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# RESEARCH REPORT

## AN ASSESSMENT REPORT ON THE DCC SCHEME AND ITS AUDITING PROCESS

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# INTRODUCTION[1]

With the change in government in 1994, South Africa embarked on an accelerated process of industrial policy reform. The newly elected government enjoyed a level of legitimacy that gave it the scope to engage in a long overdue restructuring of the nation's industry support framework. The purpose of this report is to assess the impact of one component of the new industry support regime. In this instance, the focus shall fall upon the DCC (Duty Credit Certificate) scheme.

There are various reasons for scrutinising the DCC scheme in isolation of other industry support measures. Firstly, the scheme has been designed to reverse three characteristics in the clothing and textile sectors that can be described as undesirable consequences of South Africa's past industrial policies. These relate to the:
1.

| Table 1: Post-1994 supply-side measures of the DTI (excluding export support measures). | | |
|---|---|---|
| PROGRAMME | PURPOSE | COST |
| Motor Industry Development Plan (MIDP) | Industry support package for the automobile sector. The MIDP also makes provision for distribution of duty credit certificates to qualifying exporters. These may in turn be used to access imported inputs. | - |
| Duty Credit Certificate scheme (DCC) | Industry support measure for clothing and textiles. The programme offers duty credit certificates to qualifying exporters. These can be used to access imported inputs. | - |
| Sector Partnership Fund (SPF) | To act as a catalyst for the formation of sub-sector partnerships that are focused on improving productivity and competitiveness. | R30 million between 1998 to 2001. |
| Support Programme for Industrial Innovation (SPPI) | To promote product and process innovation in manufacturing. | R43 million between 1993 to 1997. |
| Technology and Human Resources in Industry Programme (THRIP) | To encourage research into technology and engineering via a collaborative process between industry and research groups. | R24 million between 1996 and 1997 |
| Workplace Challenge (Phase 2) | To encourage improvements in industrial relations and manufacturing by facilitating firm level co-operation between labour and management. | R24 million between 1998 and 2001. |

# RESEARCH METHODOLOGY

This report was informed by two primary research process- a survey of firms and qualitative interviews. The survey was structured to assess of how the DCC scheme's participants use the scheme. Another objective of the survey was to determine the participants' views regarding the scheme's design, implementation and relevance to their needs.

In total 30 firms were surveyed. Two thirds of the respondents were located in the Western Cape, with the remainder of the sample made up of firms based in KwaZulu-Natal (KZN). The reasons underpinning the unequal spread of respondents between the two provinces are as follows:

1. The majority of DCC beneficiaries are located in the Western Cape. The clothing and textile sectors in this province tend to have higher levels of exposure to export markets.
2. KZN firms were surveyed in November of 1998. This is a period that is characterised by higher than usual production activity due to the December holiday season. November is also very close to the year-end closure of industry, which is the norm for South African manufacturers.
3. The Western Cape survey was conducted in late January to mid-March 1999. These first weeks of the year tend to be characterised by lower levels of production activity due to the post-holiday consumer expenditure slump. Firms therefore had more time to participate in the research undertaking relative to the KZN firms.

In both instances, moreover, the survey process was largely restricted to the metropolitan centers of each province, i.e. Cape Town and Durban. This was partly attributable to logistical problems and the fact that most firms that could accommodate the research process were often located in those cities.

Table 2: The geographic and sectoral distribution of the sample

| | Textiles | Clothing | Total sample |
|---|---|---|---|
| Western Cape | 6 | 14 | 20 |
| KwaZulu-Natal | 7 | 3 | 10 |
| Total sample | 13 | 17 | 30 |

The sectoral breakdown of the sample tended to favour the clothing industry. As a result a total of 17 clothing firms, compared to 13 in the case of textiles, were surveyed. In the case of textiles , 7 of the firms were based in KZN and 6 in the Western Cape. In the case of clothing, 14 of the respondents were located in the Western Cape. One of these respondents was located outside the metropolitan boundaries of Cape Town. Only three of the textile industry respondents came from KZN. Two of these firms were located in production localities that were between two and three hours from Durban.

All the respondents were interviewed at their company premises. The respondents tended to be members of senior management who were best positioned to answer questions that relate to the scheme. The length of a typical interview session was two to two-and-a-half hours.

