Republic of Trinidad and Tobago

The National Institute of Higher Education,
Research, Science and Techology

Survey of Innovation in the Assembly - type and Related Industries 2013

NIHERST
Science and Technology Statistical Unit
#77 Eastern Main Road
St. Augustine
Trinidad and Tobago
Tel: 868-663-9320
Fax: 868-645-5007
e-mail: stresearch@niherst.gov.tt
website: http://niherst.gov.tt

Foreword

In this publication, the National Institute of Higher Education, Research, Science and Technology (NIHERST) presents the results of the Survey of Innovation in the Assembly-type and related industries, 2013. This survey is the sixth of its kind to be conducted by NIHERST complementing similar studies undertaken in the manufacturing sector in Trinidad and Tobago from 2006 to present. The survey was designed to provide insights into the innovation process in the Assembly-type and related industries in Trinidad and Tobago.

The enquiry focused on the various types of innovative activities undertaken in the industry, the associated obstacles to innovation and the impact of innovation on key performance indicators. A profile of the establishments surveyed which included age, ownership structure, employment and sales by sub-sector was also captured by the survey.

The results of the study are intended to assist decision - makers in developing policies to create the environment and incentives to catalyse innovation in the Assembly-type and related industries.

NIHERST wishes to thank various establishments that willingly provided the data collated in this report.

Maureen Manchouck
President

Glossary

Research and Development (R&D) comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge of man, culture and society and the use of this stock of knowledge to devise new applications.
(Frascati Manual, OECD 2002)

Innovation activities include all scientific, technological, organisational, financial and commercial steps which actually lead, or are intended to lead, to the implementation of innovations. Some of these activities may be innovative in their own right, while others are not novel but are necessary to implementation. Innovation can be broken down into technological (product and process) and non-technological (marketing and organisational).

Product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.

Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

Marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

Organisational innovation is the implementation of a new organisational method in the firm's business practices, workplace organisation or external relations.
(OSLO Manual, OECD 2005)

Table of Contents

Methodology

Introduction

The Survey of Innovation in the Assembly-type and related industries, 2013 was designed to provide insights into the innovation process in the sub-sector in Trinidad and Tobago. This methodology describes the objectives, scope, coverage, data collection and processing of the results of the study.

Objectives of the Survey

The objective of this survey was to obtain information with respect to the innovative activities of manufacturing establishments of the Assembly-type and related industries including:

- types of innovative activities undertaken and the reasons for undertaking such activities,
- impact of innovation on key performance indicators,
- role of linkages for the acquisition of information and collaboration leading to innovation,
- role of technology in the innovation process, and
- obstacles/hindrances to innovative activities.

Sample Design

The frame of establishments in the Assembly-type and related industries was obtained from the Central Statistical Office (CSO) and a sample was selected to represent the following industrial groups:

- Batteries, mufflers and radiators
- Assembly of appliances
- Assembly or manufacture of electrical/electronic items
- Boat building and ship repairs
- Manufacture of metal building materials
- Manufacture of metal containers
- Manufacture of metal furniture
- Manufacture of all other metal products

Coverage

The survey was administered to ninety-one (91) establishments from all sub-sectors of the Assembly-type and related industries sector and fifty (50) establishments or 55% responded. The following table shows the distribution of respondents by sub-sectors.

Distribution of Respondents by Industry

Industry	No.	Percentage
Total	**50**	**100**
Batteries, mufflers and radiators	3	6
Assembly of appliances	2	4
Assembly or manufacture of electrical/electronic items	3	6
Boat building and ship repairs	3	6
Manufacture of metal building materials	13	26
Manufacture of metal containers	2	4
Manufacture of metal furniture	3	6
Manufacture of all other metal products	21	42

Data Collection

A questionnaire was designed to include the underlying objectives. Data were subsequently collected by a group of experienced interviewers who were trained in administering the survey questionnaire during the period March-June, 2013.

Data Processing

As completed questionnaires were received, data were edited for consistency and omissions. Where discrepancies were identified, questionnaires were returned to the field for verification and correction as necessary. Edited data were then captured in the Statistical Package for the Social Sciences (SPSS) version 16.0 software which was used to produce the tabulations in this report.

Results

The results of the survey are presented in the various tabulations and graphics which follow.

Executive Summary

Establishments Profiles

- Of the total 50 establishments that responded to the survey, 15 (30%) were between 10 - 19 and 14 (28%) were 20 - 29 years of age.

- A substantial percentage (46%) of establishments employed less than 10 persons while 18% employed between 10 - 19 persons.

- Overall, the survey results show that two-fifths (42%) of the establishments were engaged in manufacture of all other metal products and 26% in metal building materials.

- Most of the responding establishments (92%) in the Assembly-type and related industries were local and privately owned; 8% of manufacturers of building materials and one (50%) of the two producers of metal containers were wholly owned by a foreign corporation.

- Approximately, two-thirds (64%) of the establishments overall, and 50% and more by various sub-sectors reported no change in employment between 2011 and 2012.

- The majority of establishments (74%) employed no engineers. However, one-third (33%) of the establishments in each of the manufacture of metal furniture and electrical/electronic items employed seven and eight engineers respectively.

- Sales in the Assembly-type and related industries ranged from less than $1m to over $20m in 2012. One-third (34%) of the establishments reported sales of less than $1m while 28% recorded sales between $1m -$5m in 2012. Approximately one-fifth (18%) of the establishments indicated that sales were over $20m. By industry, the data reveal that a substantial percentage of establishments in boat building and ship repair (67%), assembly of appliances (50%) and production of all other metal products (43%) generated less than $1m in sales revenue. However, a half of the establishments in assembly of appliances (50%) and manufacture of metal containers (50%) recorded sales in excess of $20m as did a third of the establishments in assembly or manufacture of electrical/electronic items (33%) and metal building materials (31%).

- Over a third (36%) of the respondents, especially those in production of metal furniture (67%), experienced a growth in sales between 2011 and 2012 while a similar percentage (36%) recorded decreases and 28% indicated no change in sales.

- Over a half (54%) of the establishments in the Assembly-type and related industries sub-sector exported in 2012.

- Of the 27 establishments that exported in 2012, 48% exported less than $1m while 26% exported between $1m - $5m, 15% between $6m - $10m and 7% between $11m - $50m. Establishments in the production of metal building materials (25%) reported exports valued between $11m - $50m.

- A substantial percentage (48%) of the respondents showed declines in export sales over the period, 2011 - 2012 while 22% registered increases and 30% experienced no change. The establishments in electrical/electronic items and boat building and ship repairs together with the vast majority in metal building materials (75%) reported decreases in export sales between 2011 and 2012.

- Three-quarters (74%) of the establishments that exported reported exports of between 1-25% of total sales and 22% indicated exports to total revenue in the range of 26-50% in 2012. By sub-sectors, the data reveal that a half or more of the establishments in all sub-sectors except boat building and ship repairs recorded exports of between 1-25% of total sales. In addition, both respondents (100%) in boat building and ship repairs reported exports to total sales in the range of 26-50% and only one (13%) establishment in manufacture of metal building materials indicated exports to total sales of over 50%.

Innovation Activities

- The percentage of establishments in the Assembly-type and related industries sub-sector engaged in diffusion was not significant as revealed by the indicators of licensing, sub-contracting and outsourcing. Overall, 6% of establishments had licensing contract for product or process technology, one-fifth (20%) stated that they were sub-contracting and 12% were outsourcing.

- Two-fifths (40%) of the establishments purchased new machinery and equipment during the period 2011 - 2012. Both producers (100%) of metal containers purchased new machinery and equipment followed by manufacture of all other metal products (48%) and metal building materials (39%). Of the 20 establishments that purchased new machinery and equipment, 45% acquired such capital goods from foreign markets, one-quarter (25%) from local suppliers and 30% from both local and foreign markets.

- In general, the majority of establishments in the Assembly-type and related industries of manufacturing was not engaged in product or process innovation in 2011 - 2012. Of the 50 establishments that responded to the survey, 36% had improved an existing product and, 24% and 22% developed and introduced new products respectively. In the case of process innovation 36% had improved an existing process, 24% developed or modified an existing process and 20% introduced a new process.

- In terms of organisational innovation a relatively large percentage of respondents had introduced/improved maintenance routines and systems (44%) and introduced/expanded in-house training programme (40%). Approximately a third of the establishments had introduced/improved quality assurance systems (36%), introduced changes in management systems and techniques (34%) and introduced/improved waste management procedures (34%). In addition, over a quarter of the respondents had improved plant layout (28%) and 26% implemented major changes in organisational strategy and structure.

- Marketing innovation included the implementation of marketing methods and the development of new markets at home and abroad. Overall, most establishments from the Assembly-type and related industries were not engaged in these innovative activities during 2011 - 2012. Twenty-eight percent (28%) of the establishments introduced new marketing techniques, while 8% and 14% developed new markets at home and abroad respectively.

Driving Forces and Obstacles to Innovation

- A substantial percentage of respondents rated improving customer satisfaction (48%), product quality (42%) and productivity (38%) as very important reasons for innovating. Reducing production costs (40%) and improving working conditions (32%) were also identified as important. The lowest rating was assigned to dealing with new competitors in exports, in that 22% of the respondents indicated that it was not important.

- In the Assembly-type and related industries, the main obstacle to innovation was identified as the high cost of the innovation project, which a quarter (24%) of the respondents stated to be very significant. Approximately one-fifth of the respondents rated domestic economic conditions (20%), lack of financing (18%), lack of skilled/qualified personnel (18%) and weak customer demand (18%) also as very significant obstacles to innovation. A half or more of the respondents indicated that long administrative/approval process within the firm (54%), lack of information on technology itself (52%), lack of external technical support (52%) and legislation (50%) were not relevant/appropriate.

Linkages and Collaboration

- The majority of respondents identified their establishments (56%) and customers (46%) as very important sources of information for innovation. A substantial percentage of respondents did not use parent firms (52%), client firms (42%), professional journals and trade publications (42%), education and research institutes (42%), government or public research institutes (40%), consultancy firms (36%), and fairs, exhibitions and conferences (32%) as sources of information on innovation.

- Customers (40%) were identified as the major source of information on product innovation followed by suppliers (24%) and their establishments (20%). In addition, establishments (38%) and suppliers (22%) were seen as the main sources of information on process innovation. With respect to marketing innovation, one-fifth of the respondents used their establishments (22%) and business and industry associations (20%). A quarter (26%) of the respondents accessed information on management innovation within their establishments.

- In general, most establishments in the industry were not engaged in co-operative and collaborative arrangements as a means of diffusion. One-fifth of the establishments had co-operative and collaborative arrangements with customers (20%) and suppliers (18%) while a similar percentage (18%) cited accessing new markets as the reason for collaboration.

