Potential, readiness and needs of the South African stainless steel industry for the marketing and distribution of stainless steel products globally through collaborative e-business

18 April 2002

Key findings

The primary research focused on understanding the readiness, needs and potential for eBusiness within the stainless steel industry. Immense disparity was noted between the different players in terms of the use of technology, both process and IT, the way they manage their businesses and how they approach exports.

On the one hand there are a few very large and sophisticated companies, that are able to compete globally through their established relationships and competitiveness. Alongside them there are several smaller companies with overseas investments, or having imported technology from overseas and are able to compete internationally as well.

And then there is the other side of the scale, small and medium companies that operate on a fairly unsophisticated style. Product quality and ability to produce world-class products appears intact, but business management and the resources to grow the company to export internationally, is lacking. These companies manage their business on a day-to-day basis, with limited capacity to create the next opportunity unless circumstances force them to.

Generally, eBusiness readiness was perceived to be very low in terms of technology, process and eBusiness vision and leadership amongst all companies, although larger companies had all the right technology enablers in place. This included extensive integrated systems and access to internet and e-mail.

A general view was expressed that few customers, suppliers and partners were either willing or able to participate in eBusiness initiatives. The most common communication methods cited were telephone, fax and personal interaction. Although those companies that used e-mail extensively, were trying to covert most or all of their customers, suppliers and partners to this form of communication.

Most companies indicated high eBusiness maturity in terms of their views of the value that supply chain collaboration and eBusiness in general could bring to their businesses for both exports and local sales. Indepth interviews indicated that although there is consensus regarding the value of eBusiness, industry uptake is very slow and many respondents expressed skepticism regarding the true value of eBusiness to their companies.

The research indicated clear business needs and eBusiness potential within the industry, which could be leveraged in an industry-wide eBusiness strategy for the stainless steel industry. These included specific opportunities within sectors and products, as well as specific business areas.

The automotive sector was one example of where the downstream customers were dictating working methods to their suppliers. Historically, the automotive sector has communicated electronically with their suppliers through EDI, e-mail and the Internet. South African companies, who are currently supplying this sector, or are intending, must take note and ensure they ready themselves through appropriate certifications as well as upgrading their technology work methods.

Although it is a well-known fact that commodity products tend to be more suited to online selling, no specific constraints were noticed in this research or in the accompanying desk research. Highly customizable, made to order products were as prevalent as commodities on the Internet. Obviously the ordering and contracting process required more personal intervention, the nature of the product or service offered did not appear to be an inhibitor.

Within specific business functions, significant opportunity exists to enable South African stainless steel companies through technology internally and in procurement, marketing and sales to achieve world-class status and reach industry growth targets of 1 million tones by 2010.

From an internal perspective, eBusiness technologies such as e-mail and the use of the Internet to facilitate research and electronic banking, can offer many process efficiencies, freeing up owner-managers or key staff to focus on growing sales or managing operations. The promotion of integrated systems and technologies such as manufacturing, costing and ordering management systems, will also greatly enhance internal efficiencies.

Procurement appears to be highly inefficient in the industry, with stock availability being one of the biggest issues for all players. Another issue highlighted was the erratic demand patterns experienced by especially the SMEs. By collaborating with suppliers in terms of sharing demand forecasts, needs, specifications and general information, both these issues this could potentially be addressed.

Within the marketing, sales & service arena, eBusiness, if correctly applied, could have a dramatic impact on individual companies' bottom line. Most respondents expressed a need to increase exports, but clearly indicated lack of skill, inability to

make contact with the right people, and knowing where the opportunities are, as major constraints. This was strongly observed within the SME sector, with cash flow being cited as one of their major business constraints. The larger organisations, particularly those involved in exports, make use of agents or their international counterparts to sell and market their products.

Limited opportunity was observed for enabling the logistics function within the short to medium term, although it was noted that the administration related to exporting is perceived as being time consuming and complicated. Many respondents expressed a need for education, as they perceived exports to have many pitfalls.

The primary research highlighted many opportunities, but also potential stumbling blocks to avoid in implementing any eBusiness strategy within the stainless steel industry. These findings will be incorporated in the next phase in developing the eBusiness strategy, with cognizance of the many differences observed between companies in the market place.

TABLE OF CONTENTS

1 LIST OF ABBREVIATIONS USED IN THIS REPORT

BEE	Black Economic Empowerment
CAPSEC	Cape Stainless Steel equipment Cluster
CPG	Counterpart group
EDI	Electronic data interchange
ERP	Enterprise resource planning system
IDC	Industrial Development Corporation
IT	Information technology
NUMSA	National Union of Metalworkers of South Africa
OEM	Original Equipment Manufacturers
PC	Personal computer
PDI	Previously Disadvantaged Individuals
RFQ	Request for Quotes
SASSDA	South African Stainless Steel development Association
SME	Small and medium enterprises
SSCDI	Stainless Steel Co-operative Development Initiative

2 INTRODUCTION

The Stainless Steel Co-operative Development Initiative (SSCDI) is currently exploring various ways in which the South African stainless steel industry can be stimulated. One of the areas being investigated is eBusiness as a potential vehicle to stimulate growth and competitiveness in the industry for all participants.

EBusiness is defined as the use of technology, including Internet technologies, to enable business internally and externally (e.g. suppliers, partners or customers).

As part of this study, extensive primary research was undertaken within the South African industry to establish the eBusiness needs, potential and readiness of local stainless steel companies. The outcome of this study, as well as the accompanying review of international eBusiness activity in the metals and related industries, will be an e- business strategy for the industry, which will show each company how it can leverage eBusiness, as well as the potential benefits.

A combination of stakeholder interviews (including interviews with distributors) and a questionnaire with follow-up in-depth interviews with manufacturers, fabricators or converters of secondary stainless steel products was used to determine industry needs, potential and readiness for eBusiness.

Internationally, there are many examples where eBusiness has successfully been used in the metals sector and where the small and medium enterprise (SME) sector has been able to leverage eBusiness. Clearly there are both successful and unsuccessful models and the culture of a country and industry can play a significant role in what will and will not work.

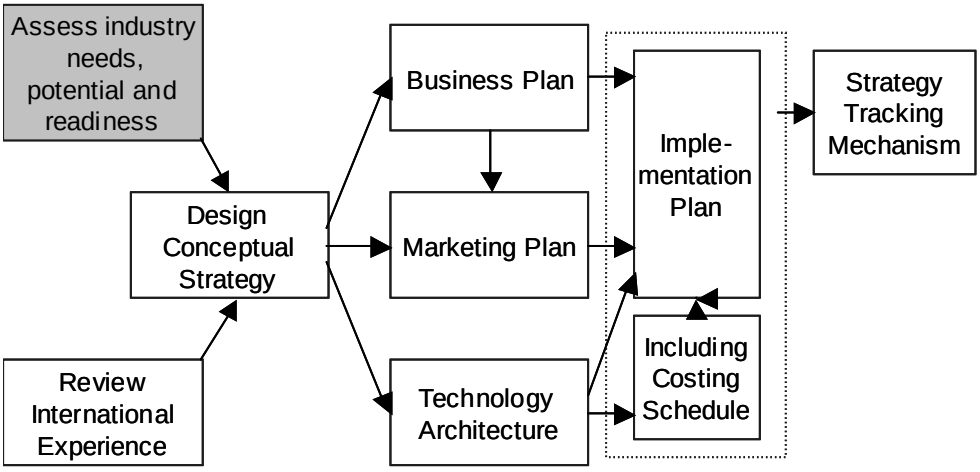
This report presents an analysis and understanding of the potential, readiness and needs of the industry.

3 OBJECTIVES OF THE RESEARCH

The primary objective of the research was to analyse and understand the potential and readiness of the stainless steel industry, its stakeholders and the SSCDI, for the marketing and distribution of stainless steel products globally through eBusiness. Emphasis was placed on the potential by the industry to collaborate in a proposed global eBusiness venture.

The figure below indicates the research phase of the study relative to the overall study.

Figure 1: SSCDI overall study



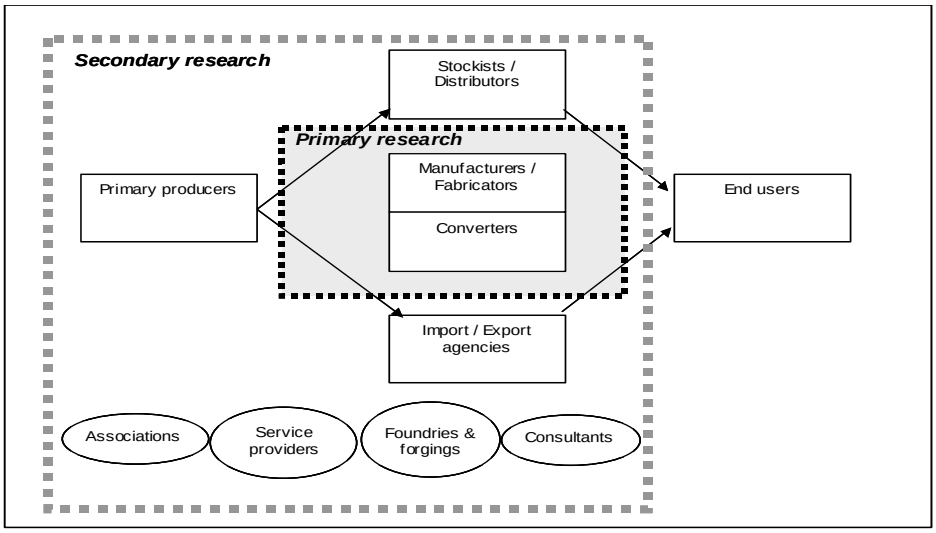
A secondary objective was to establish likely high eBusiness potential segments.

An understanding of the eBusiness potential, readiness and needs, coupled with the analysis provided in the international report (under separate cover), will provide the platform for the formulation of an effective eBusiness strategy, business plan, marketing plan and technology architecture for the industry.

4 SCOPE

The scope of the research included manufacturers, converters, fabricators, distributors and stakeholders of the South African stainless steel industry. A simplified view of the stainless steel industry is depicted in the figure below. Although the scope of the research relates to the total industry, a distinction is made between primary (direct, quantitative and statistically representative) research, and secondary (indirect, qualitative and not statistically representative) research.

Figure 2: Project scope



Primary research focused on the manufacturers, fabricators and converters of stainless steel products. The secondary research focused on the other stakeholders relevant to the industry, excluding end-users.

5 REFERENCES TO THIS REPORT

Reference is made to the following documentation:

- Proposal: Study to establish a method of increasing the market and distribution of stainless steel products globally through collaborative eBusiness, 20 August 2001
- Terms of reference for a study to establish a method of increasing the market and distribution of stainless steel products globally through collaborative eBusiness, IDC, 2001
- "Project initiation work-session" updated 22 February 2002, forwarded electronically to CPG members on 25 February 2002
- "Post kick-off meeting communication" dated 25 February 2002, forwarded electronically to CPG members on 25 February 2002
- "Research proposal", forwarded electronically to CPG members on 7 March 2002.

6 APPROACH AND METHODOLOGY

A structured approach was followed in the research process. More specifically the research process included the following activities:

6.1 DESK RESEARCH

Desk research included the gathering and analysis of relevant public, published, semi-published and secondary information, as well as the analysis of similar research undertaken by Bentley West. Information on current stainless steel segments and product categorisation was analysed in conjunction with the SSCDI and based on current information available from SASSDA.

6.2 QUESTIONNAIRE AND INTERVIEWS

6.2.1 DATABASE OF POTENTIAL RESPONDENTS

The respondent database was formulated in conjunction with the SSCDI, SASSDA, and other industry stakeholders. An extensive database of South African stainless steel manufacturers, fabricators and converters was established comprising:

- 217 SASSDA members, including questionnaire
- 15 small and medium business enterprises, earmarked in conjunction with the SSCDI
- 41 non-members selected in conjunction with industry stakeholders.

An initial letter was sent to all SASSDA members to introduce the study and request cooperation.

6.2.2 QUESTIONNAIRE AND INTERVIEW GUIDELINE DESIGN

A structured questionnaire and accompanying interview guidelines (See Appendix 1: Final questionnaire) was used to collect data.

6.2.3 QUESTIONNAIRE FOLLOW-UP AND RESPONSE

On final approval, the questionnaire was distributed to the respondent database. Initial response was very low and the consultants instituted immediate remedial action. This included another reminder via e-mail from SASSDA, and telephonic follow-ups to every respondent. Response to the questionnaire was 10%. This

response rate compares favourably with response rates on similar complex studies. Industry representation was enhanced by extending the interview network to include non-respondents as well.

6.2.4 PERSONAL INTERVIEWS

In order to supplement questionnaire responses, personal interviews were undertaken with 16 stainless steel manufacturers, fabricators and converters (including 7 questionnaire respondents). Interviews were also conducted with industry stakeholders to obtain their views on eBusiness needs, readiness and potential, as well as to take cognisance of specific stakeholder objectives in the development of the conceptual eBusiness strategy.

The following stakeholders were interviewed:

- Stainless Steel Co-operative Development Initiative (SSCDI)
- Southern African Stainless Steel Development Association (SASSDA)
- Council for Scientific and Industrial Research (CSIR)
- Trade and Investment South Africa (TISA)
- Department of Trade and Industry (DTI)
- Cape Stainless Steel Equipment Cluster
- Columbus
- Distributors (Trident, VRN and Stalcor)
- Select eBusiness initiatives potentially applicable to this study (Virtual Works, Talnick , SAISI and Netgate).

Unfortunately, due to time constraints, no representatives from the National Union of Metalworkers of South Africa (NUMSA) or the SA Tank Container Association have been interviewed as yet, but this will be scheduled during the next phase to ensure their views are taken into cognisance for the strategy development.

6.2.5 *ANALYSIS AND INTERPRETATION*

Although all stainless steel sectors were represented in the study, it must be noted that the relatively low response rate to the questionnaire has resulted in marginal representation in certain product categories. This obviously influences the researchability of all products across the entire stainless steel industry, but where possible, an attempt was made to draw insights regarding product potential.

Analysis of the data indicated that respondents exhibit similar characteristics in relation to the magnitude of turnover. Number of employees was incomparable and was thus not used to classify respondents into small, medium or large categories.

Analysis of results from questionnaires and interviews was achieved according to the following criteria:

- Analysis of potential and readiness on a company level, where issues such as job creation, turnover growth, export potential, supply capacity and certification were analysed with the emphasis placed on understanding the needs and requirements forthcoming from the research. This included an analysis of the main products identified by respondents. Where relevant, results were compared to the latest SASSDA statistical review, “2000 schematic overview of the South African stainless steel industry” and related research provided by SASSDA

- Potential and readiness on an eBusiness level, where potential and readiness was based on an analysis of technology, processes, customer, supplier and partner eBusiness maturity, as well as leadership and vision. Emphasis was placed on determining the needs and requirements of respondents in relation to business functions such as procurement, marketing, sales and service, as well as distribution and internally to the organisation. Willingness of respondents to take participate in a industry eBusiness venture was also tested

- Company data was aggregated to an industry level and grouped according to turnover size, between small and medium respondents and large respondents.

7 OUTLINE OF THE REPORT

The report is structured as follows:

- Stakeholder views and needs from this project

- Industry issues that will impact any eBusiness initiative

- An overview of the sample frame to establish context for the research report.
  - Company profile
  - Company size
  - Number of employees
  - Segment and product representation
  - Company certification and standardisation
  - Business drivers
  - Business constraints
- An analysis of potential in terms of:
  - Turnover growth expected
  - Supply capacity (current and full production capacity)
  - Export potential and markets
  - Analysis of potential in terms of main product statistics
  - Number of product categories
  - Employment creation
  - Wealth creation for PDI
- Readiness to participate in an eBusiness initiative, as well as maturity to leverage eBusiness in terms of:
  - Technology
  - Process
  - Customers, suppliers and partners
  - Leadership and vision
- EBusiness needs in terms of:
  - Internal efficiencies
  - Procurement
  - Marketing, sales and services
  - Logistics

  - Sector-specific eBusiness requirements

- Lastly, the report focuses on companies' willingness to participate in industry-wide eBusiness initiatives in terms of:
  - Needs and requirements
  - Willingness to collaborate

8 STAKEHOLDER VIEWS AND REQUIREMENTS

Although the predominant focus is on developing the secondary sector within the stainless steel industry through eBusiness, various interviews were conducted with a cross-section of stakeholders to ensure that their needs were taken into consideration when developing the eBusiness strategy.

Overall, stakeholders expressed an understanding that in order to grow the industry, the secondary industry needed to be stimulated. Growth in export markets was seen as the major offset for this growth, although import replacements in certain sectors such as hollowware and cutlery were being investigated.

SASSDA, SSCDI and TISA confirmed an industry need to grow the domestic market for stainless steel consumption to 300,000 tons by 2006, and to 1 million tons by 2010. It was acknowledged that this growth will need to come from secondary product exports, rather than primary exports, in order to overcome tariff barriers. All stakeholders indicated that exports of primary products were not as profitable and subject to import tariffs.

The DTI clearly has a general objective of stimulating various industries to grow the economy. In addition, they focus on attracting foreign investment and growing exports. This includes the geographic spread of exports. Other indirect objectives are job creation, Black Economic Empowerment (BEE), the development of SME's and empowerment for women (WE). In terms of this project, eBusiness is seen as a major potential contributor to enhancing competitiveness for South African firms internationally and hence growing exports. Clearly growth in the industry will have a positive spin-off in terms of job creation.