As far as the qualitative interviews are concerned, the first was conducted with Sake Van Der Wal (Deputy Director, Textiles and Clothing, DTI). This interview was carried out in Pretoria during March 1999, and focused on the DTI's administration and implementation of the auditing process. The second of the interviews was conducted during August 1999 with Jacob Graaf of the NPI (National Productivity Institute) in Durban. This interview focused on the design and logic that informed the structure of the scheme's auditing system.

The assessment of the audit reports (availed by the DTI) entailed a detailed review of each audit report that was availed to the IRP (Industrial Restructuring Project) by the department. This process was facilitated by extracting key information from the reports and capturing it in the form of a spreadsheet. This process enabled the IRP to compile a database of firm level trends from the majority of DCC participants. The construction of this database was intended to enable the IRP to carry out a comparative analysis of the scheme's impact upon its beneficiaries. A total of 52 reports were handed over to the IRP.

# THE DUTY CREDIT CERTIFICATE (DCC) SCHEME

The Department of Trade and Industry (DTI) introduced the Duty Credit Certificates Scheme (DCC) in 1993 after a protracted period of consultation with the clothing and textile industries. The scheme is thus a sector specific support measure for these two important manufacturing sectors in the South African economy.

**Brief Profile of the of Target Sectors: Textiles and Clothing**

Textile production contributes 0.69% to South Africa's GDP (see Table 3). Furthermore, the sector employed an estimated 70,000 workers in 1998. Textiles generate 1.32% of total exports and 2.42% of total imports respectively. The most significant textile sub-sector in South Africa is the spinning, weaving and finishing of textiles, which covers a wide range of activities and accounts for 49% of total production.

Table 3: Percentage share of total economy (1996)

| | Clothing | Textiles |
|---|---|---|
| Value Added | 0.75 | 0.69 |
| Exports | 0.35 | 1.32 |
| Imports | 0.35 | 2.42 |
| Employment | 1.79 | 1.14 |
| Capital Stock | | |

unstructured liberalisation of the domestic market. For example, 1993 official tariffs for clothing and textiles averaged 142% and 50% respectively. However, actual tariffs paid averaged only 8% for clothing and 14% for textiles.

The SAP offered tradable duty-free import permits on the basis of export success as a means of reducing manufacturing input costs. The tradability of the permits meant that regulators had a restricted ability to influence how they were eventually put to use. Hence, a side effect of the programme was an increase in the importation of finished textiles and clothing goods. This had a negative impact on sensitive products to which the highest tariffs applied.

Having learnt from the limitations of the SAP, the DTI ensured the non-tradability of DCCs . Yet, this has not deterred some industrialists from importing goods on behalf of other industrialists. As such the difficulty of ensuring that industrial policy provisions are not abused is once more apparent in this instance. However, apart from the fact that DCCs cannot be traded, the scheme differs in other critical ways to both the SAP and GEIS:

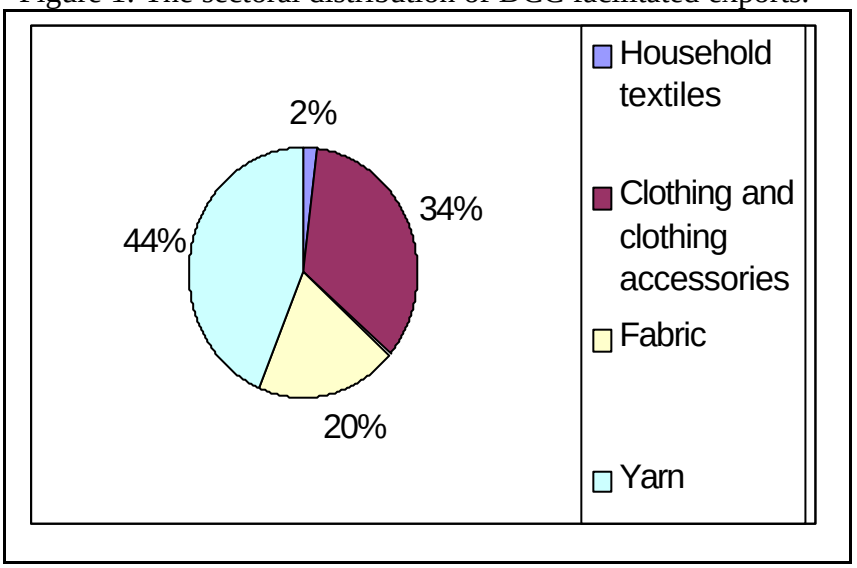
1. The DCC's provisions were drafted through a process of collaboration that included affected industry associations and trade unions from both sectors. This system of policymaking brought to the fore the industrial lobbying process in a manner that had been uncommon to South Africa before. In this instance, an alliance developed between clothing manufacturers and trade unions in favour of preferential treatment for the clothing sector. The unions were especially attracted by the employment creation potential of a labour intensive industry such as clothing (see table 3).
2. The structure of the scheme also differs substantially from previous schemes. It is designed to include both "carrot and stick" characteristics to compel industry towards certain restructuring ends. For instance, firms that benefit from the scheme are required to spend a minimum of 4% of their wage bill on human resource development inititiatives. Furthermore, beneficiaries are also expected to show improvements in operational efficiency over a specified period of time. The firms have to engage independent auditors to verify their compliance with regard to these expectations. Labour representatives also have to verify these reports.