Impact of Innovation on Key Performance Indicators

- A substantial percentage of respondents indicated that innovation resulted in increased productivity (46%), competitiveness (38%) and service quality (38%). A quarter or more of the respondents recorded increases in product differentiation (36%), cash flow (30%), compliance with regulations (30%), profitability (28%), positive environmental impact (28%) and market share (24%). A relatively large proportion of respondents experienced no change in employment (38%), export growth (28%) and positive environmental impact (28%).

Research and Development

- The survey reveals that only 10% had undertaken research and development activities. Two (4%) establishments utilised trademarks to protect intellectual property.

Information and Communication Technology (ICT)

- The majority (92%) of respondents, including all sub-sectors, utilised the Internet mainly for email (92%) and searches on the World Wide Web (82%). A half (54%) of the respondents used the Internet for advertising through a home page and two-fifths (40%) for e-commerce.

Government Support Programmes

- Government support programmes for innovation, found inapplicable by 30%, were not accessed by any of the responding establishments of the sub-sectors.

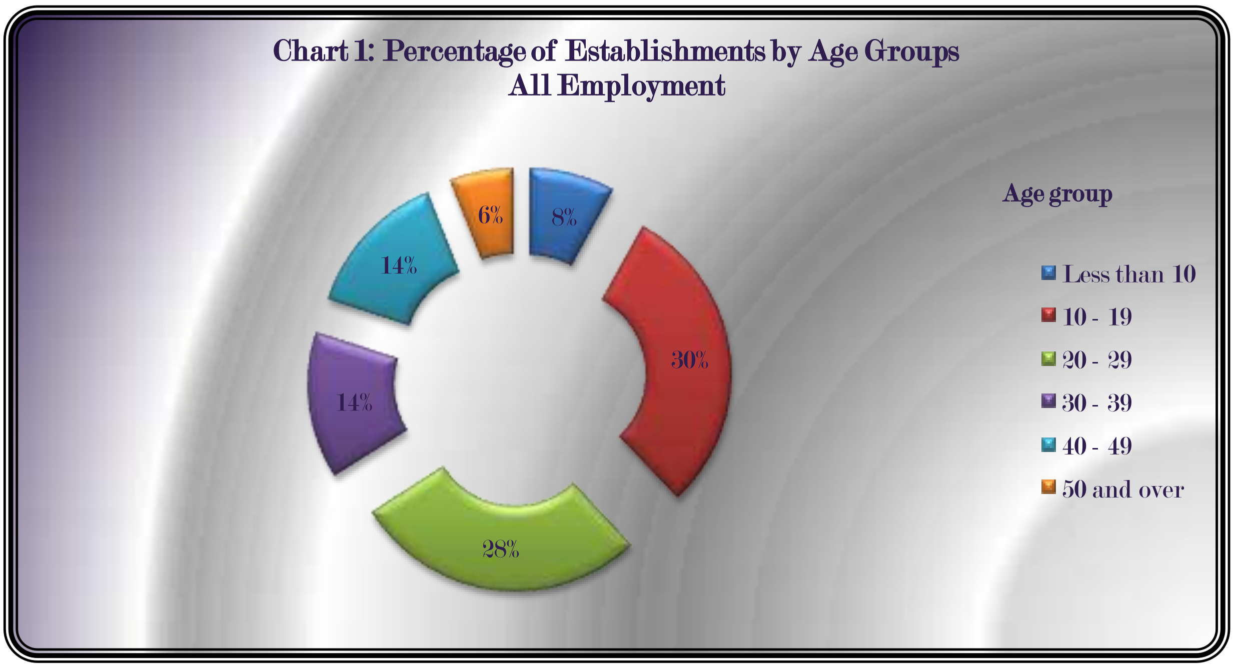
Table 1: No. of Establishments by Age Groups and Employment

Age group (years)	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(no. of establishments)						
All ages	50	23	9	5	6	3	4
Less than 10	4	2	1	0	0	1	0
10 - 19	15	12	2	0	0	1	0
20 - 29	14	5	4	1	3	1	0
30 - 39	7	1	1	1	2	0	2
40 - 49	7	3	0	1	1	0	2
50 and over	3	0	1	2	0	0	0

Of the total 50 establishments that responded to the survey, 15 (30%) were between 10 - 19 and 14 (28%) were 20 - 29 years of age (Tables 1 and 2). By employment size, a substantial percentage (46%) of establishments employed less than 10 persons while 18% employed between 10 - 19 persons (Table 3). A further review of the data shows that half (52%) of establishments with less than 10 employees was between 10 - 19 years old (Table 2). Additionally, the majority of establishments in the less than 10 (50%), 10 - 19 (80%), 20 - 29 (36%) and 40 - 49 (43%) age categories had less than 10 employees while two-thirds (67%) in the 50 and over age group employed 20 - 29 persons (Table 3).

Table 2: Percentage of Establishments by Age Groups within Employment

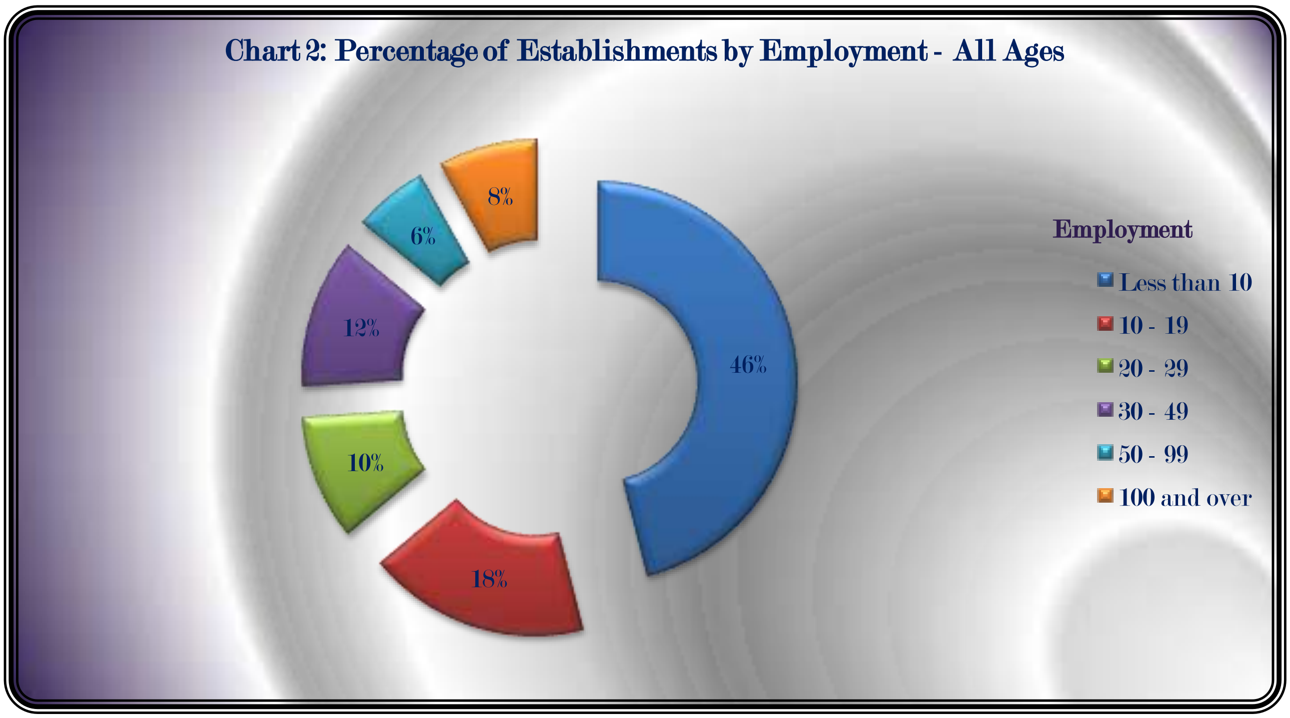
Age group (years)	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Less than 10	8	9	11	0	0	33	0
10 - 19	30	52	22	0	0	33	0
20 - 29	28	22	44	20	50	33	0
30 - 39	14	4	11	20	33	0	50
40 - 49	14	13	0	20	17	0	50
50 and over	6	0	11	40	0	0	0



Source: Table 2

Table 3: Percentage of Establishments by Employment within Age Groups

Age group (years)	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
All ages	100.0	46.0	18.0	10.0	12.0	6.0	8.0
Less than 10	100.0	50.0	25.0	0.0	0.0	25.0	0.0
10 - 19	100.0	80.0	13.3	0.0	0.0	6.7	0.0
20 - 29	100.0	35.7	28.6	7.1	21.4	7.1	0.0
30 - 39	100.0	14.3	14.3	14.3	28.6	0.0	28.6
40 - 49	100.0	42.9	0.0	14.3	14.3	0.0	28.6
50 and over	100.0	0.0	33.3	66.7	0.0	0.0	0.0



Source: Table 3

Table 4: No. of Establishments by Age Groups and Sub-sectors

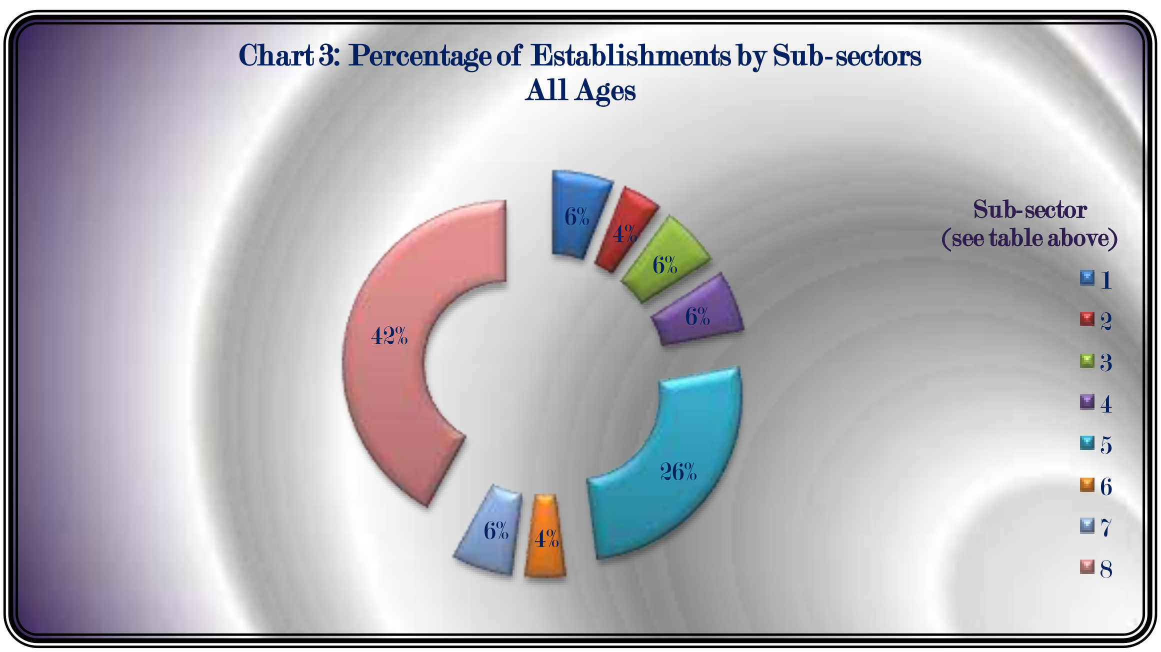
Sub-sector	Age group (years)						
	All ages	Less than 10	10 - 19	20 - 29	30 - 39	40 - 49	50 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(no. of establishments)						
Total	50	4	15	14	7	7	3
1 Batteries, mufflers and radiators	3	0	0	1	1	0	1
2 Assembly of appliances	2	1	0	1	0	0	0
3 Assembly or manufacture of electrical/electronic items	3	0	0	1	1	1	0
4 Boat building and ship repairs	3	0	3	0	0	0	0
5 Manufacture of metal building materials	13	2	1	5	2	2	1
6 Manufacture of metal containers	2	0	1	1	0	0	0
7 Manufacture of metal furniture	3	1	0	1	1	0	0
8 Manufacture of all other metal products	21	0	10	4	2	4	1