The DTI would consider this project successful if a certain percentage of companies would modify their operations, i.e. the strategy must be "living" and practical and applicable to every company. It must show clear actions for all players such as the DTI, TISA and individual companies. In addition, there must be a coherent effort to

distribute the findings into the industry post the project closure. In addition, TISA's supporting objectives are to grow exports, broaden the South African export base, and BEE and SME development. TISA has two very firm convictions in relation to their objective to grow export markets, namely

- "If we are to take part in a global economy, we must digitize", and
- "To enhance competitiveness, we must leverage technology"

The other stakeholders largely reflected the above views. There is also a general view that the stainless steel industry is not sufficiently competitive in global terms as yet. There are some players, predominantly the bigger ones, and those with foreign investment that are very mature and competing globally already. But these represent a mere handful of world-class players in terms of both process and other technology, whilst the bulk of the industry remains far behind. It appears as if this may be an urgent focus for the SSCDI; that is to facilitate the transition from being a local player and thinking locally, to that of being globally competitive.

Preliminary discussions with NUMSA indicate that their major concerns regarding this project would relate to protecting employment[1]. This is a reflection of the general view that eBusiness leads to job losses. It is not surprising as the initial benefits of eBusiness were touted to be these very efficiencies – having technology replace employees. The focus of this study is on growing the market and based on the make-up of the industry, this would imply a growth in employment.

[1] An in-depth interview will be scheduled before the end of the next phase to incorporate all NUMSA 's views in the eBusiness strategy

9 SAMPLE FRAME

The following section describes the sample frame analysed in the research and includes information gathered from questionnaires and personal interviews. In summary, the headline findings are as follows:

- Most respondents were stainless steel manufacturers and fabricators
- 80% of respondents indicated a turnover of less than R20 million (in terms of the research, these respondents were defined as small and medium respondents)
- 20% of respondents indicated a turnover between R70 and R200 million (in terms of the research, these respondents were defined as large respondents)
- 50% of small and medium respondents employ less than 20 employees
- 50% of large respondents employ more than 50 employees
- All 11 segments in the SASSDA classification was represented
- The vessels and process flow equipment segment, accounted for more than 50% of responses
- The product, storage and process vessels, accounted for approximately 25% of responses
- A proportion of innovative products was also represented

9.1 COMPANY PROFILE

The majority of respondents were primarily stainless steel manufacturers and fabricators, with 10% of the companies importing stainless steel components and converting for re-distribution. Approximately 50% of respondents performed other activities unrelated to manufacturing, fabrication or conversion of stainless steel products.

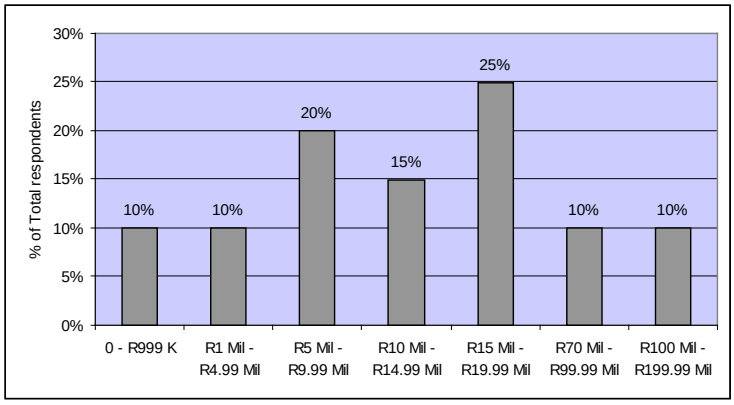
9.2 COMPANY SIZE

9.2.1 TURNOVER

Both turnover and number of employees were considered in determining company size for this report. Employee numbers did not appear to be consistent criteria for company size as a significant number of large respondents (in terms of turnover) employed less than 20 employees. Consequently, for the purpose of this report, company size was determined by turnover.

The figure below indicates the spread of turnover ranges within the sample frame.

Figure 3: Respondent turnover

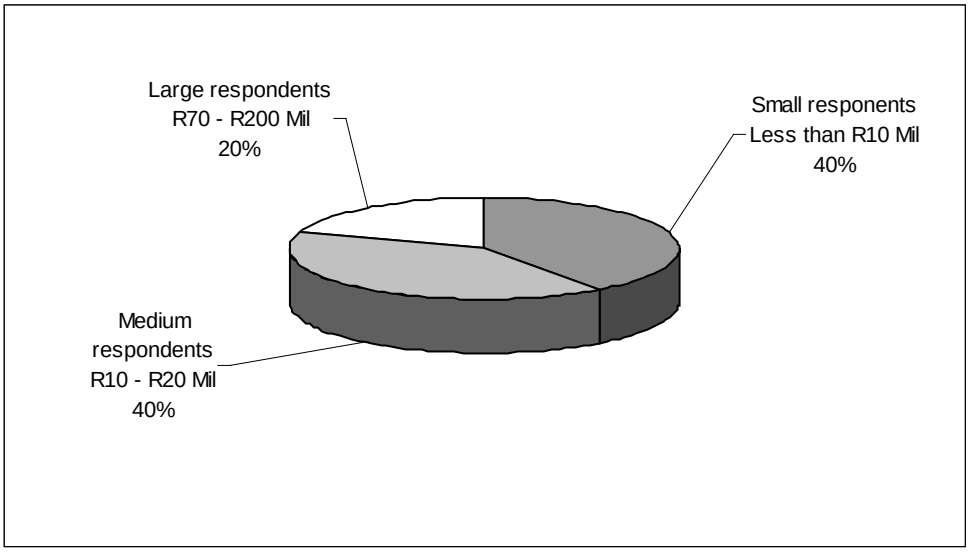


Two distinct spikes in company size were observed, namely between R5 and R10 million and between R15 and R20 million. No respondents indicated turnovers between R20 and R70 million and the maximum company turnover recorded was in the range of R100 to R200 million.

Ample representation was recorded in the micro-sized companies, with a 10% response rate for companies with a turnover of less than R1 million.

Approximately 40% of respondents were classified as small with turnovers of less than R10 million, another 40% were classified as medium with a turnover of between R10 and R20 million and the balance were classified as large companies with a turnover of between R20 and R200 million.

Figure 4: Small, medium and large respondents



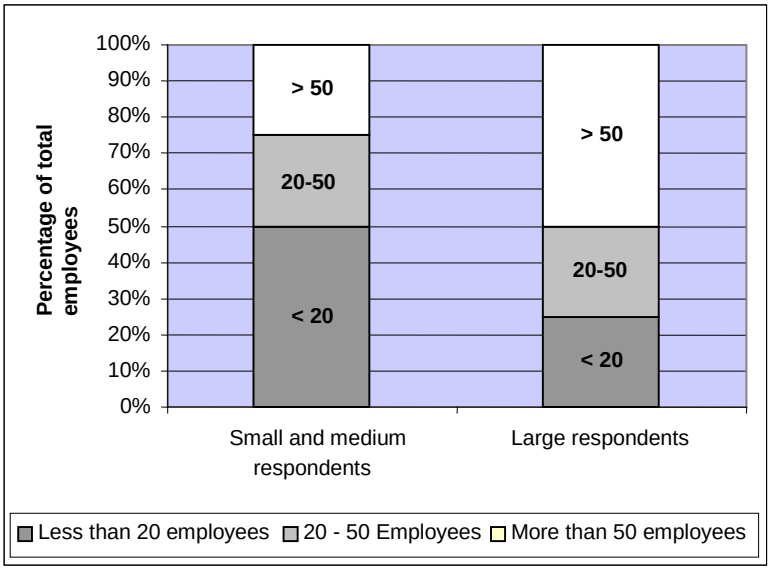
Small and medium respondents contributed to 80% of the sample frame.

Bottom line: Consistent trends could be identified for small and medium companies and consequently, findings were aggregated accordingly for small and medium sized companies and then compared to large companies.

9.2.2 NUMBER OF EMPLOYEES

Employee numbers, including contracting staff, were considered. Analysis of employee numbers indicated a distinct trend between small and medium enterprises (called SME for the purpose of this report) and large companies.

Figure 5: Number of Employees



Most small and medium respondents employ less than 20 employees, and most large respondents employ more than 50 employees.

50% of Small and medium respondents currently employ less than 20 employees, 25% employ between 20 and 50 employees and 25% employ more than 50 employees. Large companies, generally employ more than 20 employees with 50% employing more than 50 employees.

In terms of the interviews, a very large proportion of “employees” as considered for this study, are contractors. This is due to the very cyclical nature of the industry. Most interviewees indicated a percentage of 60%-90% as a ratio for contractors to total employees.

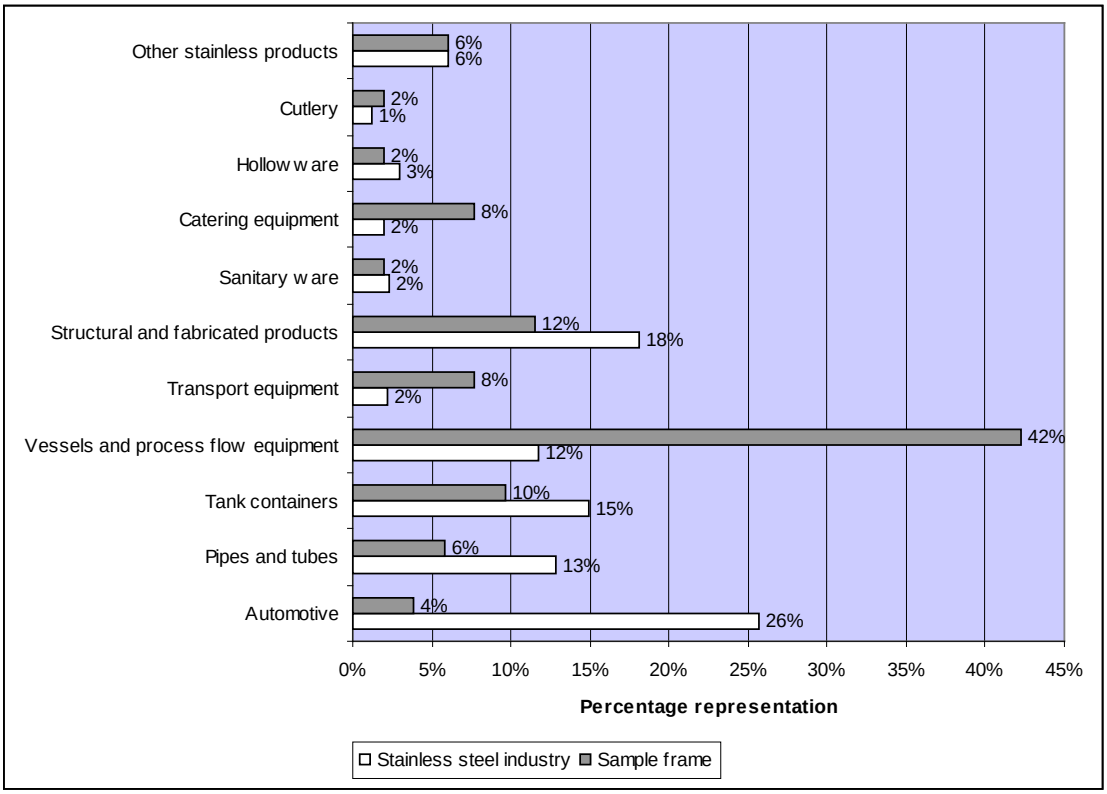
Bottom line: Industry growth = employment creation. However, the employment created is typically non-permanent or contract

9.3 SEGMENT AND PRODUCT REPRESENTATION

For the purpose of this report, product segmentation was based on the current SASSDA stainless steel segmentation for secondary products, which currently includes 11 segments and 30 standard product categories. The research sample frame represents all 11 stainless steel segments.

The following figure represents a reflection of the sample frame within the South African stainless steel industry (latest SASSDA review, 2000):

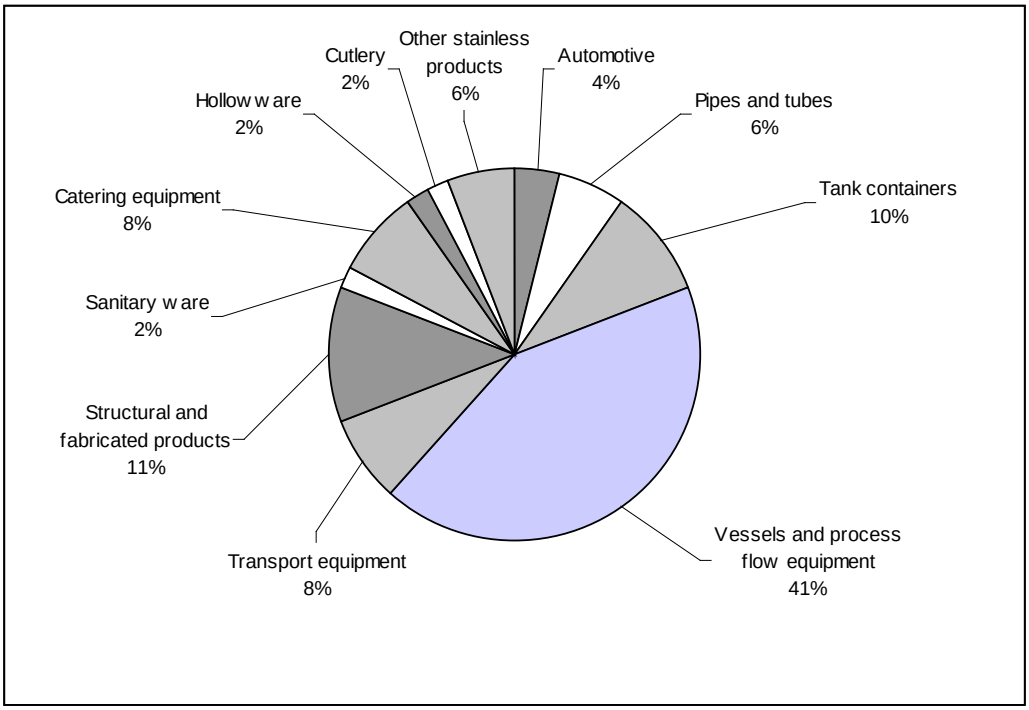
Figure 6: Sample frame representation with the South African stainless steel industry



Comparison between the segment representation of the sample frame and the South African stainless steel industry is distinct in the vessels and process flow and automotive segments.

It must be noted that there is an ongoing industry initiative to align the South African stainless steel industry with international classification of both products and segments. The international classification was considered for the purpose of collecting and analysing data for this study in order to make it comparable to international benchmarks. This was abandoned due to the lack of data corresponding to the international classifications.

Figure 7: Distribution by stainless steel segments – all respondents

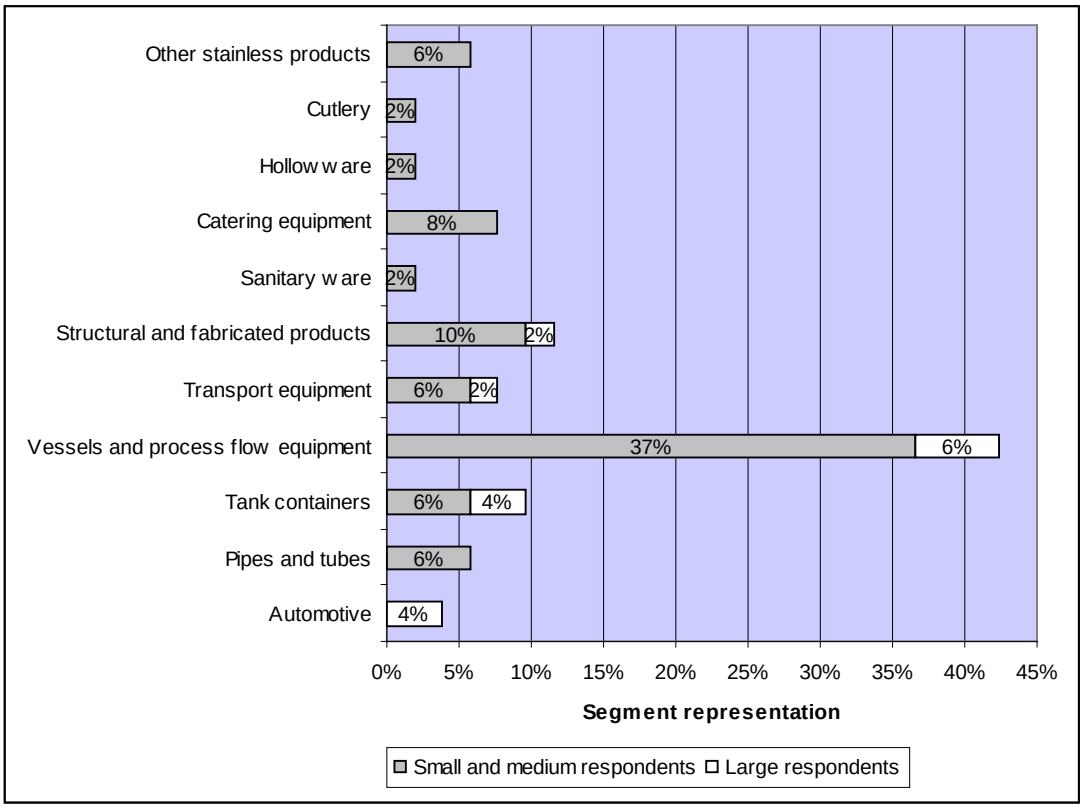


Strongest stainless steel segment representation is vessels and process flow equipment.