As is apparent in Table 4, the clothing and organised labour lobby prevailed and the scheme ended up favouring the clothing industry in both its structure and implementation. The design of the scheme is such that clothing and clothing accessories are entitled to the highest duty credits (30% in 1998). On the other hand, 1998 duty credit levels for textile goods ranged between 10% and 20%.

| Table 4: The percentage value of tariff credits and the value of exports facilitated by the DCC according to product profile. | | |
|---|---|---|
| Product Exported | Value of DCC as % of proven export sales (1998) | Rand value of DCC facilitated Exports (1997). |
| Clothing and clothing accessories | 30% | 67 113 000 |
| Household textiles | 20% | 2 788 000 |
| Fabric and other textiles | 15% | 38 067 000 |
| Yarn | 10% | 86 370 000 |
| | | 194 338 000: TOTAL |

However, if one analyses the Rand value of exports that are facilitated by the scheme in the affected sectors, a different picture emerges. The bulk of the exports that benefit from DCC assistance are located outside of the clothing sector. This is clearly highlighted in Figure 1 (below).

Figure 1: The sectoral distribution of DCC facilitated exports.




Clothing and clothing accessories account for 34% of exports that benefit from the scheme. On the other hand, textile products account for 66% of exports that benefit from the DCCs. Yarn products are the most significant component of the affected textile exports, and they account for 44% of total exports benefiting from the scheme. These are figures that appear to contradict the intended effect of the scheme. However, before any concrete pronouncements can be made, it is essential to incorporate other available data sources for a more informed analytical discussion of the DCC programme.

**The Survey Results**

As already outlined, the DTI has been successful in favouring clothing manufacturing above textile industry activities. And yet despite this bias in the scheme's design, preliminary findings suggest that it is the textile sector that accounts for the bulk of DCC assisted exports (table 4). Given this apparent mismatch between policy

objectives and the reality in the industry, it is essential to the process of policy formulation that the underlying reason for this situation be uncovered. In table 5, some of these questions begin to be answered.

| Table 5: Manufactures' satisfaction levels with regard to the value the DCCs. | | | | |
|---|---|---|---|---|
| | Textile sector respondents | | Clothing Sector Respondents | |
| Product Exported | Satisfactory | Unsatisfactory | Satisfactory | Unsatisfactory |
| Clothing and clothing accessories | 80% | 20% | 76% | 34% |
| Household textiles | 50% | 50% | 50% | 50% |
| Fabric and other textiles | 66% | 34% | - | - |
| Yarn | 25% | 75% | - | - |

Users of the DCC scheme were most satisfied with the value of the credits as they related to clothing and clothing accessories. This is not a surprising outcome since it is these export items that receive the most generous duty credit rates (30%). In fact, levels of satisfaction regarding the value of the credit tended to generally correspond to the value of the credit. As such, yarn products that are entitled to only 10% worth of duty credits, recorded the lowest levels of satisfaction from the sample.