Table 5: Percentage of Establishments by Sub-sectors within Age Groups

Sub-sector	Age group (years)						
	All ages	Less than 10	10 - 19	20 - 29	30 - 39	40 - 49	50 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	100	100	100	100	100	100	100
1 Batteries, mufflers and radiators	6	0	0	7	14	0	33
2 Assembly of appliances	4	25	0	7	0	0	0
3 Assembly or manufacture of electrical/electronic items	6	0	0	7	14	14	0
4 Boat building and ship repairs	6	0	20	0	0	0	0
5 Manufacture of metal building materials	26	50	7	36	29	29	33
6 Manufacture of metal containers	4	0	7	7	0	0	0
7 Manufacture of metal furniture	6	25	0	7	14	0	0
8 Manufacture of all other metal products*	42	0	67	29	29	57	33

* including steel structures, windows, doors, shop fronts, steel pipes, display racks, metal filters, gaskets and machinery

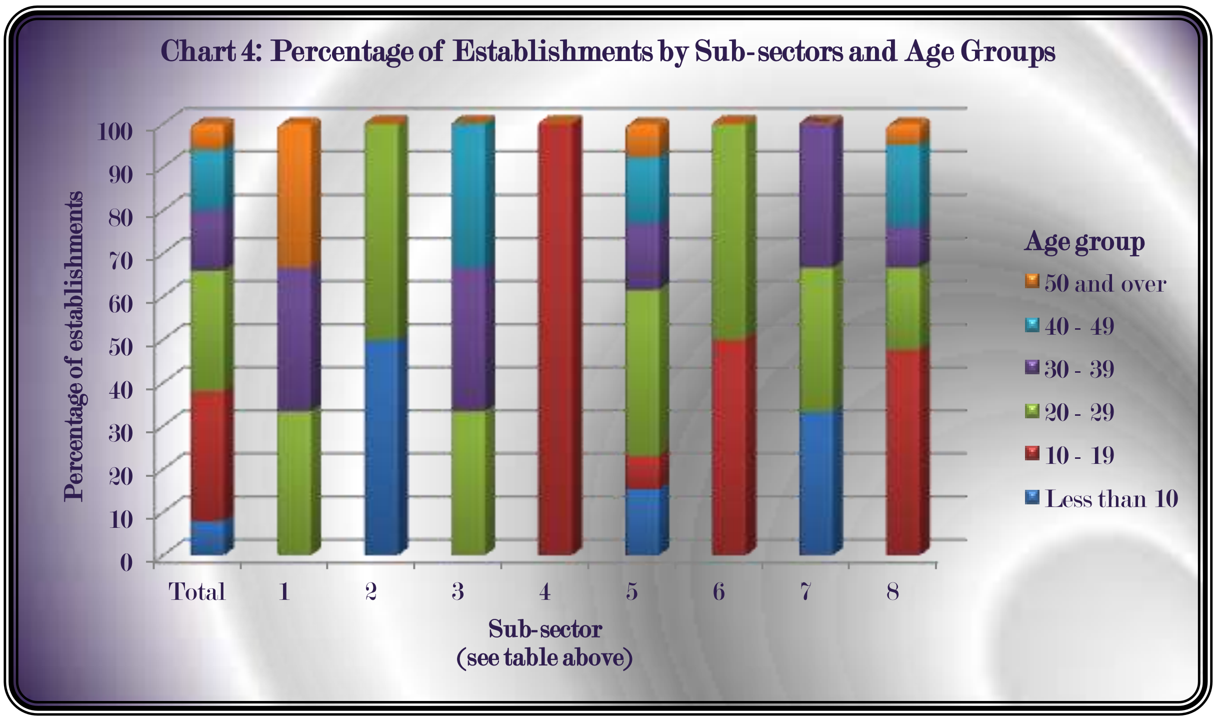
Overall, the survey results show that approximately two-fifths (42%) of the establishments were engaged in manufacture of all other metal products and 26% in metal building materials (Table 5). A relatively large proportion (67%) of establishments 10 - 19 years old was in manufacture of all other metal products while one-fifth (20%) was in boat building and ship repairs. In addition, 36% of the establishments between 20 - 29 years old were in production of metal building materials and 29% in all other metal products. A further review of the data shows that all of the establishments engaged in boat building and ship repairs (100%), manufacture of metal containers (50%) and all other metal products (48%) were between 10 - 19 years of age (Table 6).



Source: Table 5

Table 6: Percentage of Establishments by Age Groups within Sub-sectors

Sub-sector	Age group (years)						
	All ages	Less than 10	10 - 19	20 - 29	30 - 39	40 - 49	50 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	100	8	30	28	14	14	6
1 Batteries, mufflers and radiators	100	0	0	33	33	0	33
2 Assembly of appliances	100	50	0	50	0	0	0
3 Assembly or manufacture of electrical/electronic items	100	0	0	33	33	33	0
4 Boat building and ship repairs	100	0	100	0	0	0	0
5 Manufacture of metal building materials	100	15	8	38	15	15	8
6 Manufacture of metal containers	100	0	50	50	0	0	0
7 Manufacture of metal furniture	100	33	0	33	33	0	0
8 Manufacture of all other metal products	100	0	48	19	10	19	5



Source: Table 6

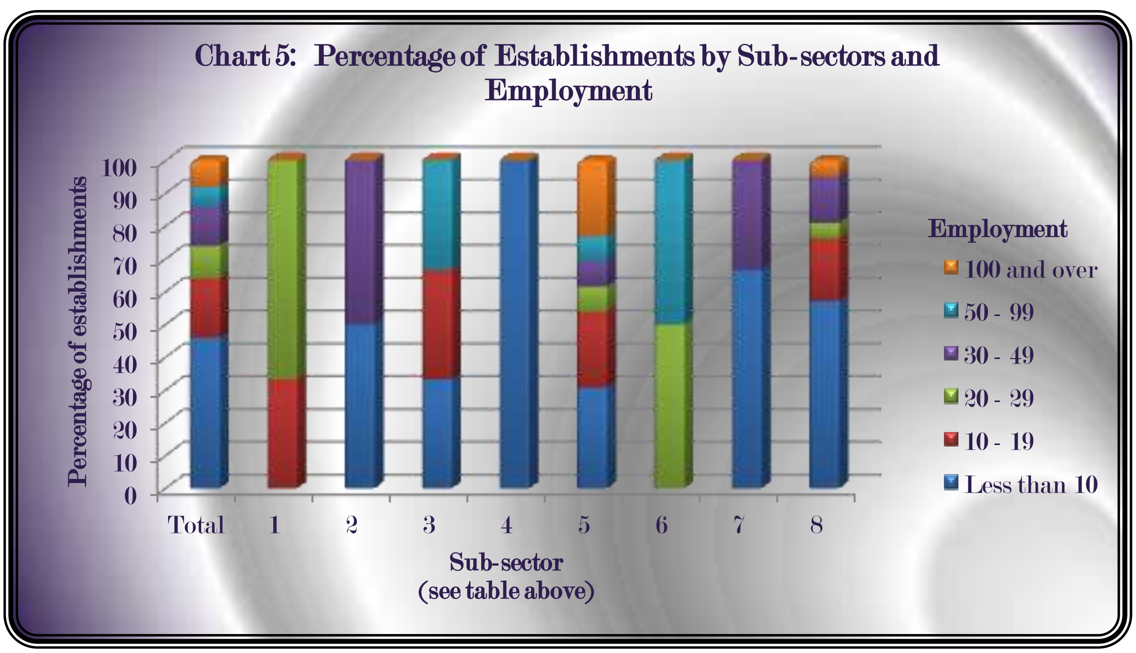
Table 7: No. of Establishments by Employment and Sub-sectors

Sub-sector	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(no. of establishments)						
Total	50	23	9	5	6	3	4
1 Batteries, mufflers and radiators	3	0	1	2	0	0	0
2 Assembly of appliances	2	1	0	0	1	0	0
3 Assembly or manufacture of electrical/electronic items	3	1	1	0	0	1	0
4 Boat building and ship repairs	3	3	0	0	0	0	0
5 Manufacture of metal building materials	13	4	3	1	1	1	3
6 Manufacture of metal containers	2	0	0	1	0	1	0
7 Manufacture of metal furniture	3	2	0	0	1	0	0
8 Manufacture of all other metal products	21	12	4	1	3	0	1

Table 8: Percentage of Establishments by Employment within Sub-sectors

Sub-sector	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	100.0	46.0	18.0	10.0	12.0	6.0	8.0
1 Batteries, mufflers and radiators	100.0	0.0	33.3	66.7	0.0	0.0	0.0
2 Assembly of appliances	100.0	50.0	0.0	0.0	50.0	0.0	0.0
3 Assembly or manufacture of electrical/electronic items	100.0	33.3	33.3	0.0	0.0	33.3	0.0
4 Boat building and ship repairs	100.0	100.0	0.0	0.0	0.0	0.0	0.0
5 Manufacture of metal building materials	100.0	30.8	23.1	7.7	7.7	7.7	23.1
6 Manufacture of metal containers	100.0	0.0	0.0	50.0	0.0	50.0	0.0
7 Manufacture of metal furniture	100.0	66.7	0.0	0.0	33.3	0.0	0.0
8 Manufacture of all other metal products	100.0	57.1	19.0	4.8	14.3	0.0	4.8

All establishments in boat building and ship repairs (100%), the majority in manufacture of metal furniture (67%), all other metal products (57%), and a relatively large percentage in assembly of appliances (50%), production of electrical/electronic items (33%) and metal building materials (31%) had less than ten employees (Table 8). A substantial percentage of establishments in the batteries, mufflers and radiators (67%) and manufacture of metal containers (50%) sub-sectors employed between 20 - 29 persons. The data also reveal that three-quarters (75%) of the establishments with 100 and more employees were involved in manufacture of metal building materials and a quarter (25%) in manufacture of all other metal products (Table 9). Additionally, a half of the establishments with less than 10 (52%) and 30 - 49 (50%) employees was engaged in production of all other metal products while two-fifths (40%) of the establishments with 20 - 29 employees were in batteries, mufflers and radiators.