Although all segments were covered in the study, it must be noted that nearly 60% of the respondents produced vessels and process flow equipment, tank containers and transport equipment. These are all large, specialised products made to order. Only about 12% of the sample frame manufactured commodity-type products.

Large companies were only represented in 5 segments, namely vessels and process flow equipment, automotive, tank containers, transport equipment and structural and fabricated products.

Figure 8: Distribution by stainless steel segments – small and medium versus large respondents



SME's were represented in all sections, with the largest segment represented being vessels and process flow equipment

9.3.1 PRODUCT REPRESENTATION

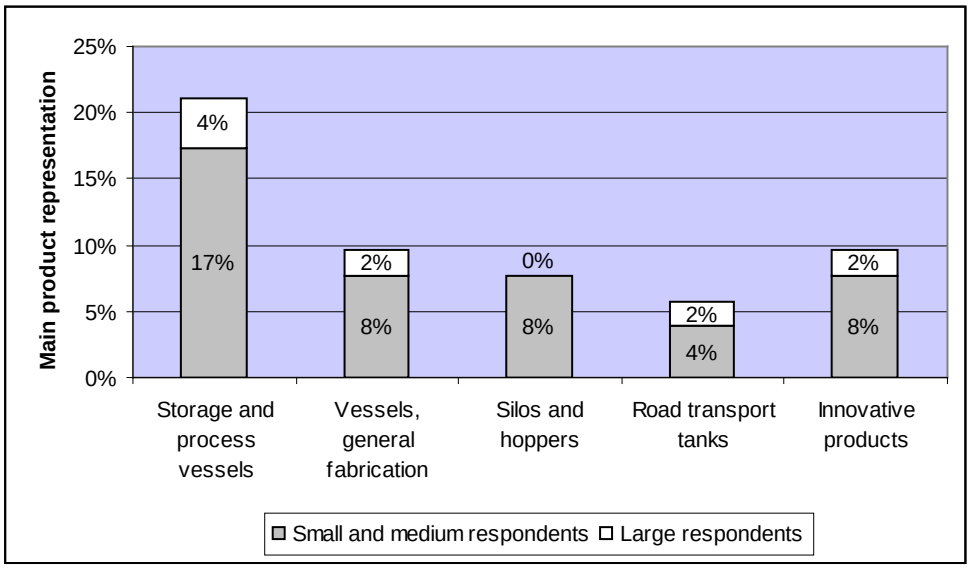
Research respondents were asked to indicate the **main products** manufactured and then to provide additional information regarding turnover and growth expectations for local and export sales. As indicated in the table below, a wide range of products within each segment has been included in this study.

Table 1: Sample frame – represented stainless steel segments and products

	Segment	Products
1	Automotive	Flexible couplings
2		Bull-bars and roll-bars
3	Pipes and tubes	Structural tubing
4		Conveyance piping and fittings
5		Ornamental tubing
6	Tank containers	Bulk containers
7		Cryogenic tanks
8		Storage tanks
9		“Hazchem” potafeed tank
10	Vessels and process flow equipment	Storage and process vessels
11		General fabrication
12		Silos and hoppers
13		Heat exchangers
14		Mixers
15	Transport equipment	Trailers
16		Road transport tanks
17	Structural and fabricated products	General engineering products
18		Coin blanks
19		Fittings
20		Water cutting service
21		Flooring elements and gratings
22	Sanitary ware	Sanitary ware
23	Catering equipment	Gas braais
24		Trolleys and tables
25		General catering equipment
26		Cheese making equipment
27	Hollowware	Hollowware
28	Cutlery	Cutlery
29	Other stainless products	Telecommunication
30		Display stands
31		Bowling equipment

On a product level, storage and process vessels, general fabricated vessels, silos and hoppers, road transport tanks and innovative products received the highest representation within the sample range. The figure below indicates the spread between SME and large companies in these products:

Figure 9: Distribution of respondents by main stainless steel products



Storage and process vessels represented more than 20% of products in this survey, with 17% being manufactured by SME's

Innovative stainless steel products represented included:

- innovative flexible couplings
- "Hazchem" potafeed tanks
- cheese-making equipment,
- innovative storage and process vessels, and
- innovative fittings

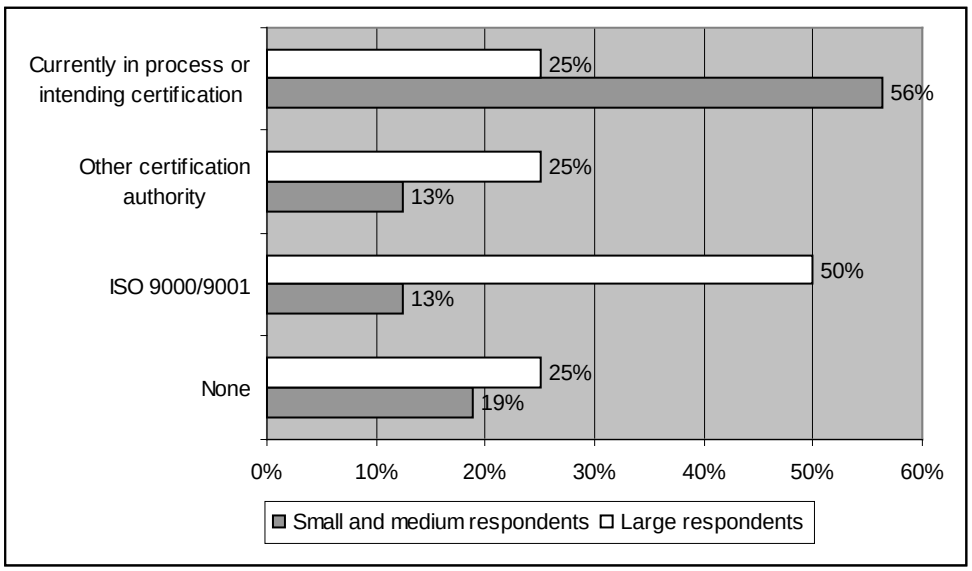
9.4 COMPANY CERTIFICATION

One of the areas critically important to establishing the South African stainless steel industry as a global competitor is certification. Interviewees highlighted both general certifications such as ISO9000 / 9001 and industry-specific certification which were particularly apparent in the automotive and tank container, vessels and process flow equipment segments.

81% of Small and medium, and 75% of large respondents indicated current certification authorities or their intended plans for company certification. 19% of Small and medium, and 25% of large respondents indicated no current or intended plans for certification.

The perceived need for certification is reinforced by the more than 50% of small and medium, and 25% of large companies who indicated an intention to implement certification within the next 12 months, or are in the process of implementing certification.

Figure 10: Certification



A significant proportion of the large organisations have obtained ISO9000/9001 certification

Of the companies that currently have members of other certification authorities or are in the process of obtaining certification, ISO9001, ISO9000, ISO2000, ISO14000, and QS9000 were commonly cited as current or intended certification authorities.

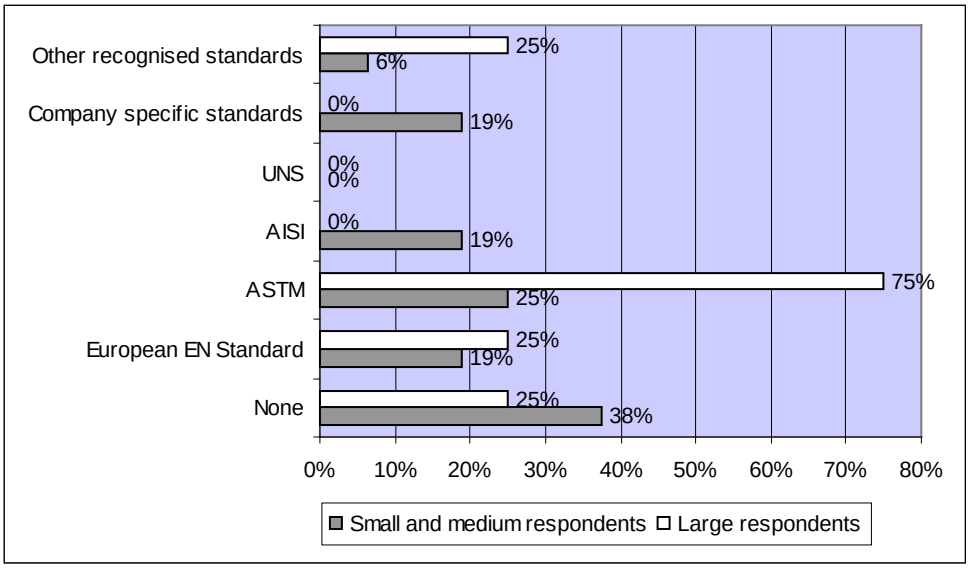
According to personal interviews, many companies are exporting to SADC countries and the rest of Africa "due to the lower certification and standardisation requirements," indicating the importance of some form of certification for exports. It is a known fact though that the ISO-certification process, as well as others, is expensive to implement and maintain, and assistance with individual company certifications must be considered in a holistic framework to increase exports.

Bottom line: Certain industry segments and product categories require certification to export. Country-specific certifications are generally used as a non-tariff trade barrier

9.5 PRODUCT STANDARDISATION

Respondents were asked to identify the product standardisation that they currently utilise.

Figure 11: Product standardisation



Most large companies utilise the ASTM standardisation

The figure above indicates that 38% of the small and medium and 25% of large respondents have no current or intended plans for recognised product standardisation. In these instances, products were mostly categorised as purpose made to specific specification and not subject to any recognised standardisation.

25% of small and medium and 75% of large companies currently utilise the ASTM standardisation. The other standardisation commonly cited is the BS5500 system.

Having traditionally utilised the specifications contained in the national standards of other countries, South African stainless steel companies have adopted the ASTM (American Society for Testing and Materials), the AISI (American Iron and Steel Institute) and the European EN standard. The uniform European EN standard was introduced by the European Economic Union to standardise products across Europe. Because newly developed grades of stainless steel could not be logically accommodated in the AISI system, the UNS (Unified Numbering System) for grade identification was also introduced.

The research results indicate that international cooperation on harmonisation of standards assists companies, especially small and medium companies, to sell their

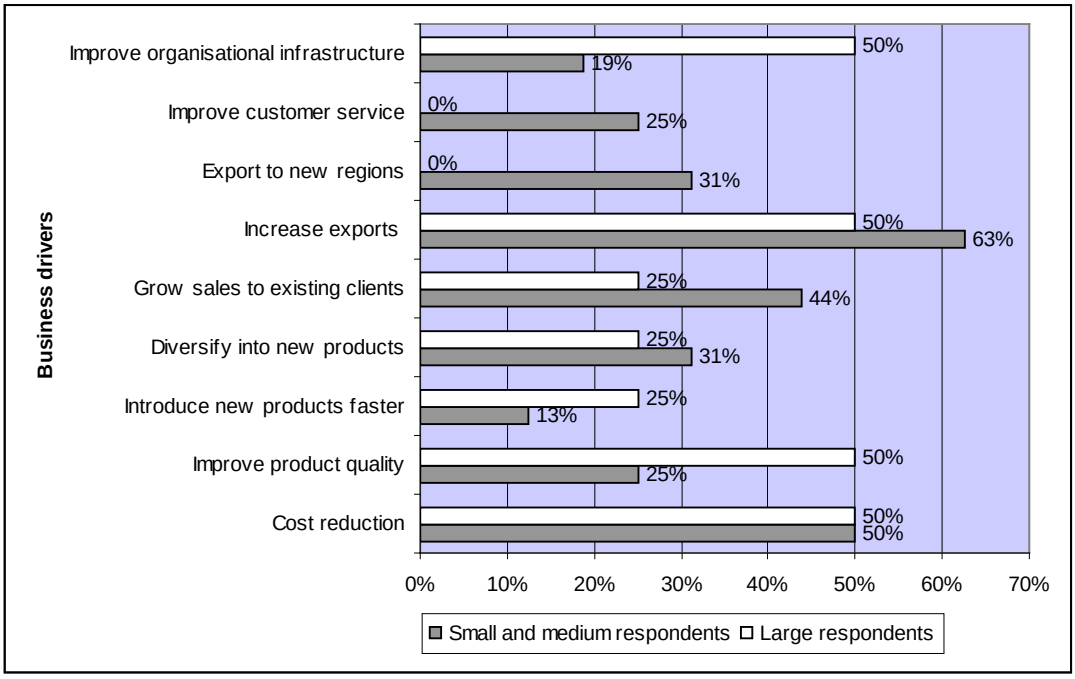
products overseas. This is unfortunately not the case with all export markets and national standard requirements remain an obstacle to entering some markets. In terms of exporting to these regions, South African companies will have to conform in order to not be excluded.

Although there appears to be a major industry drive to streamline product specification in line with major export markets, most interviewees indicated that this was not a critical issue. The data appears to indicate a fragmented standardisation approach

9.6 BUSINESS DRIVERS

Respondents were asked to indicate the major business drivers for the coming year to understand the business environment within which the individual companies operate. The figure below indicates these drivers classified for SME's and large companies.

Figure 11: Business drivers



Increasing exports is a major business driver for all respondents

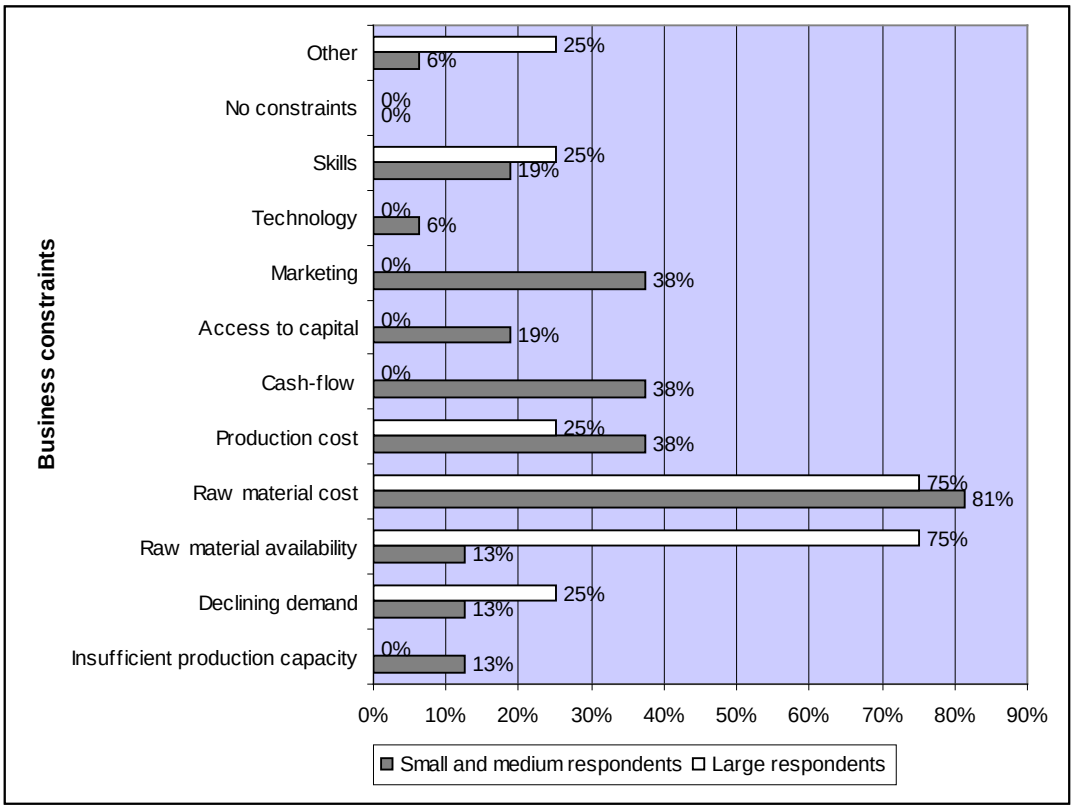
Increasing exports and reducing costs are cited as the major business drivers for all respondents, although it appears that more SME's view reducing costs as a major driver. In-depth interviews confirmed this view, and numerous examples were cited where input cost was negotiated to be able to price competitively.

For large respondents, improving organisational infrastructure and improving product quality were cited as major business drivers. Interviews confirm that smaller firms are focused on day-to-day operations and have not yet looked at how internal efficiencies can improve company performance. SME's generally have smaller transaction volumes and consequently do not require elaborate systems to manage these processes. Large companies, on the other hand, appear to place an increased emphasis on technology and product quality standards to retain and attract new customers.

9.7 BUSINESS CONSTRAINTS

Respondents were asked to select a maximum of three major business constraints to establishing an eBusiness initiative. The following figure indicates business constraints for SME's and large companies:

Figure 12: Business constraints



Raw material cost is a major constraint for all respondents

Not surprisingly, raw material cost was the major constraint indicated by all respondents as it has a significant influence on the bottom line of any manufacturing organisation.

For large companies, raw material availability was cited as a significant constraint compared to the others. Interestingly, interviews with both SME's and large companies indicated this as a major issue. More than 60% of respondents indicated that they had an issue with locating stocks when they needed it.

One must evaluate this response in terms of the parameters placed on respondents in answering this question. Respondents were asked to make a trade off and select only the major constraints for them, indicating that in this instance, even though it is an issue, other constraints were more critical for SME's. Marketing, cash flow and production costs were the specific issues highlighted by SME's. These constraints are typical of the problems encountered by any small to medium sized organisation

Skills, production costs, and a declining demand were the only other significant constraints cited by large respondents. Spontaneous responses on other constraints elicited issues surrounding erratic demand patterns and a lack of support from mills.