Another significant trend from table 5 is that textile respondents were able to provide an opinion of the scheme with regard to clothing and clothing accessories. Except for their own particular products as well as household textiles, respondents from the clothing sector were not able to do so. This suggests that a significant number of firms that are classified as textile operations are also involved in the export of clothing and clothing accessories. This is a trend that emerged in the sample as well – as highlighted in table 6. Available data does not enable us to determine whether such export activity by textile firms is the norm or a practice that was induced by the scheme's rebate structure. Therefore, textile firms appear to be contributing significantly to the R67 million figure that represents the total amount of clothing and clothing accessory exports that are DCC aided.

| Table 6: Activities facilitated by the DCC scheme in sampled firms (Clothing: n= 17, Textiles: n= 13) | | | | |
|---|---|---|---|---|
| | Products for which respondents use the DCC to export | | Products for which respondents use the DCC to import | |
| | Textiles | Clothing | Textiles | Clothing |
| Clothing and clothing accessories | 6 | 17 | 3 | 8 |
| Household textiles | 2 | 2 | 0 | 1 |
| Fabrics and other textiles | 6 | 0 | 5 | 16 |
| Yarn | 4 | 0 | 8 | 3 |

Another anomaly that was revealed by the survey is that the scheme is not reaching the SMME sector- for which it was partly intended. As tables 7a and 7b indicate, our survey findings show that firms that benefit from the DCC scheme are not the small and medium enterprises that the DTI's policy measure is intended to service. Instead, it is the large industrial concerns that seem to be using the scheme.

export market. Therefore, such a scenario presents challenges that smaller firms will struggle to overcome given their limited resource base.

The other aspect of targeting that that apparently needs to be addressed is concerned with firm level activities and performance. As already mentioned, participants in the scheme have to achieve a range of performance improvement indicators. Critically, is this really happening? It is to this crucial point that we now turn.

Economic Performance Indicators: As highlighted in Table 8, DCC participants feel the scheme has had a positive impact upon the economic performance of their firms. The areas where the scheme was rated to have had the most significant levels of impact related to levels of profitability (87% of the sample) and product costing (73%). Furthermore, output levels (67%) and increased market share (63%) were said to have been affected positively by the scheme.

Export Performance: The sampled firms indicated that the scheme was not having a significant positive impact with regard to exporting into SADC (30%), or for that matter, the rest of Africa (20%). However, 77% of the sample felt that the DCC scheme had been beneficial in facilitating exports to the EU and North America. Given the fact that these market are not only lucrative but extremely demanding as well, this is a trend that should be re-assuring to policy makers.

Employment Creation and Labour Development: 60% of the sample felt that the scheme had positively impacted upon levels of employment creation in their firms. A further 67% felt that the scheme impacted positively upon human resource development as well. Respondents tended to indicate that the scheme's positive impact upon production volumes also has a positive impact upon employment levels. The scheme's positive impact on human resource development issues is primarily related to its requirement that firms spend at least 4% of their wage bills on training.

| Table 8:How respondents rated the impact of the DCC scheme upon the following factors within their firms | | | |
|---|---|---|---|
| | Positive | No effect | Negative |
| **Economic Performance Indicators** | | | |
| Output. | **67%** | 23% | 10 |
| Profit. | **87%** | 13% | 0 |
| Product costing. | **73%** | 27% | 0 |
| Market Share. | **63%** | 37% | 0 |
| **Export Performance Indicators** | | | |
| Exports to SADC. | 30% | **63%** | 7% |
| Exports to the rest of Africa. | 20% | **70%** | 10% |
| Exports to EU & N. America. | **77%** | 33% | 0 |
| **Employment Creation and Labour Development** | | | |
| Employment. | **60%** | 33% | 7% |
| % Of wage bill spent on HRD. | **67%** | 33% | 0 |
| **Operational Efficiency Indicators** | | | |
| % Of turnover spent on R&D. | **60%** | 40% | 0 |
| Raw material inventory | 20% | **70%** | 10% |
| Work in progress levels | 20% | **77%** | 3% |
| Finished goods inventory | 27% | **70%** | 3% |
| Quality performance. | **50%** | **50%** | 0 |
| Production lead times. | 37% | **63%** | 0 |

Operational Efficiency Indicators: On the negative side, the respondents seemed to indicate that the scheme had failed to positively impact on factors relating to operational efficiency. In this respect R&D is the only area of operational efficiency that was said to have benefited from the scheme (60% of respondents believed this). As far as lead times are concerned, 63% of the respondents indicated that the scheme had had no impact on this aspect of efficiency. Inventory performance was another area that was not affected positively by the scheme. 70% of the respondents felt that the scheme failed to impact on raw material levels and finished goods levels. A further 77% felt that levels of work in progress had also not been positively affected by the scheme.