Source: Table 8

Table 9: Percentage of Establishments by Sub-sectors within Employment

Sub-sector	Employment (no. of employees)						
	Total	Less than 10	10 - 19	20 - 29	30 - 49	50 - 99	100 and over
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1 Batteries, mufflers and radiators	6.0	0.0	11.1	40.0	0.0	0.0	0.0
2 Assembly of appliances	4.0	4.3	0.0	0.0	16.7	0.0	0.0
3 Assembly or manufacture of electrical/electronic items	6.0	4.3	11.1	0.0	0.0	33.3	0.0
4 Boat building and ship repairs	6.0	13.0	0.0	0.0	0.0	0.0	0.0
5 Manufacture of metal building materials	26.0	17.4	33.3	20.0	16.7	33.3	75.0
6 Manufacture of metal containers	4.0	0.0	0.0	20.0	0.0	33.3	0.0
7 Manufacture of metal furniture	6.0	8.7	0.0	0.0	16.7	0.0	0.0
8 Manufacture of all other metal products	42.0	52.2	44.4	20.0	50.0	0.0	25.0

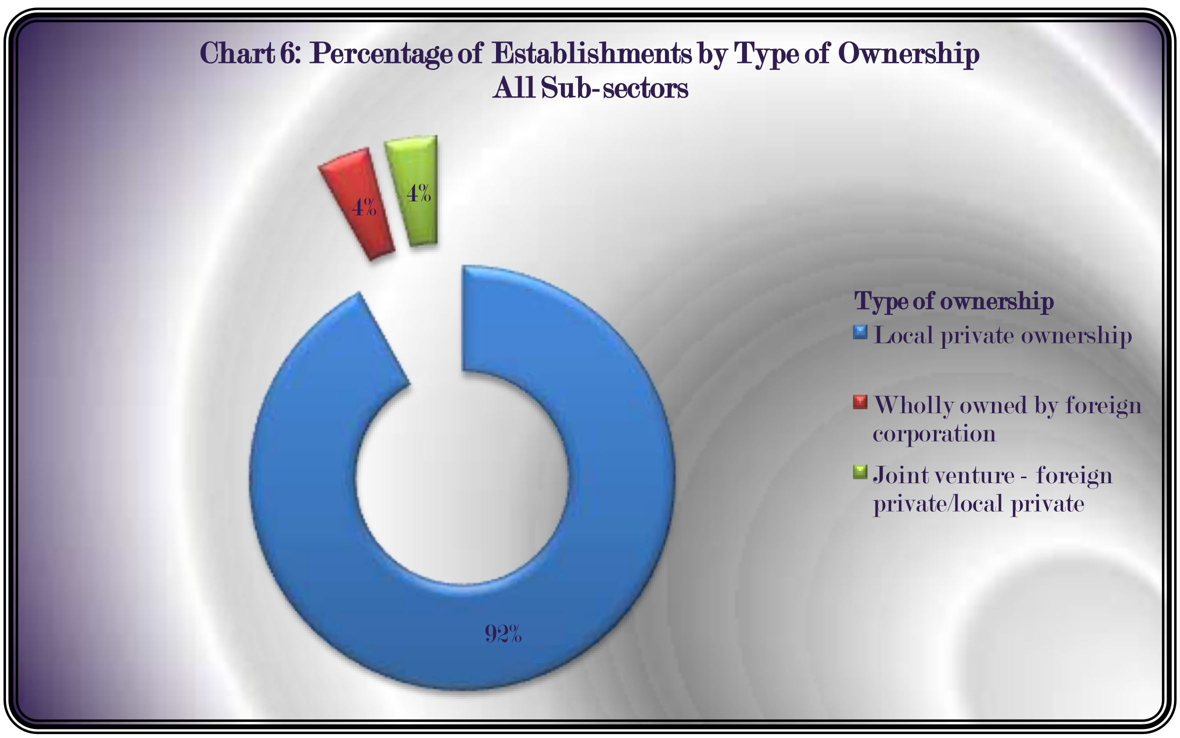
Table 10: No. of Establishments by Sub-sectors and Type of Ownership Structure

Sub-sector	Ownership structure			
	Total	Local private ownership	Wholly owned by foreign corporation	Joint venture - foreign private/local private
	(1)	(2)	(3)	(4)
	(no. of establishments)			
Total	50	46	2	2
1 Batteries, mufflers and radiators	3	3	0	0
2 Assembly of appliances	2	2	0	0
3 Assembly or manufacture of electrical/electronic items	3	3	0	0
4 Boat building and ship repairs	3	3	0	0
5 Manufacture of metal building materials	13	10	1	2
6 Manufacture of metal containers	2	1	1	0
7 Manufacture of metal furniture	3	3	0	0
8 Manufacture of all other metal products	21	21	0	0

Table 11: Percentage of Establishments by Sub-sectors and Type of Ownership Structure

Sub-sector	Ownership structure			
	Total	Local private ownership	Wholly owned by foreign corporation	Joint venture - foreign private/local private
	(1)	(2)	(3)	(4)
	(percentage)			
Total	100.0	92.0	4.0	4.0
1 Batteries, mufflers and radiators	100.0	100.0	0.0	0.0
2 Assembly of appliances	100.0	100.0	0.0	0.0
3 Assembly or manufacture of electrical/electronic items	100.0	100.0	0.0	0.0
4 Boat building and ship repairs	100.0	100.0	0.0	0.0
5 Manufacture of metal building materials	100.0	76.9	7.7	15.4
6 Manufacture of metal containers	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	100.0	100.0	0.0	0.0
8 Manufacture of all other metal products	100.0	100.0	0.0	0.0

Most of the responding establishments (92%) in the Assembly-type and related industries sector were local and privately owned; 8% of manufacturers of building materials and one (50%) of the two producers of metal containers were wholly owned by a foreign corporation.



Source: Table 11

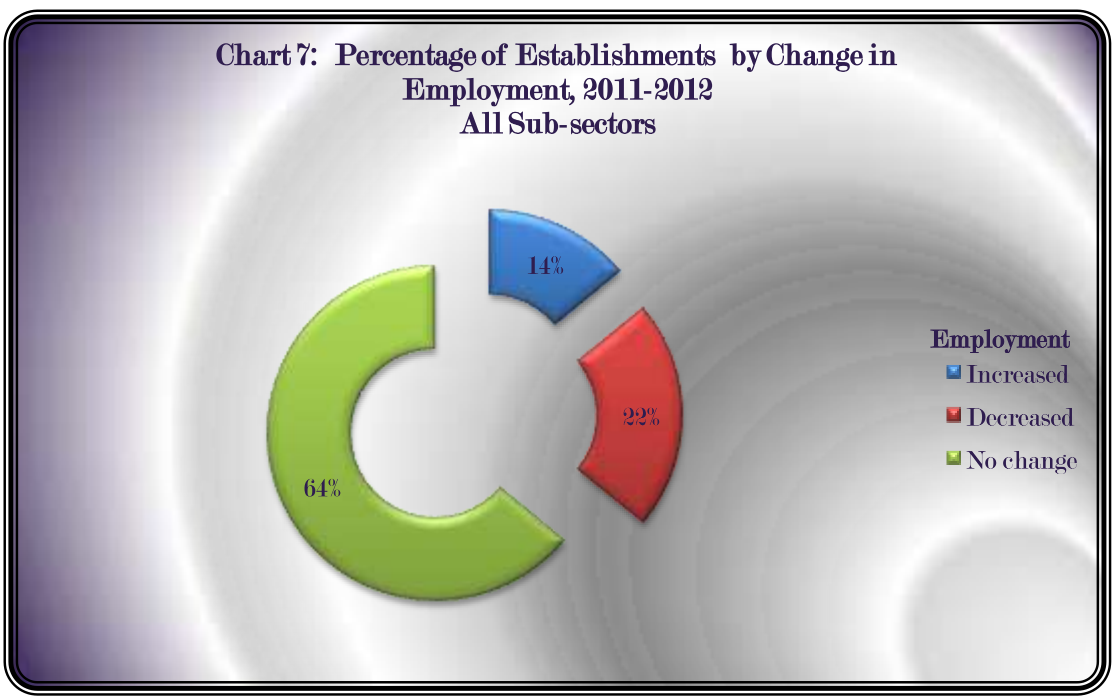
Table 12: No. of Establishments by Sub-sectors and Change in Employment, 2011 - 2012

Sub-sector	Change in employment			
	Total	Increased	Decreased	No change
	(1)	(2)	(3)	(4)
	(no. of establishments)			
Total	50	7	11	32
1 Batteries, mufflers and radiators	3	1	0	2
2 Assembly of appliances	2	0	1	1
3 Assembly or manufacture of electrical/electronic items	3	0	1	2
4 Boat building and ship repairs	3	0	1	2
5 Manufacture of metal building materials	13	2	5	6
6 Manufacture of metal containers	2	1	0	1
7 Manufacture of metal furniture	3	0	0	3
8 Manufacture of all other metal products	21	3	3	15

Table 13: Percentage of Establishments by Sub-sectors and Change in Employment, 2011 - 2012

Sub-sector	Change in employment			
	Total	Increased	Decreased	No change
	(1)	(2)	(3)	(4)
	(percentage)			
Total	100.0	14.0	22.0	64.0
1 Batteries, mufflers and radiators	100.0	33.3	0.0	66.7
2 Assembly of appliances	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	100.0	0.0	33.3	66.7
4 Boat building and ship repairs	100.0	0.0	33.3	66.7
5 Manufacture of metal building materials	100.0	15.4	38.5	46.2
6 Manufacture of metal containers	100.0	50.0	0.0	50.0
7 Manufacture of metal furniture	100.0	0.0	0.0	100.0
8 Manufacture of all other metal products	100.0	14.3	14.3	71.4

Approximately, two-thirds (64%) of the establishments overall, and 50% and more by various sub-sectors reported no change in employment between 2011 and 2012 (Table 13). Fourteen percent (14%), mainly in manufacture of metal containers (50%), recorded an increase while 22%, especially in assembly of appliances (50%) and manufacture of metal building material (39%), registered a decrease in employment. By employment size, 40% of the establishments with 20 - 29 persons showed a growth in employment in the 2011 - 2012 period; 50% with 100 and more employees recorded a decrease while a substantial percentage of smaller establishments with less than 20 employees (78%) registered no change (Table 15).