Raw material availability is a business constraint that concerns most industry participants

Larger marketing and cash flow constraints for small and medium respondents potentially indicate issues around lack of access to capital and inability to market sufficiently due to cost constraints.

10 GROWTH POTENTIAL AND CAPABILITY

This section of the report looks at the current potential and ability of the sample frame at a company level. The report focuses on turnover and exports, growth potential in terms of supply capacity and export growth expectations. Where relevant, results have been compared to the latest SASSDA statistical review, "2000 Schematic Overview of the South African Stainless Steel Industry".

10.1 TURNOVER GROWTH

Respondents were asked to indicate the percentage turnover growth expectation for the next twelve months (to year-end 2002). In general, the respondents' views on expected turnover growth (overall and exports) exceeded SASSDA projections.

Turnover growth expectations for the next twelve months ranged from 5% to a high of 120%, at a weighted average of 29% for small and medium respondents, and from 5% to a high of 50%, at a weighted average of 23% for large respondents. One small respondent indicated no turnover growth due to current re-structuring and probable company closure (this has the effect of reducing the average for the sample frame).

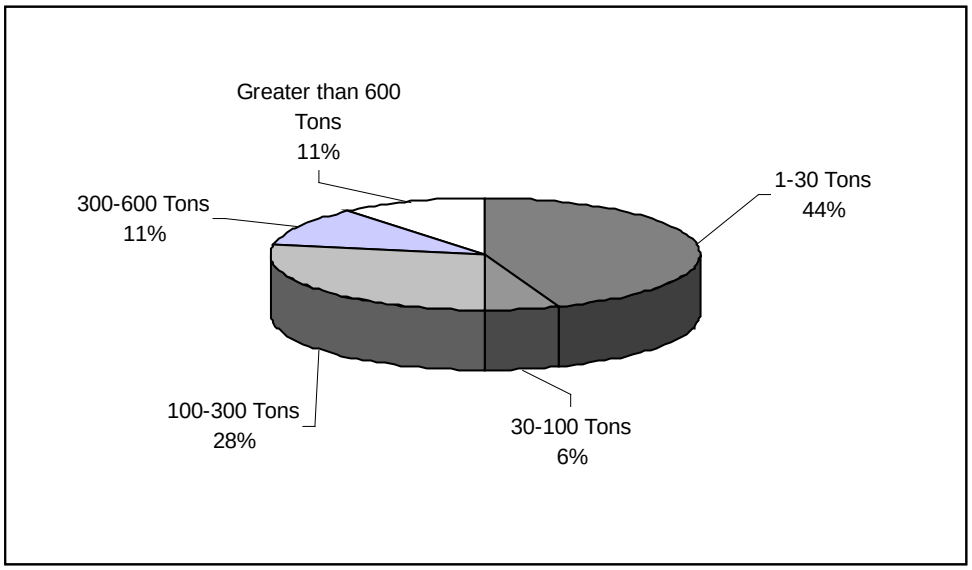
The weighted average turnover growth expectation, for the next twelve months, for all respondents is 25%.

The turnover growth expectations for the 2002 financial year exceed the historic 4% annual growth of stainless steel product demand between 1999 and 2000. This discrepancy is a possible reflection of the type of organisation that completed the questionnaire, which was skewed toward the small to medium sized organisations where percentage growth is calculated from a low base. However, perceptions over future growth prospects for all organisations are positive.

10.2 SUPPLY CAPACITY

Respondents were asked to indicate current production levels, or consumption of stainless steel for the last twelve months, as well as full production capacity, or percentage increase of consumption at full production capacity. Data was aggregated and classified into segments of capacity, to make meaningful comparisons. Production capacity and current utilisation thereof is represented in the figure below:

Figure 13: Annual production capacity and utilisation- all respondents



SME's form the largest part of the sample in terms of current production, and are operating at less than 50% capacity, indicating large potential for growth in this sector

Current production capacity ranged from one to 900 tons for all respondents. This capacity was reclassified into segments ranging from 1 to 30 tons, 30 to 100 tons, 100 to 300 tons, 300 to 600 tons and greater than 600 tons.

Overall, current production was approximately 53% of full production capacity, for all respondents. Interviews indicate consensus that most of smaller players are operating at 50% to 60%capacity, making growth targets attainable in terms of capability. Most of the players have only one shift currently, but lack of demand is not the only reason for not expanding. Common reasons cited were skills and labour constraints, as well as the need to grow management level, which many owner-managers were reluctant to do. No respondents indicated insufficient production capacity as a significant constraint.

The larger organisations are on average utilising 80% of their production capacity, which suggests that that they are maximising their return in investment by 'sweating their assets' and possibly making use of a second shift.

Bottom line

In terms of the analysis, current capacity is not being optimally utilised. According to personal interviews, the majority of stainless steel manufacturers are not operating at full production capacity due to the following reasons:

- Mangers of the smaller organisations adopt a 'hands on' style of management and do not wish to introduce a second shift due to a concern over a lack of control
- Demand levels are cyclical which highlights the need for collaboration in the industry when demand levels are too high for a single manufacturer to cope with
- There is a shortage of skills within the industry preventing the introduction of additional production shifts

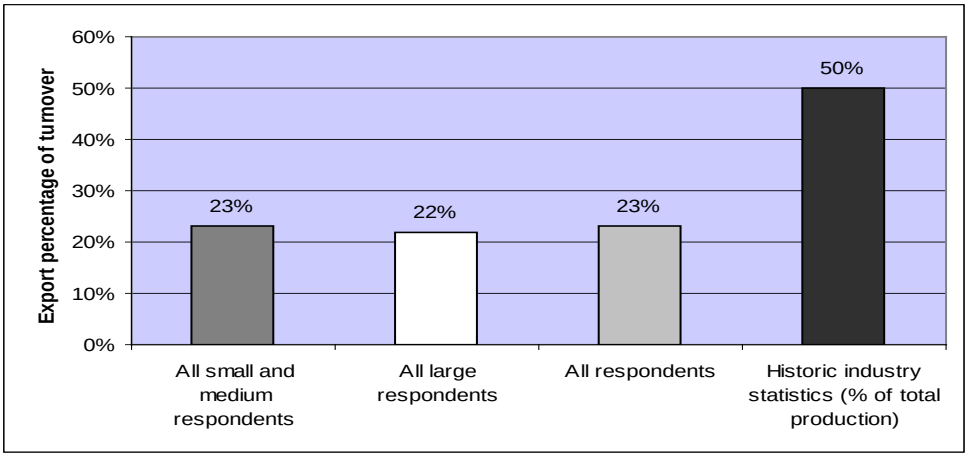
10.3 EXPORT POTENTIAL

Export potential is an important determinant in developing an eBusiness strategy for the stainless steel industry. As such, export growth and potential per product and segment was analysed in detail to determine which areas would receive focus in an eBusiness initiative. Export markets were also considered, as there are clear indicators that some markets are more sophisticated in terms of their adoption and use of eBusiness.

10.3.1 EXPORT INTENSITY

Respondents were asked to indicate the current export percentage of turnover. Results have been provided for the total sample frame as well as a more detailed analysis of the companies that are exporting.

Figure 14: Current export percentage of turnover – all respondents



Respondent export percentage of turnover is less than historic SASSDA statistics where exports contribute to 50% of total production

Current weighted average export percentage of turnover is 23% for all small and medium respondents, 22% for all large respondents, and 23% for all respondents.

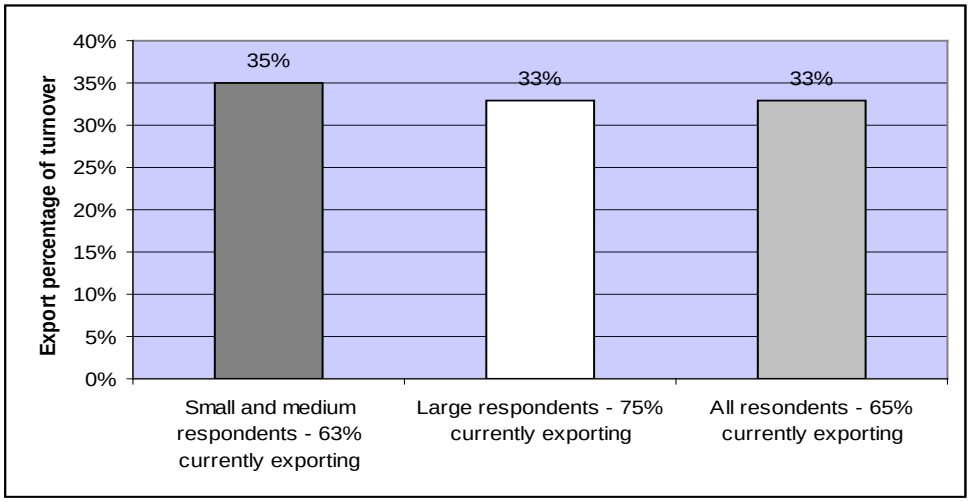
The research does not provide information on the contribution of exports to the total South African stainless steel production. However, the current average export percentage of turnover for all respondents is lower than industry information, which indicates that exports contributed to 50% of total stainless steel consumption in 2000.

The sample frame was clearly not well represented in terms of export information for the total industry, reinforcing the view that the results are probably skewed towards companies that are struggling to export and hence were more motivated to respond to a venture that could potentially facilitate the growth of exports.

In analysing the companies who are exporting in more detail, 33% of turnover is being exported. 63% of small and medium respondents indicated that they are currently exporting products. Of these, export percentage of turnover ranged from 1% to 98% at a weighted average of 35%. This is slightly more than the larger companies, once again indicating that SME's with the right ingredients, are very capable at competing globally.

75% of large respondents indicated that they are currently exporting products. Of these, export percentage of turnover ranged from 20% to 55% at a weighted average of 33%.

Figure 15: Current export percentage of turnover – respondents currently exporting



35% of the small and medium respondents export 35% of turnover. 75% of large respondents currently export 35% of turnover

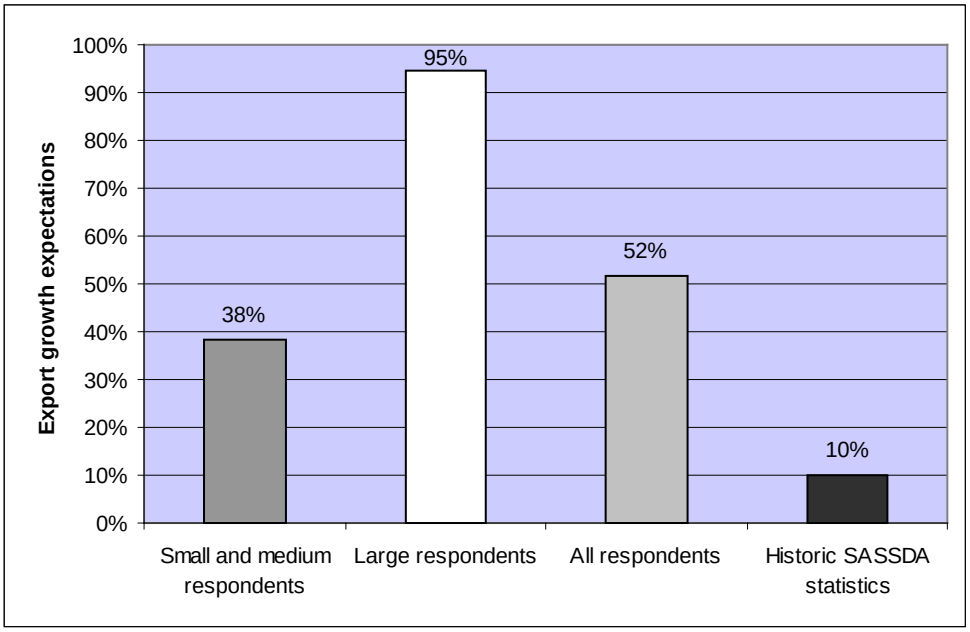
The findings indicate that one does not have to be large to be able to export. Generally though, it is easier for larger firms to export, hence the finding that a larger percentage of the large companies are exporting (75% vs. 63% of SME's exporting).

10.3.2 EXPORT GROWTH EXPECTATIONS

Because some respondents indicated export growth for the next twelve months, even though currently not exporting, weighted average was not utilised in the calculation of averages for the sample frame. Results were aggregated, but because differences in growth potential were observed at a product level, this is discussed separately in more detail in a following section.

According to the analyses, export growth expectations for the next 12 months for respondents are as follows:

Figure 16: Export growth expectations



Large respondents appear to be more positive about export growth

Export growth expectations for the next twelve months ranged from 0% to 300%, at an average of 38% for small and medium respondents, and from 0% to 180%, at an average of 95% for large respondents.

23% of small and medium and 25% of large respondents expected no export growth for the next twelve months. However, 13% of respondent who currently are not exporting, are expecting to grow exports by 10% in the next twelve months.

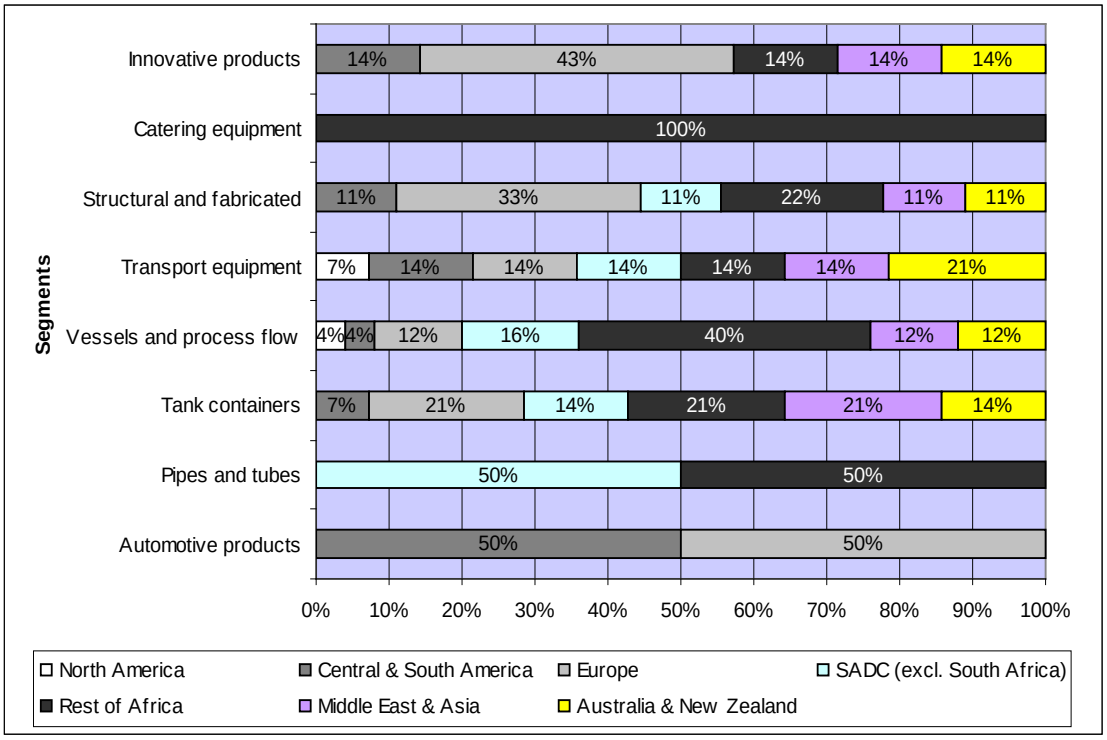
Export growth expectations for large respondents exceeded export growth expectations for small and medium respondents. Export growth expectations for all respondents exceed historic SASSDA statistics, which reflects a 10% calculated average growth rate for exports for the period 1996 to 2000. This discrepancy is indicative of the bullish and possibly uninformed make-up of the response sample. All respondents indicated that increasing exports is a major business driver and assistance should be afforded to these companies to reach their objectives.

10.3.3 EXPORT MARKETS

Export markets were considered in terms of market intensity, markets exported to per main segment, as well as number of markets exported to. According to the analysis,

the export markets for the main products manufactured, per industry segment, were indicated as follows:

Figure 17: Export market intensity

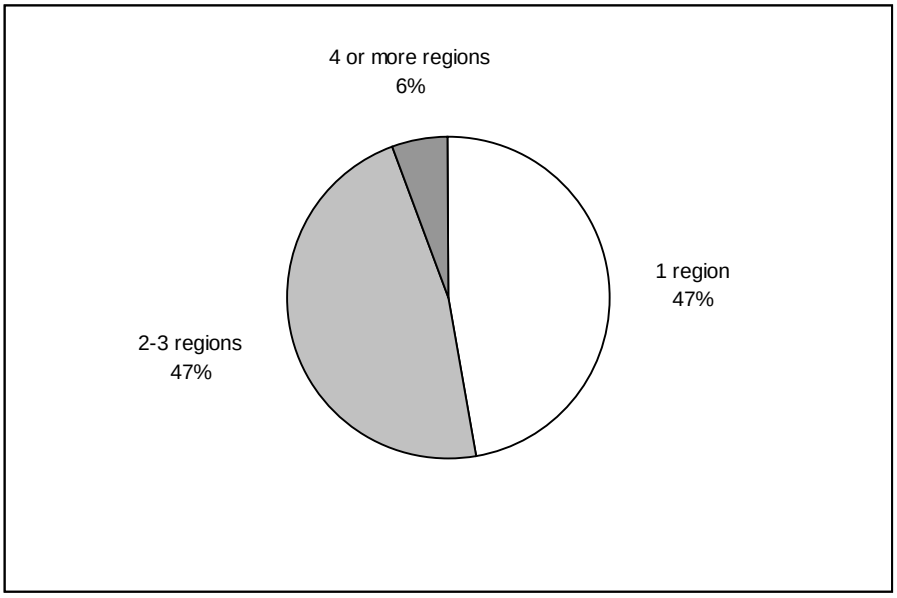


According to the above figure, most export markets for the products represented are in the rest of Africa, followed by Europe and SADC countries. Interviews confirmed that the Far East and Asian markets are difficult to penetrate due to their low domestic production costs.