# THE DCC SCHEME'S AUDITING PROCESS

In order to assess whether the DCC scheme is achieving what policy makers intended, it is essential to establish what its objectives were. As stated in the previous instalment of this report, the DCC scheme is the DTI's primary industrial and export support measure for the textile and clothing sectors. Furthermore, although the scheme is structured around the granting of duty credits to participating exporters, it also has other features that distinguish it from regular export support measures.

Firstly, the scheme is structured in a manner that favours the clothing sector as opposed to the textile sector. The rationale for this was that this structure is more likely to reach both smaller and more labour intensive firms.

Secondly (and more importantly), the DCC scheme is also intended to achieve various firm level performance improvements within participating firms. It is this aspect of the scheme that was meant to be evaluated by the audit reports. To further this objective, the DTI implemented the Productivity Performance Monitoring Scheme (PPMS) that was drafted in collaboration with the NPI. The PPMS is informed by two distinct process:site visits and a Productivity Performance Report (PPR).

According to DTI guidelines the site visits were meant to provide a qualitative impression of the performance trends within the participating firms:

> *"The consultant must visit the client company and its management and SACTWU to assess whether the company has materially[2] complied with the productivity recommendations listed in the set-up report. The skills and*

would have had a superior understanding of the auditing system. This would have surely enhanced its ability to command the bulk of the auditing work. Nonetheless, it can be argued that this outcome could have actually facilitated an easier process of implementation.

| Table 8: The Distribution of Work Among DCC Auditing Firms. | |
|---|---|
| Auditing Consultant | Proportion of Audits Carried Out (%) |
| NPI | 78 |
| Productivity Assignments | 8 |
| Productivity Improvement Consulting | 6 |
| Roman Management Services | 8 |

**AN ASSESSMENT OF THE SITE VISITS' REPORTING PROCESS**

As a result of interviews with the DTI and the NPI and by referring to the items that were meant to be covered by the site visits, it is possible to outline the areas of key interest to the department.

Table 9 outlines the key points of concern for the department as far as plant level performance is concerned. For the sake of analysis, the areas of concerns can be quantified into three distinct categories: Financial performance, Labour relations and Manufacturing Performance.

| Table 9: Structure of the DCC scheme's auditing reports (site visits) |
|---|
| Qualitative Points to be Captured by the Auditing reports |
| 1. Financial Analysis |
| 2. Human resources- employee development |
| 3. Multi-skilling |
| 4. System of participation |
| 5. Ergonomic and the workplace conditions |
| 6. Incentive payment systems |
| 7. Absenteeism and labour turnover |
| 8. Disciplinary procedure |
| 9. Quality |
| 10. Delivery performance |
| 11. Quick response |
| 12. Production systems |
| 13. Export systems and marketing programme |

Source: DTI, 1998

**FINANCIAL PERFORMANCE**

In the case of the financial performance of the participants, the audit reports covered key areas such as the cost structure of firms, financial liquidity, financial leverage (i.e. profitability, and productivity (measured by sales per square meter, sales per employee, capital productivity and material productivity). This set of concerns is basically sufficient to gauge the financial performance of a firm. However, it is interesting to note that the auditing process failed to cover other key areas such as output performance and market share trends.

The measurement of output is essential in that it is a useful proxy measurement of a firm's market performance. Furthermore, this measurement is essential to ensure that productivity improvements (especially in the case of sales per employee) are not being achieved solely through the process of work intensification - i.e. producing the same levels of outputs with fewer workers. This is an essential socio-political consideration for policymakers because the continued participation of labour and labour organisations in the scheme depends heavily upon the growth of employment opportunities or at least the maintenance of current employment levels. Furthermore, measurement of output trends together with market share ensures that participants are compelled to nuance their understanding of productivity performance to factor in the performance of management as well.

**HUMAN RESOURCE DEVELOPMENT**

In the case of industrial relations issues, the audit reports focused upon the following key areas: employee development and training, multi-skilling, systems of participation, absenteeism, turnover, and disciplinary/grievance procedures. In this instance, the auditing reports were found to be overly concerned with quantitative interventions as opposed to qualitative measures to ensure labour participation and development.

While the IRP concedes that measurements relating to issues such as training expenditure and disciplinary procedures are important, it is important to note that they are not enough to gauge the nature of industrial relations within a plant. As a result of extensive experience that stems from interactions with firms, the IRP has come to appreciate that such numerical measurement often hide gross inefficiencies or inactivity in this regard.