Source: Table 13

Table 14: No. of Establishments by Employment and Change in Employment, 2011 - 2012

Employment (no. of employees)	Change in employment			
	Total	Increased	Decreased	No change
	(1)	(2)	(3)	(4)
	(no. of establishment)			
Total	50	7	11	32
Less than 10	23	1	4	18
10 - 19	9	1	1	7
20 - 29	5	2	1	2
30 - 49	6	1	2	3
50 - 99	3	1	1	1
100 and over	4	1	2	1

Table 15: Percentage of Establishments by Employment and Change in Employment, 2011 - 2012

Employment (no. of employees)	Change in employment			
	Total	Increased	Decreased	No change
	(1)	(2)	(3)	(4)
	(percentage)			
Total	100.0	14.0	22.0	64.0
Less than 10	100.0	4.3	17.4	78.3
10 - 19	100.0	11.1	11.1	77.8
20 - 29	100.0	40.0	20.0	40.0
30 - 49	100.0	16.7	33.3	50.0
50 - 99	100.0	33.3	33.3	33.3
100 and over	100.0	25.0	50.0	25.0

Table 16: No. of Establishments by Sub-sectors and No. of Engineers Employed, 2012

Sub-sector	No. of engineers							
	Total	0	1	2	3	4	7	8
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(no. of establishments)							
Total	50	37	4	5	1	1	1	1
1 Batteries, mufflers and radiators	3	3	0	0	0	0	0	0
2 Assembly of appliances	2	2	0	0	0	0	0	0
3 Assembly or manufacture of electrical/electronic items	3	1	0	0	1	0	0	1
4 Boat building and ship repairs	3	2	1	0	0	0	0	0
5 Manufacture of metal building materials	13	10	1	2	0	0	0	0
6 Manufacture of metal containers	2	1	1	0	0	0	0	0
7 Manufacture of metal furniture	3	2	0	0	0	0	1	0
8 Manufacture of all other metal products	21	16	1	3	0	1	0	0

Table 17: Percentage of Establishments by Sub-sectors and No. of Engineers Employed, 2012

Sub-sector	No. of engineers							
	Total	0	1	2	3	4	7	8
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(percentage)							
Total	100.0	74.0	8.0	10.0	2.0	2.0	2.0	2.0
1 Batteries, mufflers and radiators	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
2 Assembly of appliances	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
3 Assembly or manufacture of electrical/electronic items	100.0	33.3	0.0	0.0	33.3	0.0	0.0	33.3
4 Boat building and ship repairs	100.0	66.7	33.3	0.0	0.0	0.0	0.0	0.0
5 Manufacture of metal building materials	100.0	76.9	7.7	15.4	0.0	0.0	0.0	0.0
6 Manufacture of metal containers	100.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0
7 Manufacture of metal furniture	100.0	66.7	0.0	0.0	0.0	0.0	33.3	0.0
8 Manufacture of all other metal products	100.0	76.2	4.8	14.3	0.0	4.8	0.0	0.0

The majority of establishments (74%), especially those in batteries, mufflers and radiators (100%) and assembly of appliances (100%), employed no engineers. One-third (33%) of the establishments in each of the manufacture of metal furniture and electrical/electronic items employed seven and eight engineers respectively.

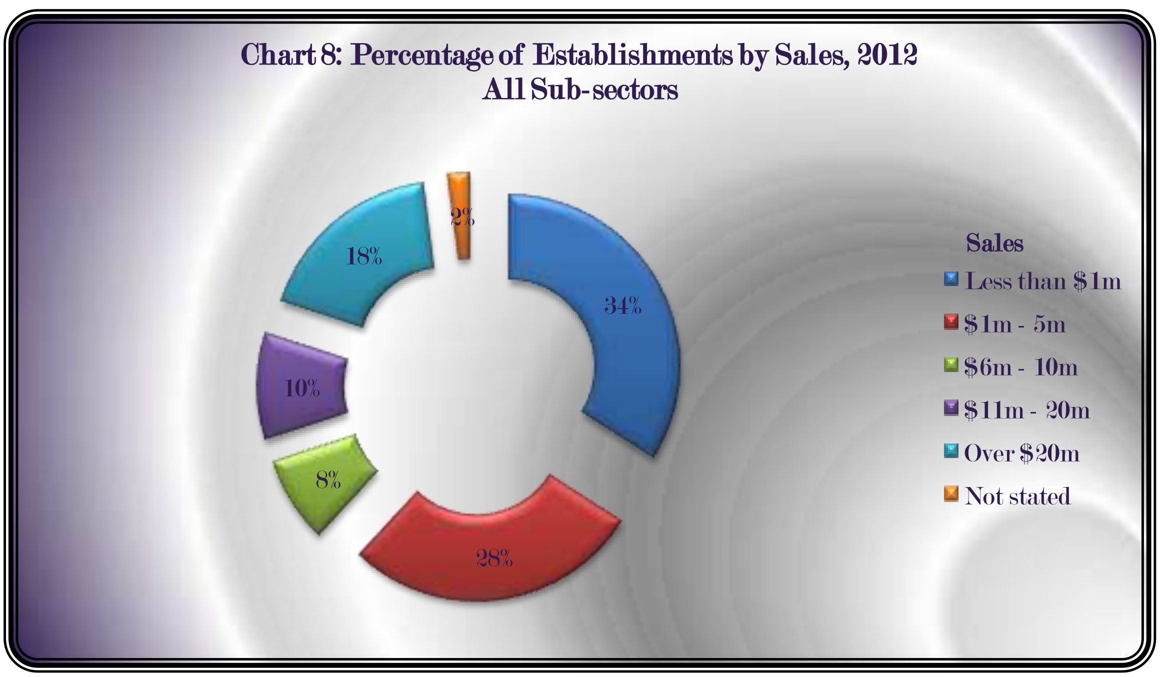
Table 18: No. of Establishments by Sub-sectors and Sales, 2012

Sub-sector	Sales						
	Total	Less than $1m	$1m - 5m	$6m - 10m	$11m - 20m	Over $20m	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(no. of establishments)						
Total	50	17	14	4	5	9	1
1 Batteries, mufflers and radiators	3	0	2	1	0	0	0
2 Assembly of appliances	2	1	0	0	0	1	0
3 Assembly or manufacture of electrical/electronic items	3	1	0	0	1	1	0
4 Boat building and ship repairs	3	2	1	0	0	0	0
5 Manufacture of metal building materials	13	3	2	0	3	4	1
6 Manufacture of metal containers	2	0	0	1	0	1	0
7 Manufacture of metal furniture	3	1	1	1	0	0	0
8 Manufacture of all other metal products	21	9	8	1	1	2	0

Table 19: Percentage of Establishments by Sub-sectors and Sales, 2012

Sub-sector	Sales						
	Total	Less than $1m	$1m - 5m	$6m - 10m	$11m - 20m	Over $20m	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Total	100.0	34.0	28.0	8.0	10.0	18.0	2.0
1 Batteries, mufflers and radiators	100.0	0.0	66.7	33.3	0.0	0.0	0.0
2 Assembly of appliances	100.0	50.0	0.0	0.0	0.0	50.0	0.0
3 Assembly or manufacture of electrical/electronic items	100.0	33.3	0.0	0.0	33.3	33.3	0.0
4 Boat building and ship repairs	100.0	66.7	33.3	0.0	0.0	0.0	0.0
5 Manufacture of metal building materials	100.0	23.1	15.4	0.0	23.1	30.8	7.7
6 Manufacture of metal containers	100.0	0.0	0.0	50.0	0.0	50.0	0.0
7 Manufacture of metal furniture	100.0	33.3	33.3	33.3	0.0	0.0	0.0
8 Manufacture of all other metal products	100.0	42.9	38.1	4.8	4.8	9.5	0.0

Sales in the Assembly-type and related industries sector ranged from less than $1m to over $20m in 2012. One-third (34%) of the establishments reported sales of less than $1m while 28% recorded sales between $1m -$5m in 2012. Approximately one-fifth (18%) of the establishments indicated that sales were over $20m. By industry, the data reveal that a substantial percentage of establishments in boat building and ship repair (67%), assembly of appliances (50%) and production of all other metal products (43%) generated less than $1m in sales revenue. Additionally, a half of the establishments in assembly of appliances (50%) and manufacture of metal containers (50%) recorded sales in excess of $20m as did a third of the establishments in assembly or manufacture of electrical/electronic items (33%) and metal building materials (31%).