Africa appears be the export market of choice for most respondents. Most of the markets for vessels and process flow equipment are in the rest of Africa, the results confirm that 40% of the vessels and process flow equipment is exported to the rest of Africa. In addition, 25% of all the products are exported to the rest of Africa. The major markets for innovative products are in Europe, which highlights a possible eBusiness opportunity to be exploited.

In analysing the number of export markets per respondent, it appears that about half are only exporting to one market, and the balance to 2 to 3 markets. Very few respondents export to 4 or more regions.

Figure 18: Number of export markets



Most respondents export to one, or 2 to 3 regions

The above results have been aggregated across all products. According to research the diversity or regions to which companies export varies from product to product, depending on the type of product and the market. Further, the number of export markets may also depend on marketing strategies or the specific decision by companies to develop niche, as opposed to global markets. In order to accommodate these differences, main products were analysed in more detail in the next section.

10.4 PRODUCT GROWTH CONSIDERATIONS

10.4.1 SEGMENTS AND MAIN PRODUCTS

Respondents were asked to indicate the main products that they manufactured, fabricated or converted as a percentage of turnover. The results generally reflect the 80:20 principle, where 20% of products contribute towards 80% of total turnover.

The respondents were also asked to comment on the product growth expected for the next twelve months, and the current local and export sales for each main product

manufactured. The following table reflects only the main products that received substantial representation, and these are categorised by segment.

Table 1: Segment statistics, according to main products identified

Segment representation	Percentage representation	Average product growth expected	Average local Sales	Average export sales	Average export growth expected
	No	%	%	%	%
Automotive products: flexible couplings, bull-bars and roll-bars	5%	47%	83%	17%	90%
Pipes and Tubes: structural, conveyance and ornamental tubing	7%	5%	84%	16%	4%
Tank containers: bulk, crycogenic and storage tanks	12%	19%	55%	45%	19%
Vessels and process flow equipment: storage and process vessels, general fabrication and silos and hoppers	51%	24%	90%	10%	9%
Transport equipment:: trailers, and road transport tanks	9%	19%	74%	26%	11%
Structural & fabricated products: fittings, coin banks, general engineering products, water cutting service and flooring elements and gratings	12%	25%	74%	26%	73%
Catering equipment: gas braais, trolleys and tables	5%	20%	99%	1%	15%
All products represented		**30%**	**83%**	**17%**	**23%**

Automotive segment has the highest expected growth

Tank containers currently generate the highest export percentage of sales

Large export growth is expected in the automotive and structural and fabricated segments

From the above figure, average growth expectations for all products represented in the research, for the next twelve months is 30%, which exceeds the calculated average growth rate of 7% between 1996 and 2000 in terms of the SASSDA review.

Expected export growth also exceeds the 10% annual export growth rate over the period 1996 to 2000, in terms of the SASSDA review.

Average expected export growth was 36% for SME's and 95% for large companies across all segments. The table above indicates that certain segments are expecting far higher growth and export growth than the aggregated results in section 10.3 Export potential above, and should consequently be considered for the initial eBusiness focus.

It must be noted that the sample frame is not fully representative in terms of products and exports compared to the industry-wide figure of 50% exports recorded for 2000 in the SASSDA review. According to the SASSDA review, automotive products (47%), tank containers (29%) and tube/pipe and fittings (17%), make up the bulk of South Africa's stainless steel export products.

Results for segments and products are thus not representative of industry results where only marginal representation was received for some products. Consequently, deeper analyses of specific products in the sample frame, were only done for products that received ample representation. These results are indicated in the table below:

Table 2: Main product statistics (sufficient representation only)

Product and product representation	Percentage representation	Weighted Average product growth expected	Average local Sales	Average export sales	Average export growth expected
	No	%	%	%	%
Storage and process vessels	26%	30%	80%	20%	9%
General fabrication	12%	5%	99%	1%	8%
Silos and hoppers	9%	13%	99%	1%	10%
Road transport tanks	7%	19%	67%	33%	7%
Innovative products	12%	51%	91%	9%	122%

Innovative products have the highest expected growth

10.4.2 EXPORT POTENTIAL ACCORDING TO SECONDARY RESEARCH

The in-depth interviews revealed strong sentiments regarding potential growth products and segments. Many of these products are not currently being exported, but have a high potential to export, should international markets be identified. The table

below summarises these views. Products are categorised as high potential for global exports, high potential to African regions only, and medium export potential for global markets:

Table 3: High potential exports according to interviews

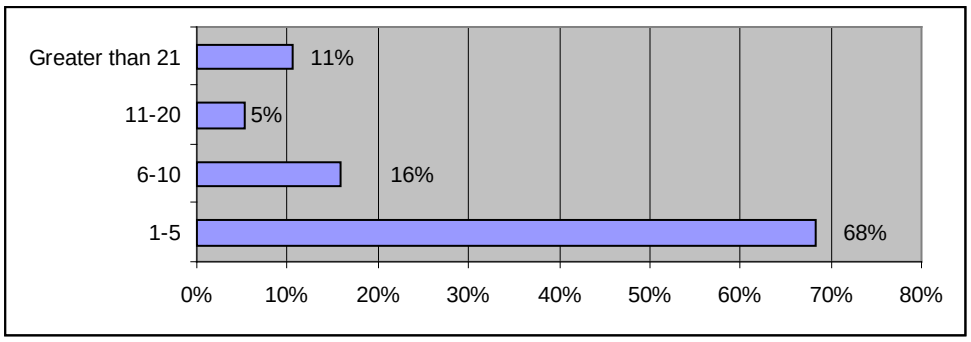
Stainless steel product	High potential, global markets	High potential, African markets	Medium potential global markets
Catalytic converters	√		
Exhausts	√		
Domestic white goods	√		
Domestic cooking appliances	√		
Lifts and escalators		√	
Sanitary ware	√		
Roofing		√	
Industrial kitchens			√
Food processing equipment			√
Ovens	√		
Tubes for brewery equipment	√		
Wine making equipment	√		
Aircraft and aerospace	√		
Tank containers	√		
Shipbuilding	√		
Process vessels and tanks	√		
Chemical and petrochemical equipment		√	

Stainless steel product	High potential, global markets	High potential, African markets	Medium potential global markets
Packaging equipment	√		
Telecommunication equipment	√		
Cookware			√
Hollowware			√
Blanks and stampings	√		
Welded pipes, up to 4”	√		
Flanges	√		

Export potential is dependent on ease of market entry, for example aircraft and aerospace has high export potential, but market entry barriers are very high. According to research, South Africa is the largest exporter of stainless steel automotive products.

10.5 NUMBER OF PRODUCT CATEGORIES

Figure 19: Number of product categories: All respondents



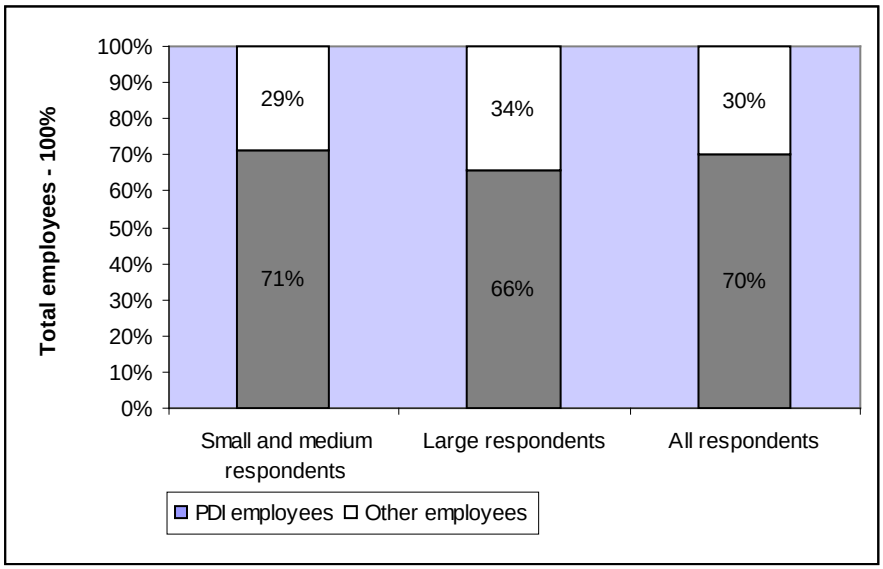
The largest number of respondents manufactured 1 to 5 product categories

According to personal interviews, the generally small number of different product categories currently being manufactured is a reflection of current processes and design capabilities rather than the demand for new and innovative products.

10.6 EMPLOYMENT GROWTH POTENTIAL

Current employee profile and growth expectations were considered to assess whether and how growth in the industry would impact employment and more specifically, employment in the PDI sector.

Figure 20: PDI profile



Approximately 70% of the workforce is from PDI sector

Current average PDI employment is 71% for small and medium respondents, 66% for large respondents and 70% for all respondents. It appears that PDI is overly represented in the general contracting workforce and as such is highly sensitive to cyclical fluctuations within the industry.

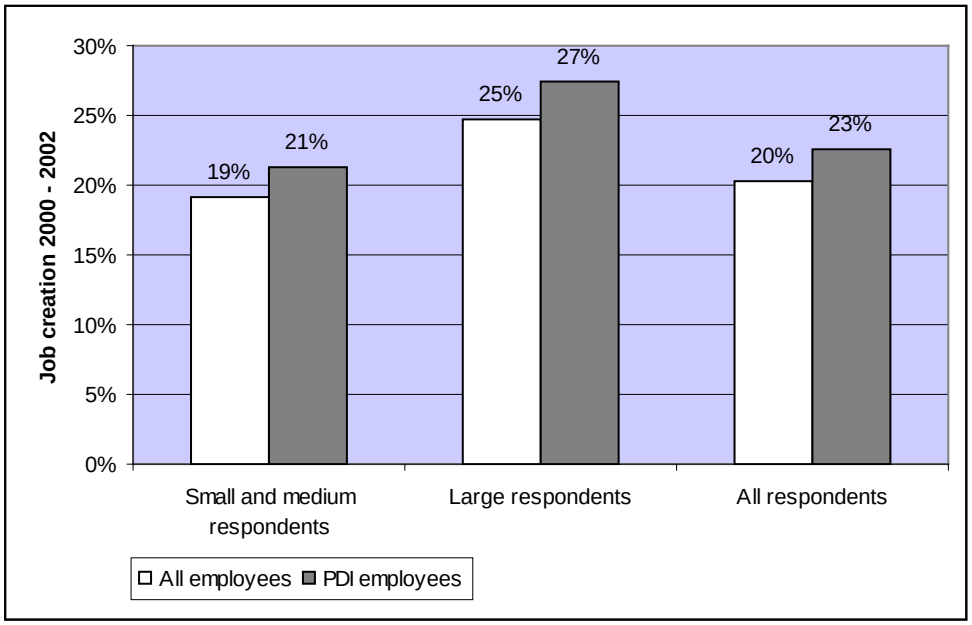
When considering true wealth creation for the PDI sector, the picture appears less promising. 50% of all respondents indicated current PDI management, ranging from 1% to 50% of the management compliment. Average PDI management growth to 2002 for these respondents was marginal, at less than 1%.

Only one organisation indicated current PDI ownership, represented by 70% of the total management compliment, and they expected this figure would grow by 20% in the next twelve months.

The findings reflect that there are no significant positive trends within the industry towards increasing PDI management and ownership. This is an issue that requires attention to ensure sustainable growth and competitiveness within the industry.

Respondents were also asked to indicate total and PDI employee numbers (including contractors) for 2000 and 2001, as well as projected employment for 2002.

Figure 21: Job creation 2000 - 2002



Figures indicate a calculated average growth rate for the period 2000 to 2002, of 19% for all employees and 21% for PDI employees for small and medium respondents, 25% for all employees and 27% for PDI employees for large respondents, and 20% for all employees and 27% for PDI employees for all respondents.

According to the analysis, PDI employment growth exceeds employment growth figures for the period 2000 to 2002, which is encouraging. However, the cyclical nature of the work within the industry results in the use of contract workers with very little wealth distribution or change in management occurring.

Most studies show that small and medium companies contribute more to employment growth than the larger companies, which is a reflection of the nature of the work processes adopted within these smaller organisations. It is thus critical to develop SME's within this initiative.

11 EBUSINESS READINESS AND MATURITY

This section reviews the industry's readiness to participate in eBusiness as well as their maturity in relation to the use of eBusiness as a business enabler. Specific aspects that will be considered include technology, processes, readiness of customers, suppliers and partners, as well as leadership and vision.

For the purpose of this study, eBusiness is defined as the use of technology, including Internet technologies to enable business internally and with parties external to an organisation. The internal focus will address the technology, infrastructure and processes currently used by the organisations within the industry and establish future trends, needs and readiness for an eBusiness initiative. The external focus will address the use of technology external to the organisation (between suppliers, partners or customers) to establish the needs, potential and highlight the benefits of an eBusiness initiative.

Generally, large organisations are more technologically advanced and most are utilising eBusiness to some degree or the other. They have integrated processes and systems, enabling supply chain collaboration to a high degree. Smaller firms are generally fairly limited in the extent they employ systems in their businesses, other than an accounting system.

Although there are examples of high e-mail and Internet usage, fax and telephone is still the main form of communication for most players within the industry.

Generally, most players indicate a high maturity in relation to their views on technology and the benefits eBusiness could potentially deliver, yet eBusiness adoption remains low and most individuals interviewed expressed scepticism at real benefit realisation and lack of customer, supplier and partner maturity was most often mentioned as primary inhibitor of eBusiness success.

11.1 TECHNOLOGY READINESS

This part of the research was undertaken to develop an understanding of the 'readiness' of the organisation within the industry for an eBusiness initiative. The research sought to determine the current technology spend, the systems that are used within the organisation and to understand the extent to which technology is used to perform business functions.

11.1.1 HEADLINE FINDINGS

- Larger organisations make use of integrated systems and processes
- The smaller organisations use systems which are not integrated and are very much person-centred with little knowledge or data sharing occurring between the business functions
- The organisations which stated they had an eBusiness strategy make use of a website, use EDI or have Internet access
- The majority of smaller to medium sized organisations do not currently use EDI or the Internet to conduct business
- Within the small to medium sized organisations, there is a shortage of PC's with access to the internet, which will inhibit the successful implementation of an eBusiness strategy
- The larger organisations spend a far greater proportion of their IT budget on eBusiness initiatives

11.1.2 TECHNOLOGY USAGE

The respondents were asked to highlight which forms of technology are currently in use within their organisation and to comment on the extent of use thereof. The figures below reflect limited and extensive use various forms of technology.

*Figure 23: Technology use within the organisation – **Limited Use***

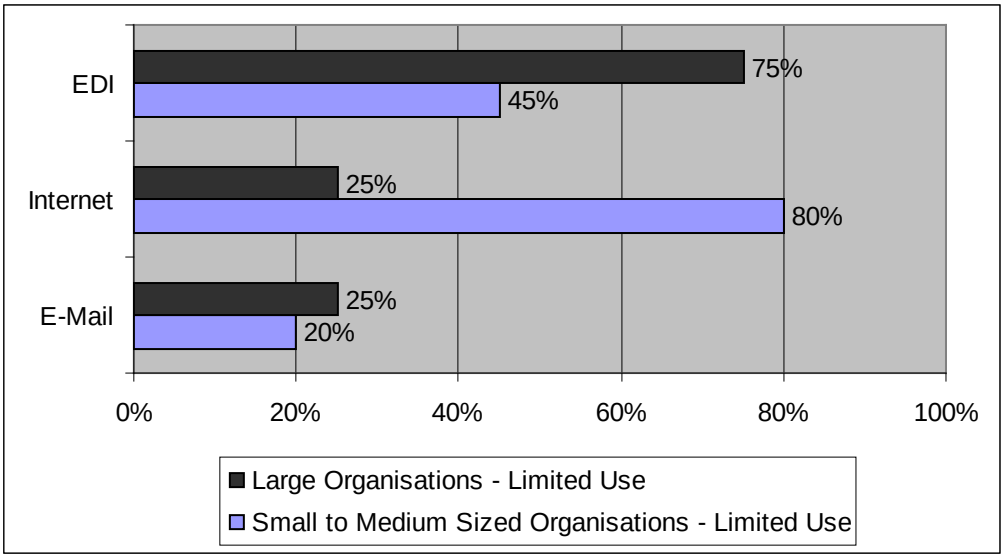
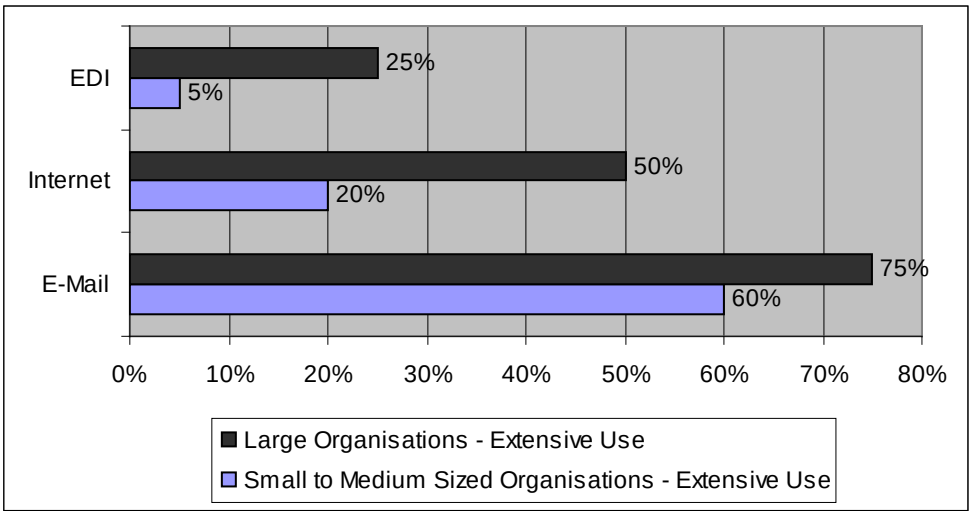


*Figure 24: Technology use within the organisation – **Extensive Use***



Large organisations make extensive use of EDI, the Internet and e-mail to perform business functions

Small organisation use e-mail extensively to perform business functions

In general, the small to medium sized organisations have between 1 and 26 PC's within their organisations. In contrast, the larger organisations make use of between 4 and 50 PC's within their organisations. While the smaller organisations do not currently appear to be spending on eBusiness, the majority of the respondents have

e-mail facilities. The in depth interviews however established that e-mail is not commonly used to perform business functions.