In order to unpack whether qualitative employee development occurs within firms, it is advisable to interrogate the nature of the systems that firms employ to further that objective. The structure of the audit reports makes allowance for this process under the heading of "Systems of participation". However upon analysis, the reporting in the audit reports was found to be inadequately critical (see box below for examples).

Example 1:
The broader issues of participation and communication such as green areas, small group activities and worker forums are not in existence.

However, the open-door policy which is practised and the apparent informal inter-relationship observed is considered to be adequate.

The company has a recognition agreement with SACTWU and consultation and negotiation takes place on an ongoing basis.

Example 2:
The implications of the Labour Relations Act were outlined in some detail. Other than an open door policy, [firm X] has no plans to install alternative participation systems unless and until occasion demands.

Source: DCC Audit Reports (1997)

The brevity and lack of detail that is apparent from the cited examples means that policy makers lack the ability to gauge the true nature of participation systems within firms. The process of assessing the viability and impact of such systems within firms should depend upon the following system of analysis and observation:

- Who is participating in these processes?
- What is the nature and quality of facilities that have been availed to facilitate such processes, e.g. are the display charts prominently displayed; are the green areas conducive to discussion; and is the equipment usable and actually being used by workers?
- How often do these engagements occur?
- When (during the production day) do these activities occur?
- Who drives such activities, e.g. who is responsible for filling out display charts? And
- What is the impact of such activities upon production performance and organisation?

In order to establish such issues it is essential to carry out plant level observations and not depend entirely on the opinion of management. Furthermore, this process needs to incorporate views from employees. Having assessed the quality of reporting by the audit reports in this regard, the IRP has come to the conclusion that labour interviews were not carried out during the assessment process. Furthermore, the quality of the reports is not sufficient to deduce how these measures impact upon the improvement of operations.

**MANUFACTURING PERFORMANCE**

In the case of the manufacturing performance of the participating firms, the auditing process focused upon the following areas: quality performance and accreditation, delivery performance, response times, and capital expenditure.

The reports were found to be reasonably adequate in their reporting of most of the items listed. However, in the case of quality performance, the audit reports were often very sketchy in their reporting. Quality measurements were usually confined to the measurement of rejects. As such, the reports do not make a distinction between defects, reworks or scrapped products. Furthermore, customer returns were not being consistently captured. This shortcoming makes it difficult to assess where quality problems are located within the production process. Essentially, a simplistic measurement of quality usually paints an unrealistic picture of a firm's true quality performance.

However, a key problem in this section was the lack of attention that was paid to the actual organisation of manufacturing within the firms. For instance, the audit reports make no provision for the assessment of a firm's layout. The layout of a firm is essential in determining the efficient flow of material through the production process. This may entail cellular layouts for firms that have short production runs or a Fordist system for high volume producers. Factors such as layout, the organisation of manufacturing and the appropriateness of a firm's technological profile are key determinants of a firm's ability to meet the demands of its market. The audit report

consistently evaluated this aspect of firm performance without considering value-chain dynamics. As a result, there is no way of deducing the kind of constraints that limit or enhance performance at the both supply or demand end of production.

Furthermore, there is a general dearth of information relating to the nature and appropriateness of technology that is being employed by firms. Machine downtimes

the purpose of informing policy intervention. Most importantly, the PPR matrix is heavily biased towards financial performance indicators and thus fails to cover the critical area of plant level operational performance sufficiently.

It is obviously difficult to structure a conclusive matrix presentation of a firm's operational performance. But that does not mean that aspects of such performance trends can not be captured in a matrix format. However, in order to achieve this with a measure of credibility, it is essential to disaggregate the quantifiable aspects that relate to manufacturing operations. For example, disaggregated measurements relating to machine utilisation such as downtime, changeover time and the average age of machinery would be critical. Other significant measurements that could be easily captured within the matrix's system of presentation relate to:

- Inventories: i.e. work in progress, finished goods, and raw materials.
- Quality: reworks, defects, scraps and customer returns.
- Delivery reliability: throughput time and response rates.
- Labour participation: frequency of green area meetings, suggestions schemes and their implementation rates, etc.

