these ratios. The Spanish respondent reported a ratio of 5 : 1, and the Indian situation is 10:1

***Job Descriptions***

DOMESTIC: Three quarters of respondents indicated that they have complete job descriptions for all positions in their companies. However, this process has only recently been completed by some respondents. One company is re-doing all job descriptions, and one respondent indicated that no job descriptions exists.

***Targeted Selections***

DOMESTIC: Around two-thirds of the respondents indicated that they allow managers to do targeted selection, although they also have recruitment officers. Only one respondent indicated that managers do not conduct targeted selection, while only one respondent indicated that they do not have recruitment officers at all. It was commented that managers have to take responsibility for equal opportunity as well as recognising employee's potential, and they therefore have to decide.

INDIA: Indian respondents indicated that managers are trained and empowered to do targeted selection.

***Psychometric Testing***

DOMESTIC: Psychometric testing is only conducted by one respondent company as an aid to selection on new recruits, while none of the respondents indicated psychometric testing on existing personnel. Other related testing conducted on new recruits include personality testing and job preference testing.

SPAIN/INDIA: The Spanish respondent indicated that tests are conducted on all new recruits, mainly to evaluate their suitability for the job. The Indian respondents indicated full-scale testing of both existing and new personnel. These tests are also used for evaluation of annual bonuses and promotions.

***Formal Induction***

DOMESTIC: Only two respondents indicated that they do not have a formal induction process for new recruits, but both have identified this as a need which will be introduced.

One respondent indicated that they regard this as critical, and they are formalising the induction process in print.

INDIA: Indian respondents indicated a focus on extensive induction, especially for sales personnel.

### ***Employee Briefing Sessions***

All respondents indicated they have regular briefing sessions with existing employees to discuss company and industry developments. Some respondents commented that formal briefings are conducted down to manager levels, from which individual managers have the responsibility to communicate to their workers.

## **5.3.5.4 Training and Development**

### ***Formal Training Policy***

Only one domestic respondent indicated a fully implemented training policy. However, around one-third of respondents have identified the need to prioritise formalised training. It was commented that formalised training can only be instituted after all issues related to the Skills Development Act are known. The Indian respondents indicated a focus on training

### ***Training Expenditure***

For these respondents which have data available, the indication is that training expenditure varies from less than 1% to around 5% of total turnover. The Spanish respondent indicated an expenditure of 0,3%, and the Indian respondents indicated a figure of 5%.

### ***In-house Versus External Training***

The relative split of in-house training versus external training varies considerably, from around 10% internal to 90% internal. The average ratio is 45% internal and 55% external. The Indian respondents indicated a figure of 60% in-house and 40% external.

### ***Training Focus Aspects***

Respondents rated the relative importance of training focus aspects on a scale of 1 to 5, where 1 = low focus, and 5 = important focus. The average scores obtained are:

Training Focus Area	Relative Importance			
	SA Multinational	SA Locally Owned	India	Spain
Interpersonal skills	4,5	4,0	5	5
Industrial relations	3,5	4,2	5	3
Sales management	4,3	4,0	5	4
Supervisory skills	3,3	4,2	4	5
Team effectiveness	3,5	4,2	4	5
Leadership	4,8	4,0	4	5
Good manufacturing practices	n/a	5,0	-	n/a
Life skills	n/a	5,0	-	n/a

### 5.3.5.5 Compensation

#### *Job Evaluation System*

Three domestic respondents indicated that no formal job evaluation system is in place. Some systems indicated by respondents are Patterson/Hay; FSA Contract/PE Corporate Services and Patterson/Task. The Spanish respondent indicated that no formal system is in place.

#### *Salary Revisions*

Around 57% of domestic respondents indicated that salary revisions are mostly based upon merit, with overall inflation adjustments. One respondent indicated a split between salaried personnel, which is merit based, and centralised bargaining for shopfloor personnel. The Spanish and Indian respondents indicated that both merit and inflation are used.

#### *Reward Schemes*

None of the respondents indicated a formalised suggestion and reward scheme for ideas which lead to savings or improvements. This is in contrast to the Spanish and Indian respondents, which indicated a formal scheme.

Organised labour in South Africa is opposed to reward and incentive schemes that are linked to productivity as such schemes divide workers, undermine solidarity and ultimately the strength of the union.