The finding that only 20% of the smaller organisations and 50% of the larger organisations use the Internet extensively reflects that eBusiness is a new and as yet unexplored area for most organisations.

The distributors' perception was that most of their customers have e-mail, but relied on fax and telephone to communicate.

11.1.3 PC'S WITH INTERNET AND E-MAIL ACCESS

The research results indicate that within the larger organisations almost all PC's have access to E-mail and on average half have access to the Internet. In contrast with this finding, the majority of the smaller organisations have a single PC with access to the Internet and E-mail. This finding is a potential hurdle to any eBusiness initiative.

11.1.4 IT SYSTEMS CURRENTLY IN USE

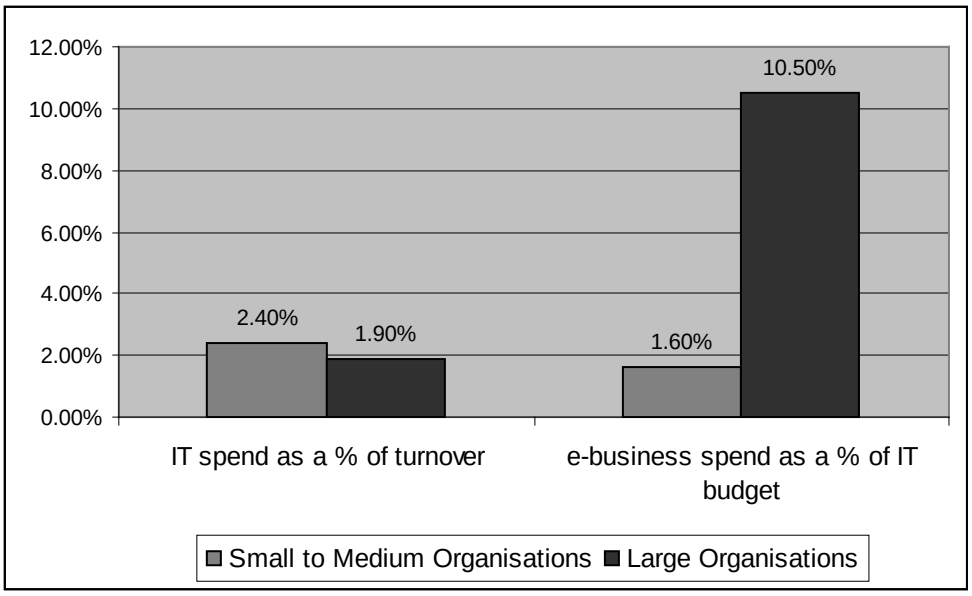
The organisations were asked to comment on which IT systems they currently use to perform various business functions. The research indicates that the larger organisations make use of integrated systems and processes. These systems are typically sophisticated covering all business functions and are tailored to meet the organisation's particular requirements.

In contrast, the small to medium sized organisations use a variety of "off the shelf" software application packages to perform their business functions. These organisations typically make use of Excel spreadsheets, AutoCAD, Word and possibly a specialised accounting package. The systems are not integrated and are very much person-centred with little knowledge or data sharing occurring between business functions.

The interviews established that there are a small number of smaller organisations that make use of integrated and sophisticated systems. These organisations typically operate in the automotive sector and have been forced to introduce these systems to ensure compatibility with their customers and/or parent organisations.

11.1.5 CURRENT TECHNOLOGY SPEND

Figure 25: Technology spend within the organisation



Large organisations spend more of their IT budget on eBusiness initiatives

The larger organisation's IT-spend is far larger in absolute terms than the smaller organisation's IT-spend. The results further indicate that the larger organisations allocate a far greater proportion of their IT budget on eBusiness initiatives. A possible explanation for the smaller firms not investing in eBusiness initiatives may be due to a perception that eBusiness investments are prohibitively expensive and they are still 'catching' up with rudimentary IT.

11.2 PROCESSES

The in-depth interviews confirmed that the industry predominantly operates in functional silo, using mostly manual processes, where little automation or integration between the individual processes occurs. Larger companies with ERP systems had more functions automated, but due to their suppliers or customers' lack of integrated systems, still have to rely mostly on non-automated processes.

This will need to be critically evaluated when developing the eBusiness strategy as manual hand-offs impact on service delivery. In reviewing the reasons for eBusiness failures, lack of fulfilment capabilities more often than not created the biggest stumbling block for most eBusiness initiatives. The Internet creates the illusion that

orders will be processed seamlessly and instantaneously. Fulfilment that is dependent on a manual process that is not closely integrated with the electronic channel leads to customer disappointment and eventually they will either revert to previous ways of doing business or go to someone else!

There are several examples of physical and virtual chains that have been integrated, so it concept is not impossible. However, education and understanding of the linkages will be vital to ensure success of any eBusiness initiative.

11.3 READINESS OF CUSTOMERS, SUPPLIERS AND PARTNERS

Great concern was expressed regarding the readiness of customers, suppliers and partners to participate in any eBusiness initiative. Europe and the USA are very sophisticated, but customers in third world countries are generally not able to do business electronically.

Any eBusiness initiative will have to consider migrating customers, suppliers and partners to new ways of doing business.

11.4 LEADERSHIP AND VISION

Although there seemed to be vision in some companies regarding the benefits that eBusiness could bring, most companies interviewed expressed doubt about eBusiness and did not see it as a major driver for their business in the immediate future. Industry perception is that most SME's rely on, and only have the capacity, to serve one or a few big customers. As long as business is steady, they are reluctant to make any changes.

Benefits will have to be very clear for stakeholders and migration to eBusiness will have to be driven hard by industry role players.

11.5 EBUSINESS MATURITY

The respondents were asked to comment on various statements addressing eBusiness and the benefits thereof. The questions were asked to ascertain the level of maturity, regarding eBusiness, within the industry.

The majority of respondents have an understanding of the potential benefits of an eBusiness initiative. There is, however, a perception that an investment in eBusiness

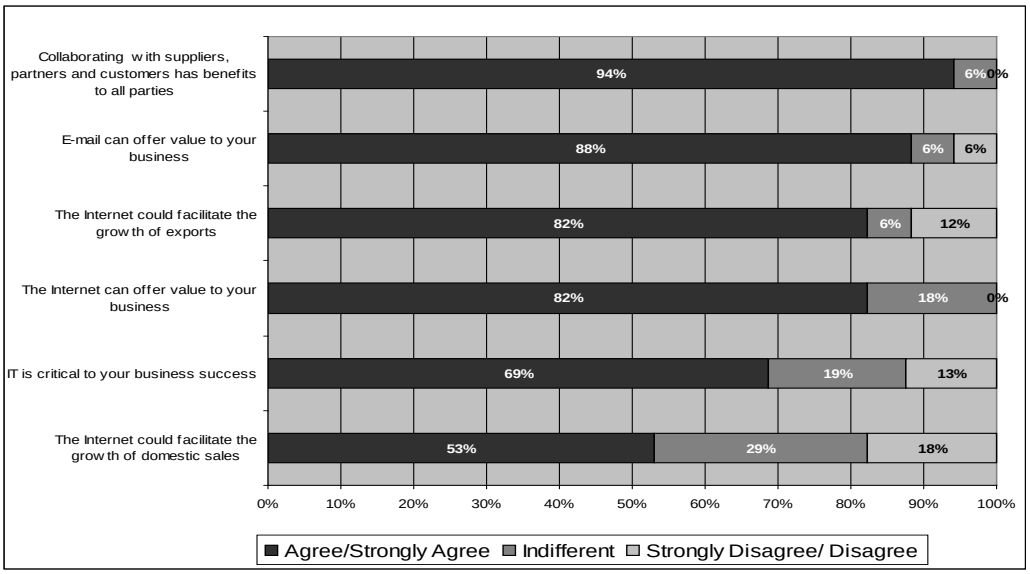
is costly and the majority of respondents are not convinced that the financial returns would justify an investment.

Interviews confirmed this evaluation. Most players indicated they have a limited use for eBusiness in their companies. Even some of the companies utilising eBusiness extensively, indicated that they did not perceive much benefit (except for going out of business if they did not conform to supplier standards!) On the other hand, there are several examples of where eBusiness has had a major benefit impact on the organisation.

11.5.1 PERCEIVED BENEFITS OF EBUSINESS

The respondent's perceptions regarding the benefits of eBusiness within the stainless steel industry are represented in the figure below. The results indicate that the majority of respondents have an understanding of the potential benefits of eBusiness. The in-depth interviews however highlighted that the majority of smaller organisations view an investment in eBusiness as costly and are not convinced that the financial returns would justify the investment. Even the larger organisations view IT and eBusiness as a "necessary evil" and are not convinced of the real value of an investment.

Figure 26: Perceptions of the benefit of eBusiness



There is an appreciation of the potential benefits of eBusiness initiative

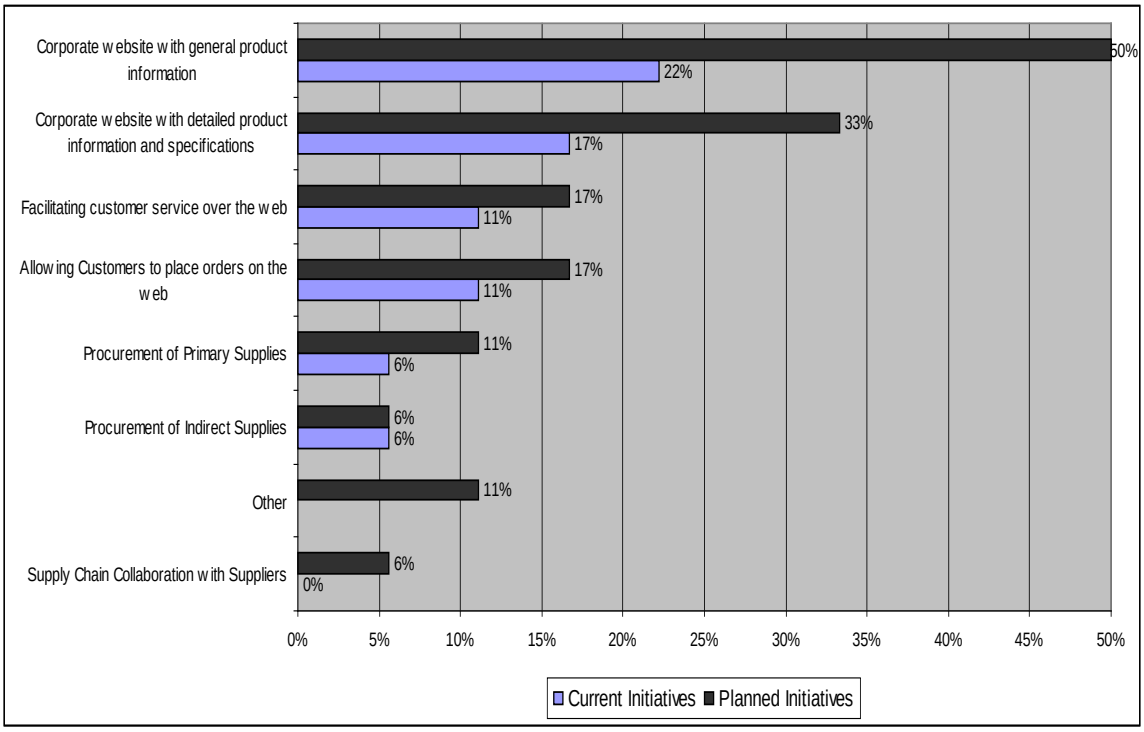
11.5.2 CURRENT EBUSINESS INITIATIVES

The respondents were asked whether they had initiated an eBusiness strategy. They were also asked to indicate the number of PC's within the organisation that had access to the Internet and/or email. Finally the organisations were asked to reflect on the eBusiness initiatives that they intend or are currently pursuing. The research sought to determine if there is an interest in eBusiness and whether the strategies are realistic and achievable.

Twenty-five percent of the small to medium sized organisations stated that they had an eBusiness strategy. These organisations either have a website, use EDI or have Internet access.

The organisations were asked to comment on their current and planned eBusiness initiatives. The results are reflected in the figure below.

Figure 27: EBusiness Initiatives



There is an intent to establish a corporate website with either general product information or detailed product information and specifications

Procurement of Primary and Indirect Supplies is not seen as a priority

Seventy-two percent of the respondents had set up or planned to set up a corporate website with general product information. Fifty percent of the respondents felt that a corporate website with detailed product information and specifications would add value to their business. There is however a large percentage difference between those that have set up and those that plan to establish an eBusiness facility

Setting up systems to facilitate the procurement of primary and indirect supplies was not seen as a priority by most of the respondents. However, interviews with the larger organisations established that they were aware of the benefits that supply chain collaboration would bring to their business.

12 EBUSINESS POTENTIAL

The research has identified specific areas within the industry that exhibit high eBusiness potential. Firstly potential is considered in terms of sectors and products that exhibit high eBusiness potential, and secondly in terms of business functions.

Business function eBusiness needs have been grouped under several sub-headings. The internal focus addressed the technology; infrastructure and processes currently used by the organisations within the industry and established future trends, needs and readiness for an eBusiness initiative. The external focus addressed the use of technology external to the organisation (between suppliers, partners or customers) and established the needs, potential and highlighted the benefits of an eBusiness initiative.

12.1 HEADLINE FINDINGS

- There is a perception among the respondents that a corporate website with either general information or detailed product information and specifications would add value to their business
- Setting up systems to facilitate the procurement of primary and indirect supplies was not seen as a priority by most of the respondents

12.2 SECTORS AND PRODUCTS

12.2.1 SECTORS

Within the research, it became apparent that the automotive industry would drive eBusiness adoption amongst South African stainless steel manufacturers. Reluctance

to prepare will potentially exclude South African manufacturers from doing business with the larger OEM's. No other segment had such clear eBusiness drivers from customer or supplier perspective.

According to research, South Africa is the largest exporter of stainless automotive products and as such this sector is discussed in more detail.

The automotive industry has been involved in eBusiness for a number of years, mostly utilizing EDI to integrate supply chains. Currently all the major automotive manufacturers have their own eBusiness strategies and private trading networks, as well as forming part of at least on industry-wide initiative, such as the much-publicised Covisint marketplace.

Websites analysed ranged from independent marketplaces, such as AISB, to consortia marketplaces formed by the automotive manufacturers, such as Covsint. Numerous private company websites were also reviewed, but is not included here due to the fairly innocuous nature of these. Most of these were either linked to private networks and could not be viewed, or were mainly brochure ware-type sites.

SA players will have to prepare for a range of eBusiness initiatives, such as edi with GM and the extensive use of the Internet for some of the other players. Over time, deep supply chain integration will become the norm for trusted suppliers into this market, exposing all internal functions to customers, other suppliers and partners.

Bottom line: For SA manufacturers and suppliers to the automotive industry, there remains very little choice but to ensure that they are suitably certified and equipped to deal with the prescribed electronic networks… if they want to do business with the big automotive players.

12.2.2 PRODUCTS

Generally commodity type products are more suited to eBusiness as the specifications are clear and well known to all parties, making it easier to purchase it over the internet. Within the metals sector though, it does not appear as if any product is specifically unsuited to eBusiness (from a sales perspective). Highly customised fabricated products may have less of the sales process conducted over the Internet, but it nonetheless serves as an excellent channel for marketing.

Generally products were not listed or sold on the internet per product group, but more in relation to some end-user segment or with other metals products. Some products

were more specifically noticed on the internet in the accompanying desk research, and these are listed below:

- Tank containers
- Hollowware
- Cutlery
- Automotive
- Pipe and tube
- Vessels
- Transportation
- Others such as flanges, fitting s and clamps
- General fabrications
- Structural and fabricated products
- Sanitary ware and catering

12.3 BUSINESS FUNCTIONS

This part of the research study was used to extract needs in the areas of procurement, marketing, sales and service, which could possibly be addressed by eBusiness, as well as the use of eBusiness internally in the organisation.

12.3.1 INTERNAL

There is a clear need to streamline business operations within the SME's and to a lesser degree within the larger companies. The use of e-mail reduces cost and time of communication, and is valuable for traceability of transactions. For smaller companies, there is an obvious need to expand the use of systems to facilitate the manufacturing, costing and ordering process as well.