To summarise, the assessment of the auditing procedures that have been set-up for the DTI's DCC scheme do manage to capture some useful information regarding the performance of the participating firms. However, due to low levels of detail and inconsistent data collection with regard to the site visit reports, and gaps in the formulation of the PPR matrix, the audit reports seem to provide an insufficient quality of information for the purpose of informing policymakers. Most importantly, the reports fail to adequately unpack the "black-box" of manufacturing organisation and operations. Low levels of data regarding this aspect will significantly retard the process of formulating appropriate interventions to improve the operational efficiency of the participating firms.

## RECOMMENDATIONS

The need to adequately gauge the effect that the DCC scheme has upon the operational efficiency of participants is crucial because this is one of the factors that were supposed to be affected by the scheme. However, the participating firms appear to be sceptical about the relationship that exists between matters of operational efficiency and the DCC scheme, as highlighted in Table 11. In this regard, a survey of DCC beneficiaries revealed that the majority of the scheme's participants felt that it had not impacted upon their performance with regard to inventory levels[3] and production lead times. Furthermore, half of these firms also indicated that the scheme had failed to impact upon their quality performance.

[3] The measurement of inventory is a good proxy measure of operational efficiency. A manufacturing system with sub-optimal levels of efficiencies tends to accumulate inventory buffers along the production process as a way of compensating for such weaknesses. This trend often results in high levels of raw material inputs, and an accumulation of work-in-progress along the production process as well as finished goods in the warehouse.

| Table 11: How DCC Beneficiaries Rate the Impact of the Scheme upon the Operational Efficiency of their Firms. | | | |
|---|---|---|---|
| Operational Efficiency Indicators | | | |
| | Positive | No effect | Negative |
| % of turnover spent on R&D. | 60% | 40% | 0 |
| Raw material inventory | 20% | 70% | 10% |
| Work in progress levels | 20% | 77% | 3% |
| Finished goods inventory | 27% | 70% | 3% |
| Quality performance. | 50% | 50% | 0 |
| Production lead times. | 37% | 63% | 0 |

Given the gaps that exits within the auditing process in relation to these factors, it is instructive to note that this key characteristic of the scheme is not being adequately captured to inform future policy options. However, a closer evaluation of the scheme reveals that its formulation did not make provision to compel beneficiaries to reassess their strategic priorities, especially in relation to value-chain management issues.

## RECOMMENDATIONS REGARDING THE AUDITING PROCESS

In the course of the IRP's assessment of the auditing system that was constructed to monitor the progress of the DCC scheme, it was noted that the PPMS process depended upon two sets of monitoring systems to effect the evaluation. The PPMS was informed by observations gathered during site visits by the evaluating consultants, and the compilation of a PPR matrix.

As far the site visit reports are concerned, it was noted that although the financial performance aspect was well covered, gaps existed with regard to the reporting on human resource development and manufacturing performance issues. In the case of human resource development, the evaluation was biased towards quantitative interventions. As a result, the audits have a limited potential to inform policymakers about the actual functioning and sustainability of such measures. As far as manufacturing performance is concerned, the reporting did not adequately cover issues relating to inventory management or value-chain dynamics.

These gaps in the reporting process suggest that the evaluation process needs to be structured around a more contemporary site evaluation system that could more adequately (and systematically) accommodate the consideration of market demands and supply chain dynamics. For instance, previous IRP research has revealed the following about demands that retailers place upon high-value added (i.e. AB market) clothing manufactures:

> *"Buyer are more discriminating about what they require from the AB segment. In addition to keener prices, which is now simply an order qualifying market-entry requirement, greater emphasis is being place on a large number of non-price competitive factors such as: prompt delivery, reliability, higher quality, repeatability, shorter runs, shorter lead times, and quick responses than in the CD segments" (Morris and Kaplinsky, 1997).*

In order to determine how the performances of firms respond to these demands, the IRP currently depends on a ‘market driver' approach (Table 12) as one of its instruments of measurement during the site visits it conducts. The market driver approach groups measurements under particular market drivers. This linkage is informed by the realisation that internal performance and measurements thereof should be informed by market demands. The approach thus allows the monitoring process to determine whether a firm’s manufacturing and organisational arrangements can be expected to facilitate performance improvements.