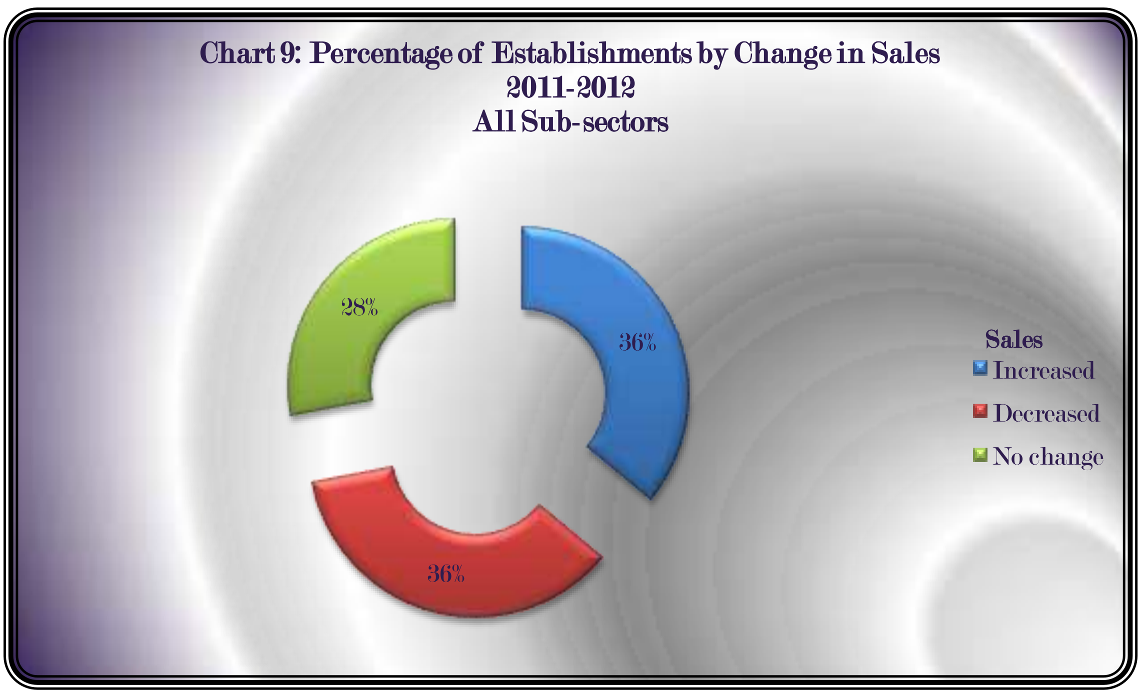


Source: Table 19

Table 20: Distribution of Establishments by Sub-sectors and Change in Sales, 2011 - 2012

Sub-sector	Change in Sales							
	Total		Increased		Decreased		No change	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	50	100.0	18	36.0	18	36.0	14	28.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	1	33.3	1	33.3
2 Assembly of appliances	2	100.0	0	0.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7	0	0.0
4 Boat building and ship repairs	3	100.0	1	33.3	2	66.7	0	0.0
5 Manufacture of metal building materials	13	100.0	5	38.5	5	38.5	3	23.1
6 Manufacture of metal containers	2	100.0	1	50.0	1	50.0	0	0.0
7 Manufacture of metal furniture	3	100.0	2	66.7	0	0.0	1	33.3
8 Manufacture of all other metal products	21	100.0	7	33.3	6	28.6	8	38.1

Over a third (36%) of the respondents, especially those in production of metal furniture (67%), experienced a growth in sales between 2011 and 2012 while a similar percentage (36%) recorded decreases and 28% indicated no change in sales. A relatively large percentage (38%) of respondents in the manufacture of all other metal products sub-sector reported no change in sales while 33% and 29% recorded increases and decreases respectively.

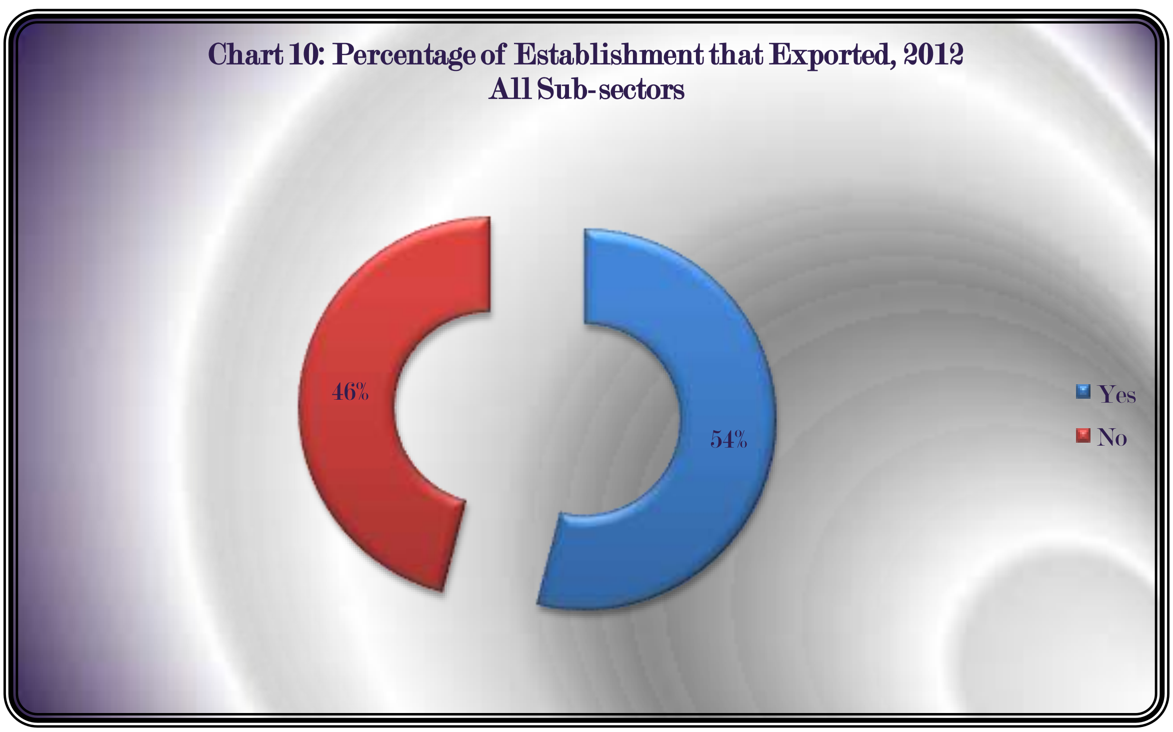


Source: Table 20

Table 21: Distribution of Establishments by Sub-sectors that Exported, 2012

Sub-sector	Exported, 2012					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	27	54.0	23	46.0
1 Batteries, mufflers and radiators	3	100.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	2	100.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	2	66.7	1	33.3
4 Boat building and ship repairs	3	100.0	2	66.7	1	33.3
5 Manufacture of metal building materials	13	100.0	8	61.5	5	38.5
6 Manufacture of metal containers	2	100.0	1	50.0	1	50.0
7 Manufacture of metal furniture	3	100.0	1	33.3	2	66.7
8 Manufacture of all other metal products	21	100.0	9	42.9	12	57.1

The table above shows that over a half (54%) of the establishments in the Assembly-type and related industries sector exported in 2012 while 46% indicated that they did not. By industry, a half (50%) or more of the establishments in each industry, except the production of metal furniture and all other metal products, exported.



Source: Table 21

Table 22: No. of Establishments by Sub-sectors and Export Sales, 2012

Sub-sector	Export sales, 2012					
	Total	Less than $1m	$1m - 5m	$6m - 10m	$11m - 50m	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)
	(no. of establishments)					
Total	27	13	7	4	2	1
1 Batteries, mufflers and radiators	2	1	1	0	0	0
2 Assembly of appliances	2	1	1	0	0	0
3 Assembly or manufacture of electrical/electronic items	2	1	0	1	0	0
4 Boat building and ship repairs	2	1	1	0	0	0
5 Manufacture of metal building materials	8	1	3	1	2	1
6 Manufacture of metal containers	1	0	0	1	0	0
7 Manufacture of metal furniture	1	1	0	0	0	0
8 Manufacture of all other metal products	9	7	1	1	0	0

Table 23: Percentage of Establishments by Sub-sectors and Export Sales, 2012

Sub-sector	Export sales, 2012					
	Total	Less than $1m	$1m - 5m	$6m - 10m	$11m - 50m	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)
	(percentage)					
Total	100.0	48.1	25.9	14.8	7.4	3.7
1 Batteries, mufflers and radiators	100.0	50.0	50.0	0.0	0.0	0.0
2 Assembly of appliances	100.0	50.0	50.0	0.0	0.0	0.0
3 Assembly or manufacture of electrical/electronic items	100.0	50.0	0.0	50.0	0.0	0.0
4 Boat building and ship repairs	100.0	50.0	50.0	0.0	0.0	0.0
5 Manufacture of metal building materials	100.0	12.5	37.5	12.5	25.0	12.5
6 Manufacture of metal containers	100.0	0.0	0.0	100.0	0.0	0.0
7 Manufacture of metal furniture	100.0	100.0	0.0	0.0	0.0	0.0
8 Manufacture of all other metal products	100.0	77.8	11.1	11.1	0.0	0.0

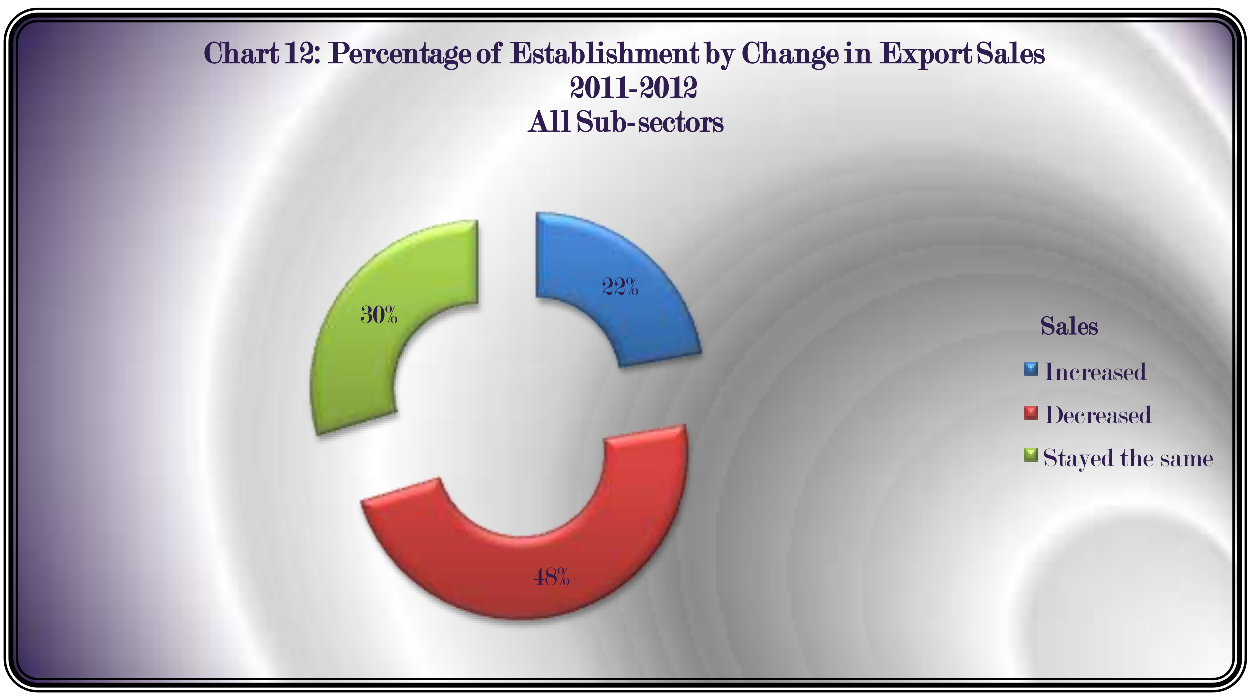
Of the 27 establishments that exported in 2012, 48% exported less than $1m while 26% exported between $1m - $5m, 15% between $6m - $10m and 7% between $11m - $50m. The majority of establishments in the manufacture of all other metal products (78%) generated less than $1m in exports. Only establishments in the production of metal building materials (25%) reported exports valued between $11m - $50m.