Generally, most companies have no specific systems to manage customer relationships. E-mail can greatly enhance this as well as a company web site that provides access to information and possibly access to client account information.

Electronic banking is an easy efficiency to achieve and is generally well accepted by South Africans.

12.3.2 PROCUREMENT

The procurement function is defined as the purchase of raw materials or input components for the manufacturing process of stainless steel products. This part of the research was undertaken to develop an understanding of the procurement function in general, to highlight the current difficulties experienced within the industry and to identify where an eBusiness initiative will add value.

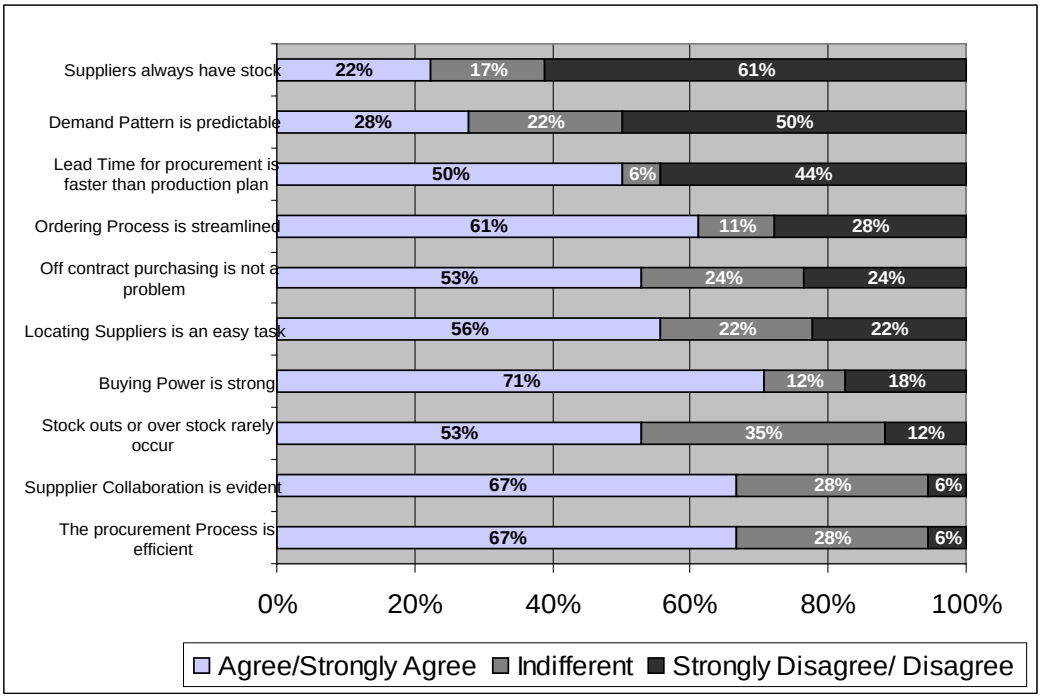
Headline findings

- Supplier coordination is complex and there is potential for a source of online supplier information
- There is evidence of a need to collaborate with suppliers in terms of sharing demand forecasts, needs, specifications and general information. The research results indicate limited levels of collaboration or cooperation between competitors
- Stock availability from major suppliers rather than cost is impeding efficient procurement
- The demand pattern experienced by the majority of organisations is unpredictable highlighting an eBusiness opportunity
- The smaller firms are generally experiencing more difficulties in sourcing stock than the larger organisations, who appear to have a more stable demand pattern and significant buying power
- Off contract (maverick) buying is a potential problem within the industry for the larger organisations

Factors influencing the procurement function

The respondents were asked to indicate their perceptions of the factors influencing the procurement function. The results are reflected in the figure below.

Figure 28: Perceptions of the factors influencing the procurement function



Suppliers do not always have stock

The demand pattern is currently unpredictable

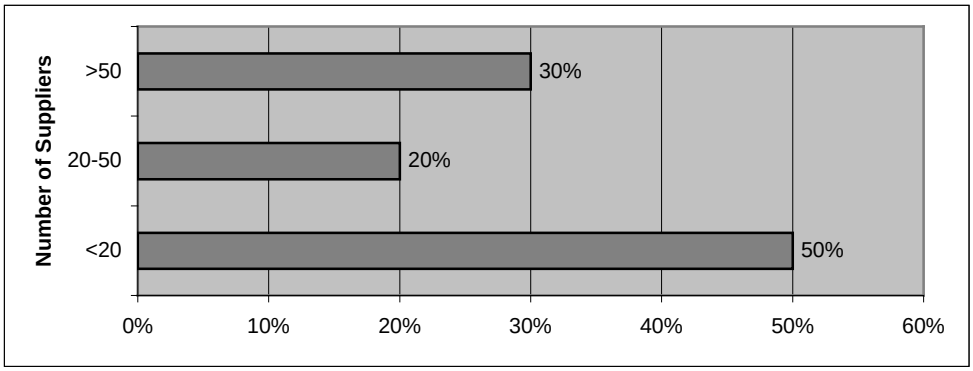
Organisations perceive that their buying power is strong

For distributors, similar views were expressed in that procurement was very inefficient from both upstream and downstream perspectives. The process is manual and laborious, with many errors occurring at multiple points. Stock availability was also a major issue, indicating that end-to-end collaboration will be required for any eBusiness initiative to influence this factor.

Complexity of supplier interactions

The respondents were asked to indicate the number of suppliers that they currently use. Fifty percent of the respondents use more than 20 suppliers. This result reflects that supplier coordination is a complex task, and highlights the potential for online supplier information indicating stock availability and possible collaboration opportunities.

Figure 29: Number of Suppliers

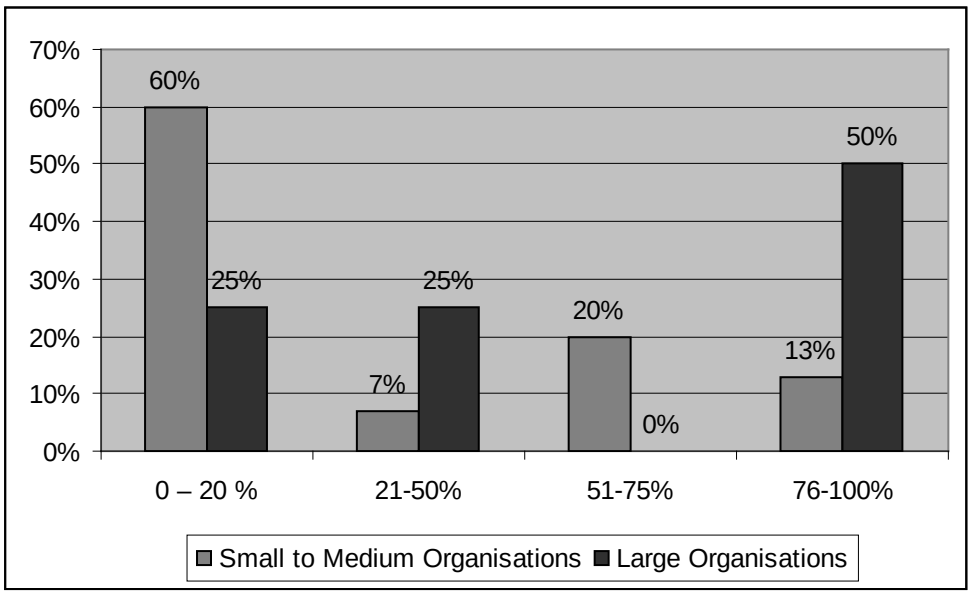


Industry participants interact with a large number of suppliers

Contracting

The respondents were asked to indicate the number of contracts that are pre-negotiated. The response results are reflected in the figure below.

Figure 30: Percentage of Supplier Contracts that are pre-negotiated



Larger organisations enter into more pre-negotiated supplier contracts than the small to medium sized organisations

On the whole, the larger organisations enter into more pre-negotiated contracts than the small to medium sized organisations do. Fifty percent of the larger organisations reported that 76-100% of their supplier contracts were pre-negotiated whereas sixty

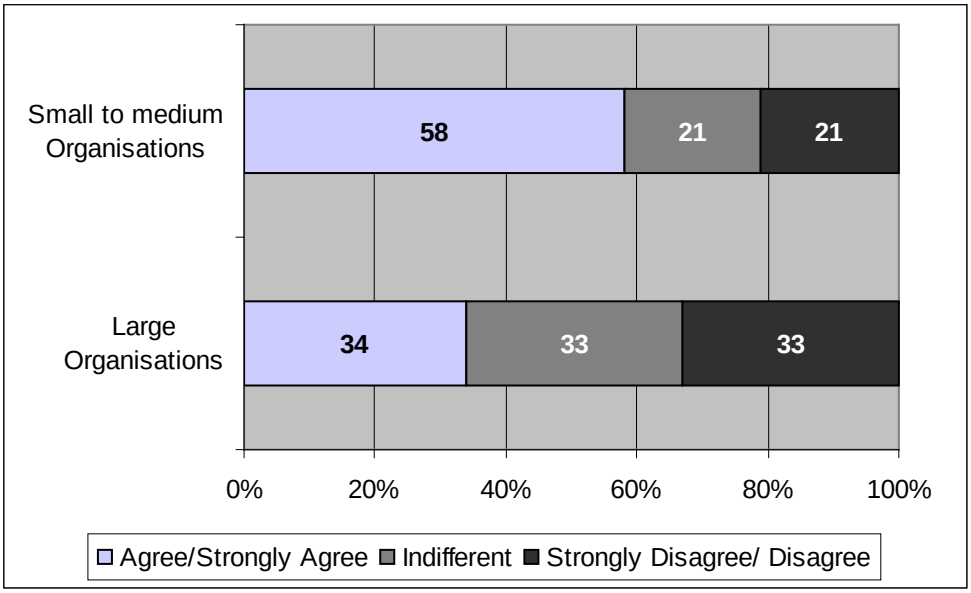
percent of the smaller firms reported that only 0-20% of their contracts were pre-negotiated.

This result highlights the point that the larger organisations have more buying power and a more predictable demand pattern than the smaller firms do. There is a potential eBusiness opportunity for the larger organisations to use technology to initiate on-line negotiations and supply RFQ's (Request for quotations). The small to medium sized organisations volumes are currently small and their workload is characterised by jobbing with purchases occurring on as needed basis. As their volume of work increases the need for eBusiness facilitated procurement will become more evident.

Fifty percent of all the respondents felt that their demand patterns were unpredictable highlighting a potential eBusiness opportunity for sharing forecast data.

Off- contract purchasing

Figure 31: Perceptions on whether off-contract purchasing is not a problem in relation to the procurement function



Large organisations perceive that off-contract purchasing is problematic

Fifty-eight percent of the small to medium sized organisations felt that off contract (maverick) purchasing is not a problem, compared with only thirty-four percent of the large organisations. Again this result must be considered in terms of the smaller organisation's frame of reference where the number of contracts that they pre-negotiate is small. Maverick buying is thus a potential area for improvement within the industry.

Stock availability

The research results indicate that fifty-three percent of the respondents felt that stock outs or over stocks rarely occur. In addition, fifty-six percent of the respondents felt that they have no difficulty in locating a supplier. However, the research does indicate that sixty-one percent of the respondents felt that suppliers do not always have stock. It can be concluded that an eBusiness initiative would have a greater impact on making stock available rather than attempting to reduce the cost of materials.

Procurement process efficiencies

Sixty-seven percent of all respondents felt that their current procurement process is efficient. Even though the smaller organisations perceive that their current purchasing processes are efficient, the response must be considered in terms of their frame of reference. The smaller organisations are generally “one man shows” where all procurement is handled manually on a job-by-job basis.

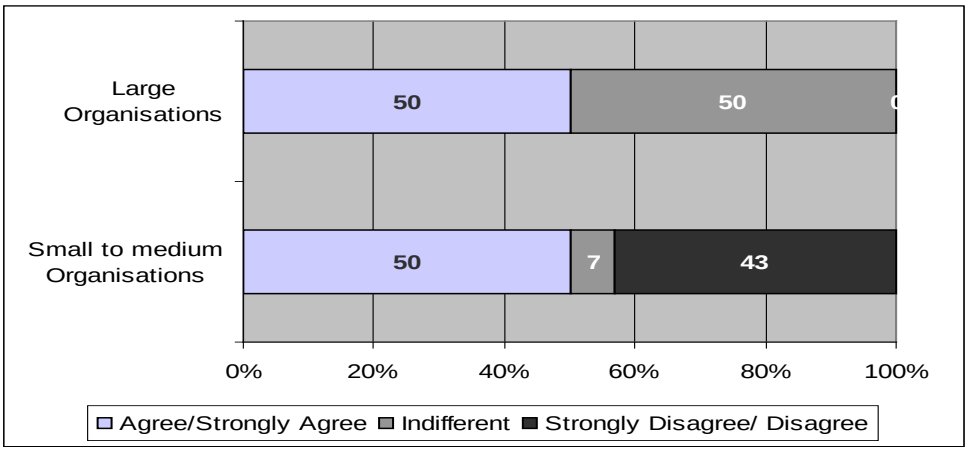
An eBusiness initiative will have a significant impact on the smaller organisations by exposing them to more suppliers, increasing efficiencies and lowering costs. As the smaller to medium sized organisations grow, the benefits of eBusiness facilitated procurement will become more evident. However, given that the smaller organisations are content with their procurement process, selling an eBusiness initiative may prove to be difficult.

From a distributor perspective, the procurement process is highly inefficient. Most orders are requested telephonically, and although fax confirmations are requested, these often come post the fact. Resulting from this is expensive mistakes and delays in getting the right stock to customers.

Procurement lead time

The respondents were asked to comment on the procurement lead-time they experienced compared with their production plan horizons. The results indicate that forty-three percent of the small to medium sized organisations perceive that the lead-time for procurement is longer than their production time frames. None of the larger organisations shared this viewpoint. The discrepancy in perceptions may be due to the fact that the larger organisations are able to forecast their demand patterns and have significant buying power. In addition, it highlights that the smaller firms are generally experiencing difficulties in sourcing stock.

Figure 32: Perceptions on whether the procurement lead-time is faster than or equal to production plan horizon

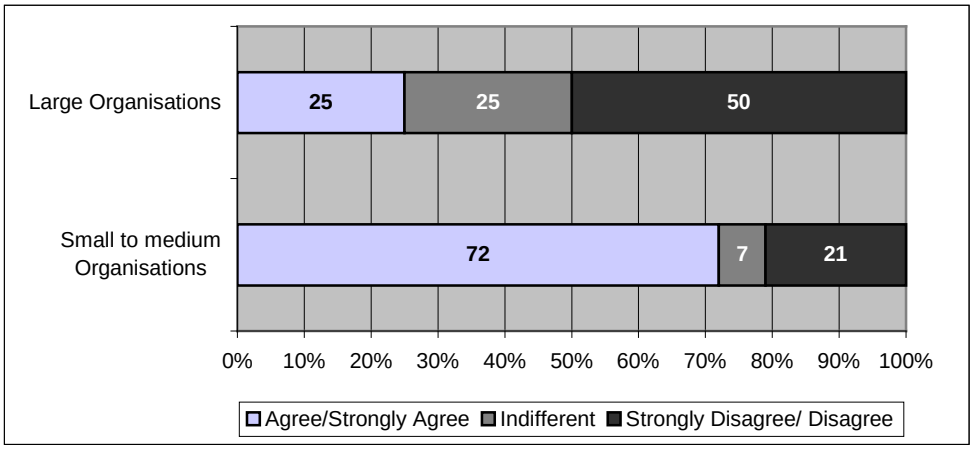


Smaller organisations are experiencing more problems sourcing stock than the larger organisations

Ordering process

Seventy-two percent of the smaller organisations perceived the ordering process to be streamlined compared with only twenty-five percent of the larger organisations. The result indicates that the smaller organisations perceive the ordering process to be adequate. An explanation for this finding may be that the volumes that the smaller firms deal with are relatively small and are manageable using rudimentary systems. There is however a need for an eBusiness solution when the volumes that the organisations deal with increase to streamline the ordering process

Figure 33: Perceptions on whether the ordering process is streamlined



The larger organisations perceive a need for a more streamlined ordering process

Supplier collaboration

Sixty-seven percent of the respondents agreed that there is collaboration with suppliers in terms of sharing demand forecasts, needs, specifications and general information. There is however very little evidence of collaboration or cooperation between competitors. Numerous stakeholders from the smaller firms indicated an apparent lack of collaboration between competitors when a faced with an order too large to manage independently.

In summary, the findings reflect that stock availability rather than price is a impediment to efficient procurement practices. The findings further indicate that an eBusiness initiative will have an impact on addressing raw material availability and stimulating collaboration between competitors. There is a perception that an on-line ordering facility will improve procurement efficiencies. The results indicate that most organisations rely on established long-term supplier relationships; an eBusiness initiative may be useful in stimulating supplier awareness.

12.3.3 MARKETING, SALES AND SERVICE

The marketing, sales and service function is defined as all the activities related to marketing, sales and servicing the customer. This part of the research was undertaken to develop an understanding of the extent of marketing spend in general within the industry, to highlight which marketing mechanisms that are currently employed and to identify where an eBusiness initiative will add value in promoting an organisation's products.