Table 12: A Summary of the Market Driver Approach

| Market drivers | Performance measures | Organisational practices |
|---|---|---|
| 1. Cost | Inventory use (raw materials, work in progress, finished goods) | Single unit flow, quality at source, cellular production, multi-skilling, production pulling (kanbans) |
| 2. Quality | Customer return rate, internal defect and scrap rate | Statistical process control, quality circles, team working |
| 3. Lead times (external flexibility) | Time from customer order to delivery, delivery frequency of suppliers | Business process engineering, cellular structures in order processing and dispatch, supply chain management |
| 4. Internal flexibility | Delivery frequency to customers, machine changeover times, batch sizes, lot sizes, inventory levels, throughput time through factory, production flow | Value chain relationships, JIT, single minute exchange of dies, multi tasking and multi skilling, cellular production in manufacturing |
| 5. Capacity to change (Human Resource Development) | Suggestion schemes, labour turnover and absenteeism (proxies for employee commitment), employee development/training | Continuous improvement (kaizen), worker development and commitment |
| 6. Innovation | R&D expenditure, development of new products | Concurrent engineering, R&D |

As far as the PPR matrix is concerned, the IRP notes that its ability to compress masses of data into a user-friendly and tabular form has the potential to greatly improve the processing of information from many firms. Given the capacity constraints within the DTI, this characteristic is especially significant. However, the effectiveness of the PPR matrix could be further enhanced by capturing other important measurements of firm performance, e.g. inventories, quality, throughput time, response rates and the effectiveness of labour participation.

replacements for the scheme. In this regard, there are a number of approaches that have been suggested by international researchers looking into the question of improving the effectiveness of industry support measures in developing countries. One of these measures is the so-called "Triple-C" approach (Humphrey and Schmitz, 1996). This approach emphasises three characteristics to ensure optimal results from industry support measures:

1. Customer orientation: Policy should be targeted towards helping firms to meet customer demands. In this regard access to a dynamic market channel that provides an impetus towards restructuring and makes specific performance demands is essential.
2. Collectivity: Industry support is likely to be more effective when its is directed towards groups of firms as opposed to individual operations.
3. Cumulativeness: Once-off measures tend to be ineffective. This is mainly due to the fact that competitiveness is not a state but a process that requires ongoing improvements.

Another strategy in this regard is the "Eight-Cs" approach (Romijn, 1999) which build upon the three characteristics of the Triple-C approach to give a more holistic approach (Table 13). This approach makes a distinction between appropriate policy attributes and implementation attributes in the design of industry support measures.

Table 6: A Summary of the Eight-Cs Approach

| **Attributes relating to project objectives and focus.** | **Attributes relating to the mode of implementation.** |
|---|---|
| Customer focus:<br>Ensure access to a dynamic market to guarantee compatibility between market demands and restructuring within firms. | Collectiveness:<br>Aim to target groups of companies as opposed to individual firms. |
| Capability focus:<br>Avoid once-off intervention by focusing on invention that will result in ongoing improvement capacity, and ensure that the industry has the skills and capacity to absorb new techniques. | Concentration:<br>Ensure focused delivery through selective targeting, i.e. a sub-sectoral or value-chain identification approach will result in the development of "in-depth" expertise around the needs of particular market segments. |
| Context:<br>Construct an enabling macro-economic environment that encourages information sharing. | Co-ordination:<br>Streamline delivery through institutional complementarity and co-ordination between providers of support. |
| Complementarity:<br>The support measures to firms need to fit into the existing macro-economic infrastructure and the development level of the country. | Carrot and Sticks:<br>The policy should be able to reward participants and sanction those firms that fail to restructure. |

Source: Romijn, 1999.

In contrasting the implementation of the DCC scheme against the Eight-Cs approach, it is quite clear that a number of key undertakings that ensure successful implementation were not satisfied. One of these, is the fact that the scheme was rolled out to individual companies as opposed to groups. Furthermore, the scheme lacked a

sub-sectoral focus (i.e. concentration). As a result, the DTI was unable to discriminate between sustainable and unsustainable exporters. There was also a lack of structured co-ordination between the implementation of the scheme and other export support measures of the DTI. For instance, programmes such as the Technology and Human Resources for Industry Programme (THRIP), Workplace Challenge, and Export Marketing and Investing Assistance (EMIA). Finally, the other key area that the scheme neglected was the facilitation of a collaborative context at the firm level that could lead to the development of an information rich environment.

On the positive side, the DTI did ensure that ongoing nature of DCC support to ensure continuous learning by participants. By virtue of being an export support measure, the DCC scheme also ensures that participants are exposed to a dynamic market that requires them to engage in change processes. Furthermore, the scheme fits into the broad macro-economic policy framework of the Department of Trade and Industry .

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