Source: Table 23

Table 24: Distribution of Establishments by Sub-sectors and Change in Export Sales, 2011 - 2012

Sub-sector	Change in export sales, 2011 - 2012							
	Total		Increased		Decreased		Stayed the same	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	27	100.0	6	22.2	13	48.1	8	29.6
1 Batteries, mufflers and radiators	2	100.0	1	50.0	0	0.0	1	50.0
2 Assembly of appliances	2	100.0	0	0.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	2	100.0	0	0.0	2	100.0	0	0.0
4 Boat building and ship repairs	2	100.0	0	0.0	2	100.0	0	0.0
5 Manufacture of metal building materials	8	100.0	1	12.5	6	75.0	1	12.5
6 Manufacture of metal containers	1	100.0	0	0.0	0	0.0	1	100.0
7 Manufacture of metal furniture	1	100.0	1	100.0	0	0.0	0	0.0
8 Manufacture of all other metal products	9	100.0	3	33.3	2	22.2	4	44.4

Overall, a substantial percentage (48%) of the respondents showed declines in export sales over the period 2011 - 2012 while 22% registered increases and 30% experienced no change. The establishments in electrical/electronic items and boat building and ship repairs together with the vast majority in metal building materials (75%) reported decreases in export sales between 2011 and 2012. A relatively larger proportion (44%) of the establishments in the production of all other metal products experienced no change in export revenue compared to 33% and 22% that recorded increases and declines respectively.

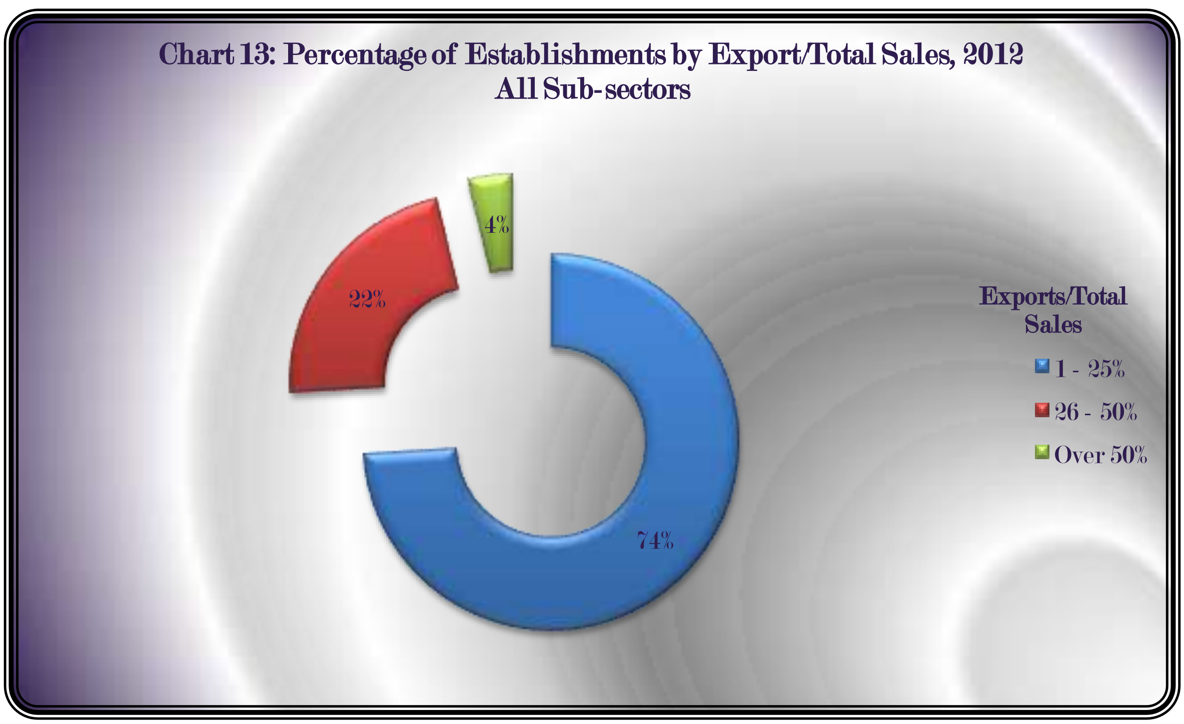


Source: Table 24

Table 25: Distribution of Establishments by Sub-sectors and Export/Total Sales, 2012

Sub-sector	Export/Total Sales, 2012							
	Total		1 - 25%		26 - 50%		Over 50%	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	27	100.0	20	74.1	6	22.2	1	3.7
1 Batteries, mufflers and radiators	2	100.0	1	50.0	1	50.0	0	0.0
2 Assembly of appliances	2	100.0	2	100.0	0	0.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	2	100.0	1	50.0	1	50.0	0	0.0
4 Boat building and ship repairs	2	100.0	0	0.0	2	100.0	0	0.0
5 Manufacture of metal building materials	8	100.0	6	75.0	1	12.5	1	12.5
6 Manufacture of metal containers	1	100.0	1	100.0	0	0.0	0	0.0
7 Manufacture of metal furniture	1	100.0	1	100.0	0	0.0	0	0.0
8 Manufacture of all other metal products	9	100.0	8	88.9	1	11.1	0	0.0

Three-quarters (74%) of the establishments that exported reported exports of between 1-25% of total sales and 22% indicated exports to total revenue in the range of 26-50% in 2012. By sub-sectors, the data reveal that a half or more of the establishments in all sub-sectors except boat building and ship repairs recorded exports of between 1-25% of total sales. In addition, 2 establishments (100%) in boat building and ship repairs reported exports to total sales in the range of 26 - 50%. Only one (13%) establishment in manufacture of metal building materials indicated exports to total sales of over 50%.

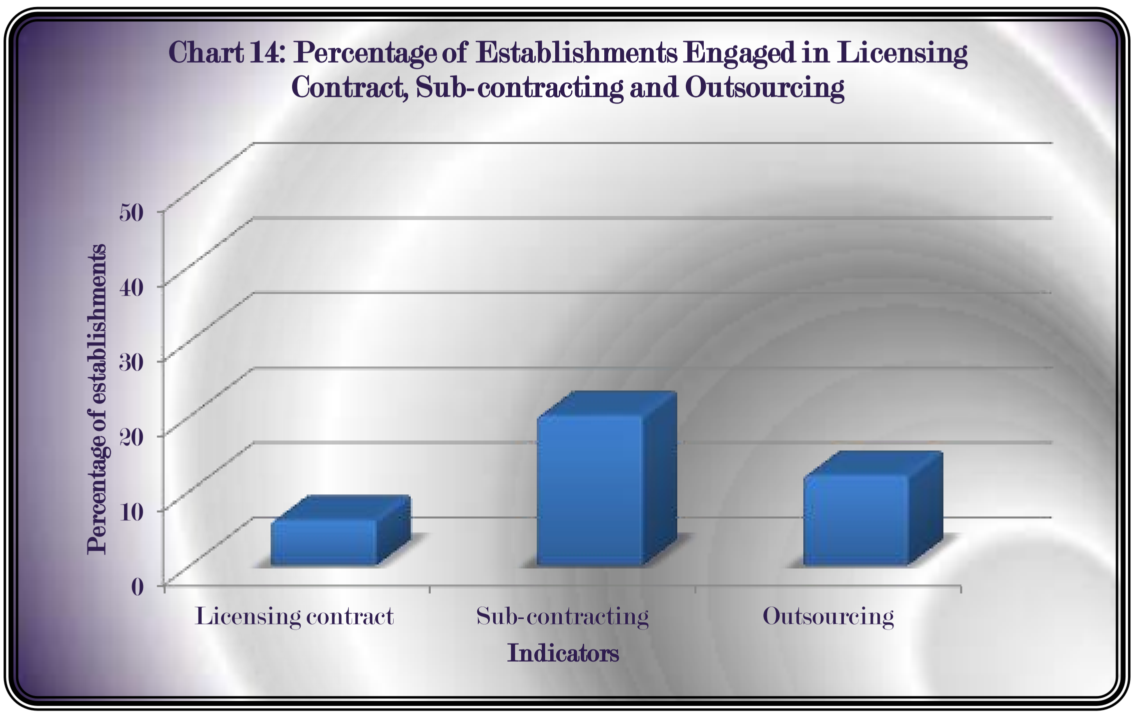


Source: Table 25

Table 26: Distribution of Establishments by Sub-sectors and Licensing Contract for Product or Process Technology

Sub-sector	Licensing contract					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	3	6.0	47	94.0
1 Batteries, mufflers and radiators	3	100.0	0	0.0	3	100.0
2 Assembly of appliances	2	100.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	1	7.7	12	92.3
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	0	0.0	21	100.0

The percentage of establishments in the Assembly-type and related industries sector engaged in diffusion was not significant as revealed by the indicators of licensing, sub-contracting and outsourcing (Table 26, 27 and 28). A significant majority (94%) of establishments that participated in the survey indicated that they did not have any licensing contract for product or process technology while 6% had (Table 26). One (50%) of the two respondents in assembly of appliances and one-third (33%) in production of electrical/electronic items reported such contractual arrangement.



Source: Tables 26, 27 and 28

Table 27: Distribution of Establishments Engaged in Sub-contracting by Sub-sectors

Sub-sector	Engaged in sub-contracting					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	10	20.0	40	80.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	0	0.0	3	100.0
4 Boat building and ship repairs	3	100.0	1	33.3	2	66.7
5 Manufacture of metal building materials	13	100.0	2	15.4	11	84.6
6 Manufacture of metal containers	2	100.0	1	50.0	1	50.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	5	23.8	16	76.2

Overall, a significant percentage (80%) of respondents indicated that they were not sub-contracting for another establishment while one-fifth (20%) stated that they were. Sub-contracting was observed mainly in production of metal containers (50%) followed by boat building and ship repairs (33%) and batteries, mufflers and radiators (33%). In addition, approximately a quarter (24%) of the respondents in manufacture of all other metal products indicated that they were sub-contracting for another establishment.