Headline findings

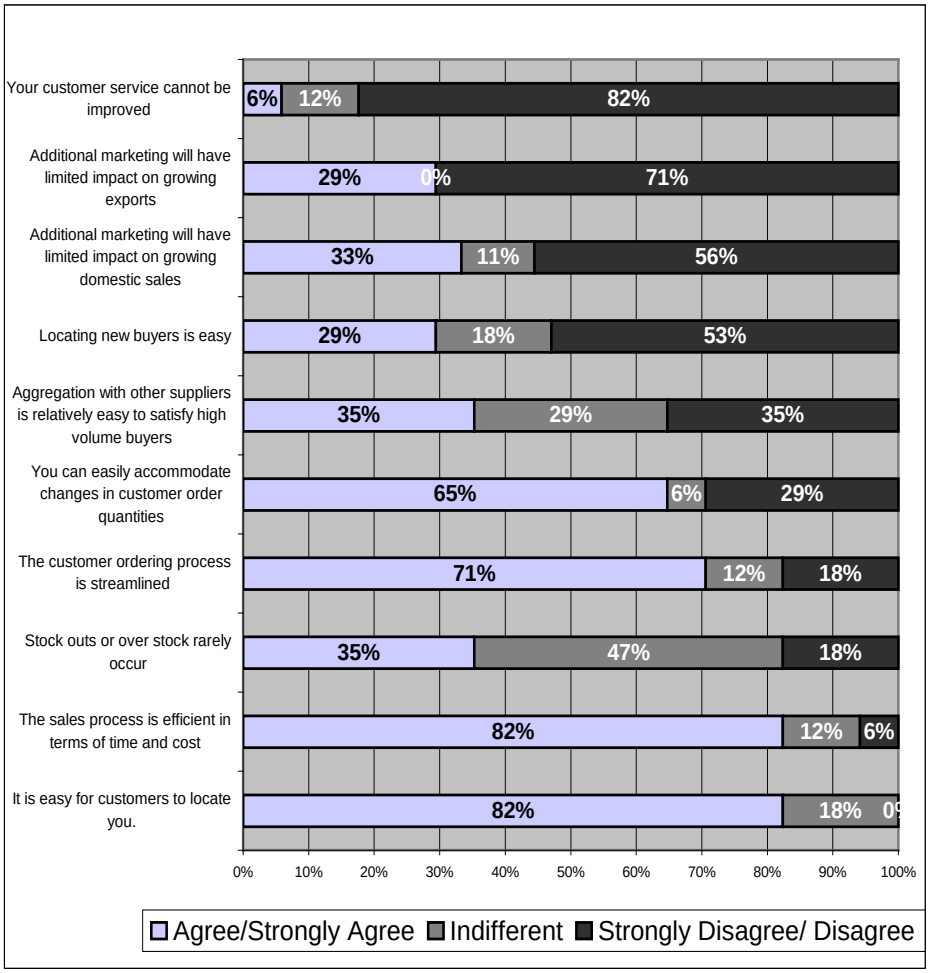
- Marketing plays an important role for an organisation entering the export market
- There is a desire in most organisations to increase exports but there is an apparent inability to penetrate a particular market
- The larger organisations, and those involved in exports, make more use of technology to promote their products
- Brochures and word-of-mouth are currently the predominant forms of promotion
- There is a need for an eBusiness initiative which will assist organisations in defining their customer segments and improving customer relations

- The larger organisations, particularly those involved in exports, make use of agents or their international counterparts to sell and market their products

Marketing sales

The respondents were asked to reflect on various customer service initiatives. The figure below reflects their perceptions.

Figure 34: Perceptions on customer service initiatives



Organisations have difficulty in locating new buyers

Organisations perceive that customer service can be improved

There is currently a perception that the sales process is efficient in terms of time and cost

The influence of marketing on export sales

The majority of respondents indicated that the cost of marketing as a percentage of total turnover is between 1 and 5%. In general there is a correlation between the percentage of turnover spent on marketing and the percentage of revenue received from export sales. This correlation highlights that marketing plays an important role for an organisation entering the export market.

Seventy-one percent of the organisations felt that additional marketing would have an impact on growing their export market. This result reflects that there is a desire to increase exports but there may not be an understanding of how to penetrate the export market. The interviews confirmed that the smaller organisations require assistance in obtaining exposure to the export market. An eBusiness initiative would assist in this regard through developing relationships, establishing the required international standards and certification and generally ensuring that South African organisations are kept on the international radar screen.

Sales channels utilised

The majority of small to medium sized organisations indicated that the predominant sales channel used to sell their products was directly to the end-use customer. The results are however skewed by the large number of fabricators included in the response sample. Fabricators by nature engage in specialised, unique, 'produce to order' work requiring ongoing dialogue with the customer. The research indicates that the larger organisations, especially those involved in exports make use of agents or their international counterparts to sell and market their products.

Market penetration

The majority of respondents felt that it was easy for customers to locate them, obtain information and quotes. In apparent contradiction to this perception, fifty-three percent of the organisations felt that it was difficult to find buyers. An eBusiness initiative may assist the organisations in this regard by exposing them to a larger customer base.

Customer relationship management

The smaller to medium sized organisations felt that their customer service could be improved. These smaller organisations have low staff levels and management therefore feels that their time is stretched at the expense of customer relations. These smaller organisations also felt that they could not always cope with changes in customer order quantities, which was consequently affecting relationships. EBusiness

will assist all organisations in defining their customer segments and establishing a one-to-one marketing initiative.

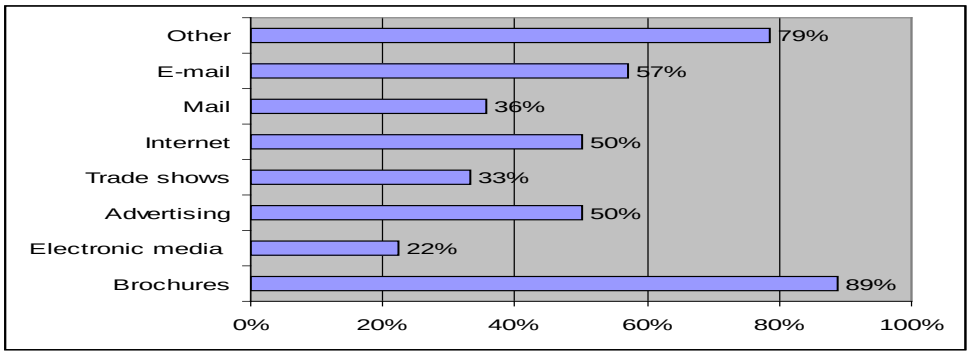
Sales process

Eighty-two percent of the respondents felt that the sales process was efficient in terms of time and cost. The smaller organisations currently deal with limited order volumes and the sales process is controlled on a “hands on” basis. These organisations are possibly not aware of the potential benefits and efficiencies that improved technology will bring to their business. However, convincing the smaller organisations of the benefits of improved technology will be difficult, as they currently do not perceive that there is a need.

Marketing mechanisms

The respondents were asked to indicate the marketing mechanisms that they currently employ and indicate the proportion of marketing spend through each of these channels.

Figure 35: Current marketing mechanisms utilised



Brochures and word of mouth (Other) are the predominant marketing mechanisms used

Technology is currently not extensively used to promote products

The majority of respondents utilise brochures as a mechanism to promote their products. Brochures account for approximately 30% of the marketing spend. EBusiness would have an important impact in this regard as would reduce the high costs associated with producing and distributing brochures.

Technology is currently not a common mechanism used to promote products and does not account for a large portion of current marketing spend. The results indicate

that the larger organisations, and those involved in exports, are more frequent users of technology in promoting their products.

The results further indicate that word of mouth and personal visits (represented by 'Other' in the above figure) is a common form of promotion. This finding can be explained by the nature of the industry where the buying behaviour generally requires personal communication to conclude a sale.

12.3.4 LOGISTICS

The distribution function is defined as all those activities related to physical warehousing and transport, including co-ordination of transport, for inbound supplies and outbound orders for stainless steel products. This part of the research was undertaken to develop an understanding of the costs of distribution within the industry, to highlight the costs associated with exporting products and to identify where an eBusiness initiative will add value in promoting an organisation's products. It was established that this is not a priority for the organisations but will continue to become more important as exports grow.

Headline findings

- The larger organisations tend to outsource distribution logistics whereas the smaller organisations arrange their own distribution logistics
- There is a need for an eBusiness initiative to facilitate distribution logistics in order to reduce the costs that are as a result of South Africa's geographical disadvantage to potential export markets
- The administration related to exporting is perceived as being time consuming and complicated. There is a need for eBusiness to play a role in educating those organisations seeking to export products
- There is a need for assistance tracking both inbound and outbound orders. It is envisaged that eBusiness can play a significant role in facilitating this process

Costs of distribution

The respondents were asked to indicate the current cost of distribution, both inbound and outbound, as a percentage of total turnover. The findings are reflected in the table below.

Table 4: Costs of distribution as a percentage of turnover

	Cost of inbound distribution	Cost of outbound distribution
Small to Medium Organisation	**1 – 5 %**	**1 - 12.5 %**
Large Organisations	**5 – 10 %**	**1.8 - 10 %**

The small to medium sized organisations spend relatively more on the costs of outbound distribution

The distribution costs for the small to medium organisations places them at a competitive disadvantage when seeking to penetrate export markets. The results indicate that the smaller organisations, even those exporting, arrange their own distribution logistics. The larger firms on the other hand outsource distribution logistics. Any eBusiness initiative must facilitate distribution logistics to reduce the costs that are a result of South Africa's geographical disadvantage to potential export markets.

Administration related to distribution

The respondents were asked to rate various issues regarding the distribution function as experienced in their business environment. Forty-four percent of the respondents feel that administration functions related to exporting are time consuming. This finding was confirmed in the interviews and highlights the role that eBusiness can play in educating those organisations seeking to export products. This initiative will ensure the organisations develop an understanding of the processes and procedures to be followed when exporting products, which will lead to increased efficiencies and reduced costs.

Order tracking

Twenty-five percent of the larger organisations perceive that it is difficult for their customers to track their orders and for them to track inbound orders from their suppliers. The smaller to medium organisations do not perceive that there are any problems with their current logistics, which is a reflection of their current distribution requirements, number of transactions and level of exports. It is envisaged that when these smaller firms enter the export market assistance in order tracking will be required.

13 WILLINGNESS TO PARTICIPATE

The respondents were asked whether they felt that SSCDI should initiate certain eBusiness opportunities within the industry and whether they would participate if the benefits thereof were made clear. They were also asked to comment on the perceived level of certain constraints that would prohibit their company taking part in certain eBusiness initiatives.

The majority of respondents expressed an interest in participating in an eBusiness initiative

There is a desire among the organisations to improve the current methods of performing business functions and to expand their markets

The majority of respondents perceive the costs of an eBusiness initiative to be a major constraint to implementing an eBusiness strategy

There is a perception that the industry in general is not ready to interact electronically

13.1.1 WILLINGNESS TO PARTICIPATE IN A SSCDI INITIATIVE

The respondents were asked whether they would participate in an SSCDI lead eBusiness initiative if the benefits thereof were made clear at the outset. The results were encouraging with eight-three percent of the respondents expressing an interest. The result confirms that there is a desire to improve the current methods of performing business functions.

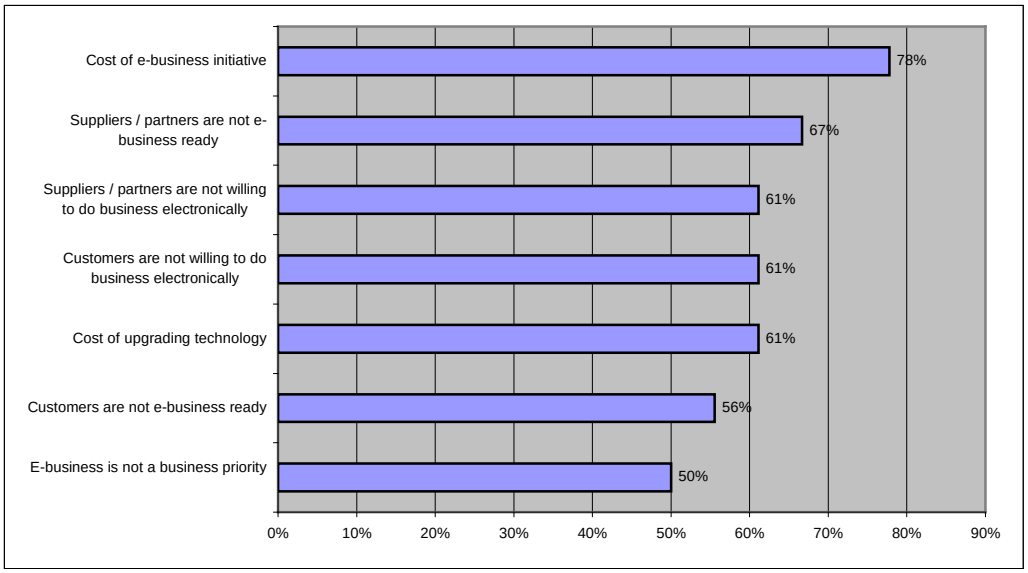
13.1.2 INHIBITING CONSTRAINTS

The constraints to implementing an eBusiness strategy that were perceived by the respondents as being prohibitive are reflected in the figure below. The majority of respondents perceive the costs of an eBusiness initiative to be a major constraint. The interviews confirmed that the smaller organisations view any investment in technology to be prohibitively expensive and are as yet not convinced of the value thereof. This finding indicates that obtaining buy-in from the smaller organisations to any eBusiness initiative may be difficult.

There is a strong perception among the respondents that their suppliers and partners are not eBusiness ready or willing to do business electronically. This perception reflects that any eBusiness initiative will initially have to be implemented at a

rudimentary level, as technology is currently not extensively used and it appears that the respondents are as yet unaware of the benefits of an eBusiness initiative.

Figure 36: Perceived Constraints to eBusiness Initiative.



The costs of an eBusiness initiative is perceived to be a major constraint to implementing an eBusiness initiative

There is a perception that suppliers and partners are not eBusiness ready and are not willing to do business electronically

14 CONCLUSION

The stainless steel industry's only common factor is the fact that they all use the same raw material. Companies vary greatly in their size, products and segments they service and the way they run their businesses.

On the one hand there a few very large and sophisticated companies, that are able to compete globally through their established relationships and competitiveness. Alongside them there are several smaller companies with overseas investments, or having imported technology from overseas and are able to compete internationally as well. And then there is the other side of the scale, small and medium companies that operate on a fairly unsophisticated style. Product quality and ability to produce world-class products appears intact, but business management and the resources to grow the company to export internationally, is lacking. These companies manage their business on a day-to-day basis, with little capacity to establish long-term sustainability and create the next opportunity.

It is in this context that we believe eBusiness can have a significant impact on local stainless steel manufacturers, fabricators and converters, and specifically SME's in this industry sector. Significant opportunity exists to enable these businesses through technology internally and in procurement, marketing and sales to achieve world-class status and reach industry growth targets of 1 million tones by 2010.

Internal opportunities

- The small to medium sized organisations use systems that are not integrated and are very much person-centred with little knowledge or data sharing occurring between the business functions. There is a need for an awareness program that will highlight the benefits and costs of the systems that is required to implement an eBusiness solution

- The majority of smaller to medium sized organisations do not currently use EDI or the Internet to conduct business. An awareness program will highlight the benefits and efficiencies of using technology to conduct business

- Smaller firms perceive that eBusiness investments are prohibitively expensive. There is a need to address affordability within the industry so that smaller organisations are made aware that profitable returns on investment are realisable within their particular frame of reference

- Within the small to medium sized organisations, there is a shortage of PC's with access to the internet, which will inhibit the successful implementation of an eBusiness strategy

- The organisations which stated they had an eBusiness strategy make use of a website, use EDI or have Internet access. There is a need to train industry participants in the use and benefits of technology.

Procurement opportunities

- Supplier coordination is complex and there is a need for a source of online supplier information. The database could provide a means for all industry participants to display and promote their products and services and consequently facilitate supplier coordination and stimulate efficient procurement.

- There is evidence of a need to collaborate with suppliers in terms of sharing demand forecasts, needs, specifications and general information.

- A mechanism is required to facilitate collaboration between small to medium sized organisation when they are faced with orders to large to handle independently

- Stock availability from major suppliers is impeding efficient procurement. There is a need for an online ordering facility to improve efficiencies in the ordering process and stimulate supplier awareness.

- The demand pattern experienced by the majority of organisations is unpredictable, highlighting an eBusiness opportunity to allow collaboration when demand exceeds capacity and to source new markets.

Marketing, sales & service opportunities

- There is a desire in most organisations to increase exports but there is an apparent inability to penetrate a particular market. There is a need for a mechanism to facilitate small to medium organisation exposure to export markets

- Small to medium sized organisations currently do not use technology to promote their products. There is a need to train both the manufacturers and

consumers on how to leverage technology to facilitate promotion exposure and contracts

- Brochures and word-of-mouth are currently the predominant forms of promotion. The information contained in brochures could potentially be placed on websites more cost effectively

- The larger organisations, particularly those involved in exports, make use of agents or their international counterparts to sell and market their products. The smaller organisations currently perform these activities personally highlighting an opportunity.

Logistics opportunities

- The larger organisations tend to outsource distribution logistics whereas the smaller organisations arrange their own distribution logistics resulting in efficiencies. Any export initiative will need to address this function to ensure competitiveness is maintained

- The administration related to exporting is perceived as being time consuming and complicated. There is a need for eBusiness to play a role in educating those organisations seeking to export products

- There is a need for assistance tracking both inbound and outbound orders. It is envisaged that eBusiness can play a significant role in facilitating this process.

15 APPENDIX 1: FINAL QUESTIONNAIRE

Under separate cover.