### **General Benefits**

The analysis of general benefits offered by companies to employees is as follows:

Benefit	% of Respondent Companies Offering			
	SA Multinat	SA Locally Owned	India	Spain
Pension	100	100	0	100
Medical Aid	100	100	100	100
13th Cheque	100	80	0	100
Life Cover	100	100	0	100
Disability Cover	100	100	0	100
Study Assistance	100	100	100	0
Educational Grants	100	40	0	0
Homeownership	50	20	0	0
Home Loans	50	20	0	0
Annual Leave	100	100	100	0
Maternity Leave	100	100	100	0
Canteen Facilities	100	60	100	100
Income Security Plan	0	60	0	0
Goods at Cost	0	80	100	0
Loyalty Bonus	50	60	100	0
Covered Parking	100	80	0	100
Transport	50	40	100	100
Recreational Facilities	50	20	0	100
Shares	50	60	0	0

It seems that transport and recreational facilities are more important to Spain than to local companies.

### **Management Benefits**

The analysis of management benefits offered by companies to managers is as follows:

Benefit	% of Respondent Companies Offering
---------	------------------------------------

	SA Multinat	SA Locally Owned	India	Spain
Company cars/ownership schemes	100	80	0	100
Non-contributing provident	50	20	0	0
Medical Aids	100	80	100	100
Profit-sharing	0	20	0	100
Entertainment allowance	50	80	100	0
Share schemes	50	80	0	100
Overseas travel	100	60	0	0
Interest-free loans	0	20	100	0
Performance bonus	100	80	100	100

There seems to be a lack of profit-related incentives amongst South African respondents.

### 5.3.5.6 Industrial Relations

#### *Labour Unions*

Only one respondent indicated no union representation. Other respondents indicated representation by one or more of the following Unions: CWIU, SACWW or CWU. The Indian respondents indicated no activity of trade unions.

#### *Employee Representative Committees*

Only two domestic respondents indicated proper committees. Some respondents indicated a Union resistance against workplace forums. The Indian respondents indicated a focus on employee committees.

#### *Teambuilding*

All respondents indicated some “teambuilding” events, such as sporting events, survival courses, team effectiveness workshops, etc. Some respondents identified a need for a more formalised approach.

## 5.3.6 RESEARCH AND BUSINESS DEVELOPMENT

### 5.3.6.1 Existence of Research and Development Departments

DOMESTIC: The multinational respondents indicated that they have large integrated R&D facilities at different global locations. In South Africa there is not a focus at initial New Entities development (i.e. Clinical trial Phase I, II), but rather on Phase III clinical trials. In this aspect South Africa is regarded as a good location (especially Southern Hemisphere) due to aspects such as:

- good medical infrastructure
- good clinical trial experience base
- affordability, etc.

Multinationals spent up to 5% of global clinical trial budgets in South Africa, although the local market is less than 1% of the global market. The locally owned respondents all have R&D departments except those with an outsourcing manufacturing focus.

#### **5.3.6.2 R & D Spending**

DOMESTIC: The multinational respondents indicated that they are spending up to 20% of global turnover on R&D. However, in a South African context total expenditure by them on R&D is on average below 2% of turnover, mostly related to clinical trials. The locally owned respondents indicated an expenditure level of less than 2% to around 3% of turnover on R&D.

INDIA: Indian respondents indicated a focus on business development rather than R&D.

#### **5.3.6.3 Major Focus of R&D**

DOMESTIC: As mentioned the core focus of R&D by multinational companies is on clinical trials, rather than basic research. However, some basic research is conducted in areas such as HIV/Aids, Tuberculosis, Malaria, Psychiatry, etc. The R&D focus of locally-owned companies are on areas related to the registration of newly off-patented drugs, mainly with a focus of establishing branded generics. Differentiation is a key objective, with a focus on issues such as single dosage, rather than delivery systems.

INDIA/SPAIN: The focus areas of Indian companies are mainly improvements of products in terms of bio-availability, taste, cost effectiveness, shelf-life improvements, multifunctional products, etc. It was commented by the Spanish respondent that licensing will only be a viable option for South African companies if they can offer a competitive edge in marketing and distribution to the licensor.

It is generally acknowledged that South Africa does not have, nor should it develop, significant R&D capacity. The costs are considerable and the market limited. Interestingly, however, a related research area is booming in South Africa – clinical research trials. This is mainly because there is still considerable local expertise, as well as high patient / doctor ratios, diverse population subjects who have not been exposed to any medicines, and variety and depth of HIV and related AIDS patients. The CRO market is worth R 100 million currently, up from 0 in 1990, and growing rapidly. There appears to be unlimited future opportunity in this field as it is fuelled by the international market and pharmaceutical companies cannot step into it, as it would be a conflict of interest.