Table 28: Distribution of Establishments Outsourcing for Another by Sub-sectors

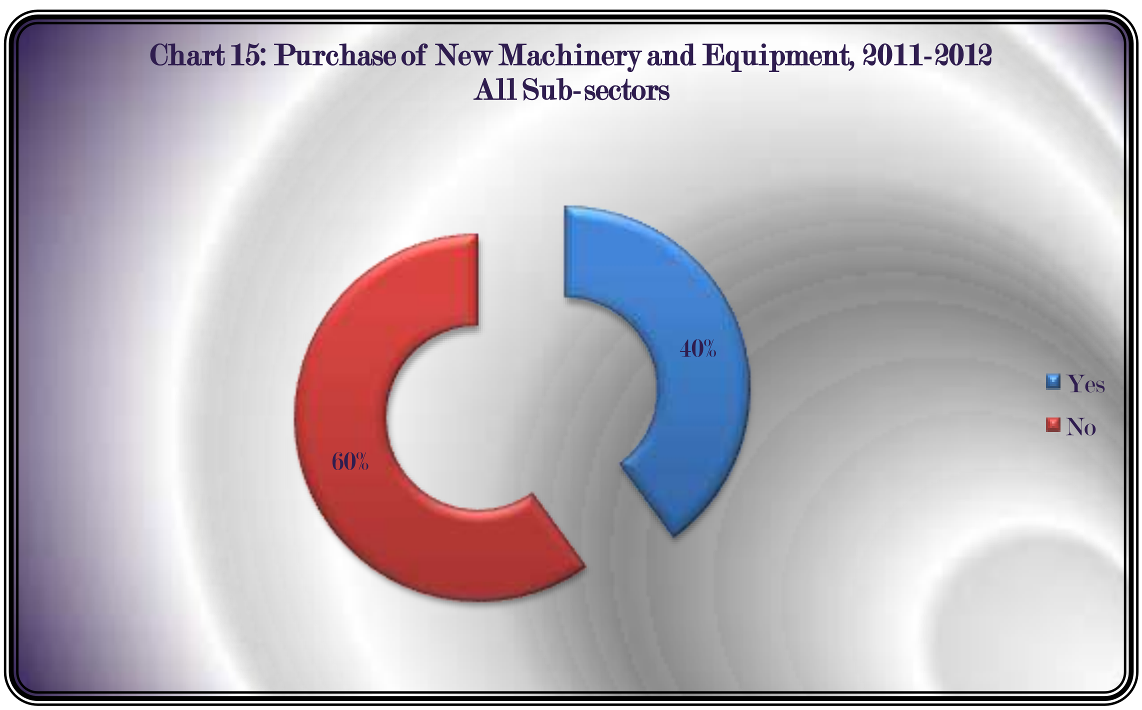
Sub-sector	Outsourcing for another					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	6	12.0	44	88.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	0	0.0	3	100.0
4 Boat building and ship repairs	3	100.0	1	33.3	2	66.7
5 Manufacture of metal building materials	13	100.0	1	7.7	12	92.3
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	1	33.3	2	66.7
8 Manufacture of all other metal products	21	100.0	2	9.5	19	90.5

The vast majority (88%) of establishments indicated that they were not outsourcing while 12% stated that they were. A third (33%) of the respondents in batteries, mufflers and radiators, boat building and ship repairs and manufacture of metal furniture was engaged in this activity.

Table 29: Distribution of Establishments by Sub-sectors and Purchase of New Machinery and Equipment, 2011 - 2012

Sub-sector	Purchase of new machinery and equipment					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	20	40.0	30	60.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	5	38.5	8	61.5
6 Manufacture of metal containers	2	100.0	2	100.0	0	0.0
7 Manufacture of metal furniture	3	100.0	1	33.3	2	66.7
8 Manufacture of all other metal products	21	100.0	10	47.6	11	52.4

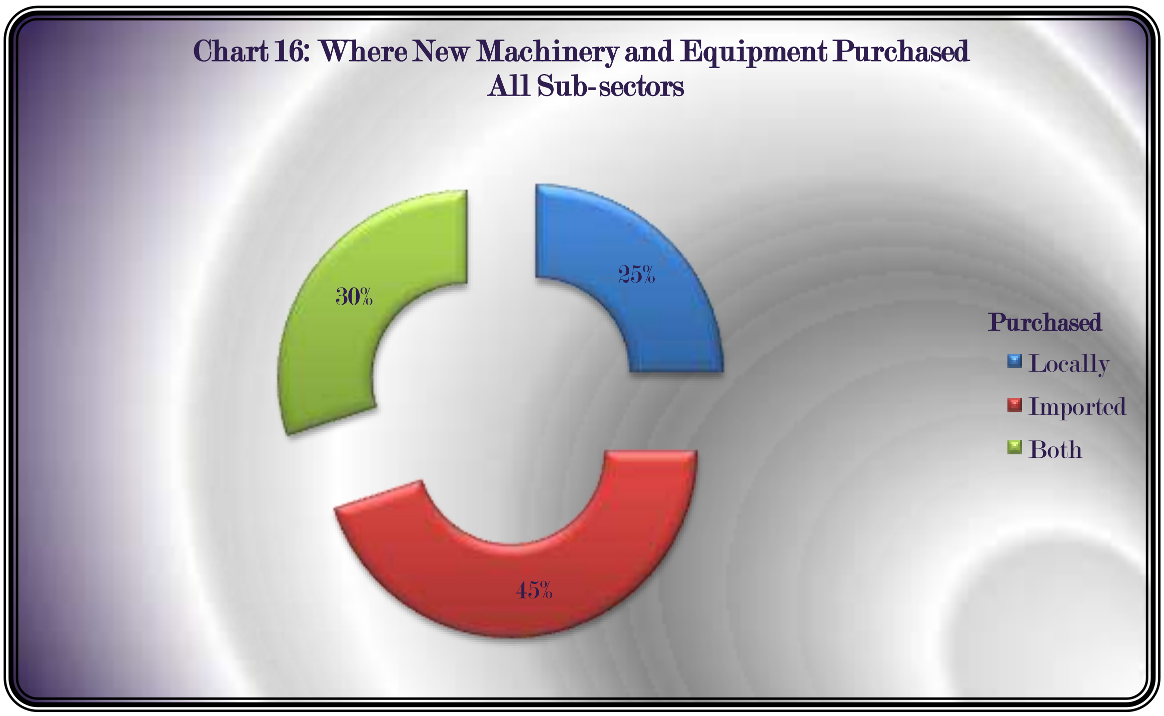
Two-fifths (40%) of the establishments that participated in the survey reported that they had purchased new machinery and equipment during the period 2011 - 2012 while three-fifths (60%) did not. Both producers (100%) of metal containers purchased new machinery and equipment followed by manufacture of all other metal products (48%) and metal building materials (39%) (Table 29). Of the 20 establishments that purchased new machinery and equipment, 45% acquired such capital goods from foreign markets, one-quarter (25%) from local suppliers and 30% from both local and foreign markets (Table 30).



Source: Table 29

Table 30: Distribution of Establishments by Sub-sectors and Purchase of New Machinery and Equipment, Locally or Abroad, 2011 - 2012

Sub-sector	Where new machinery purchased							
	Total		Locally		Imported		Both	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	20	100.0	5	25.0	9	45.0	6	30.0
1 Batteries, mufflers and radiators	1	100.0	0	0.0	1	100.0	0	0.0
2 Assembly of appliances	0	0.0	0	0.0	0	0.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	1	100.0	0	0.0	1	100.0	0	0.0
4 Boat building and ship repairs	0	0.0	0	0.0	0	0.0	0	0.0
5 Manufacture of metal building materials	5	100.0	1	20.0	4	80.0	0	0.0
6 Manufacture of metal containers	2	100.0	0	0.0	0	0.0	2	100.0
7 Manufacture of metal furniture	1	100.0	0	0.0	0	0.0	1	100.0
8 Manufacture of all other metal products	10	100.0	4	40.0	3	30.0	3	30.0



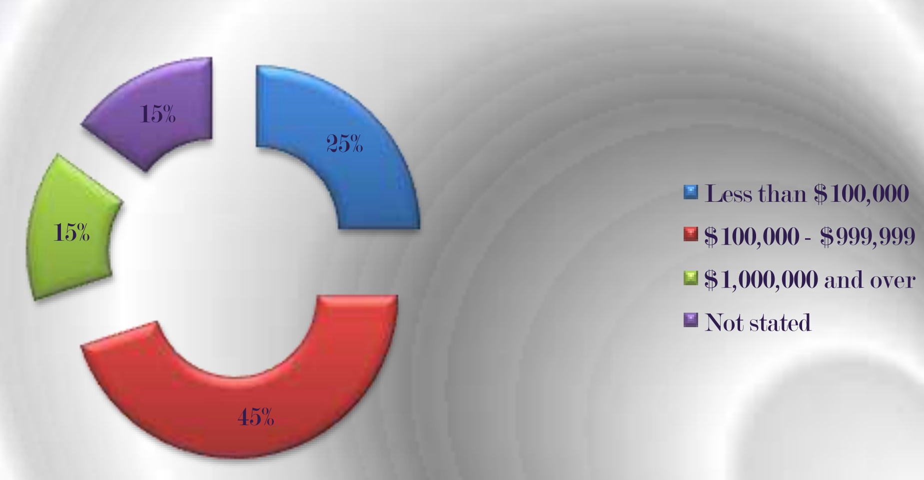
Source: Table 30

Table 31: Distribution of Establishments by Sub-sectors and Value of New Machinery and Equipment Purchased, 2011 - 2012

Sub-sector	Value of the new machinery and equipment purchased									
	Total		Less than $100,000		$100,000 - $999,999		$1,000,000 and over		Not stated	
	No.	%	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total	20	100.0	5	25.0	9	45.0	3	15.0	3	15.0
1 Batteries, mufflers and radiators	1	100.0	1	100.0	0	0.0	0	0.0	0	0.0
2 Assembly of appliances	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	1	100.0	1	100.0	0	0.0	0	0.0	0	0.0
4 Boat building and ship repairs	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5 Manufacture of metal building materials	5	100.0	0	0.0	2	40.0	2	40.0	1	20.0
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0	0	0.0	0	0.0
7 Manufacture of metal furniture	1	100.0	0	0.0	1	100.0	0	0.0	0	0.0
8 Manufacture of all other metal products	10	100.0	3	30.0	4	40.0	1	10.0	2	20.0

The table above shows that a relatively large percentage (45%) of establishments overall, comprising of manufacturers of metal containers (100%), metal furniture (100%), metal building materials (40%) and all other metal products (40%), purchased new machinery and equipment valued between $100,000 - $999,999 in 2011 - 2012. A quarter (25%) of the respondents, including batteries, mufflers and radiators (100%), assembly or manufacture of electrical/electronic items (100%) and all other metal products (30%) acquired new machinery and equipment valued less than $100,000 while 15%, mainly producers of metal building materials (40%), made purchases of $1,000,000 and more.

Chart 17: Percentage of Establishments by Value of New Machinery and Equipment Purchased, 2011-2012
All Sub-sectors

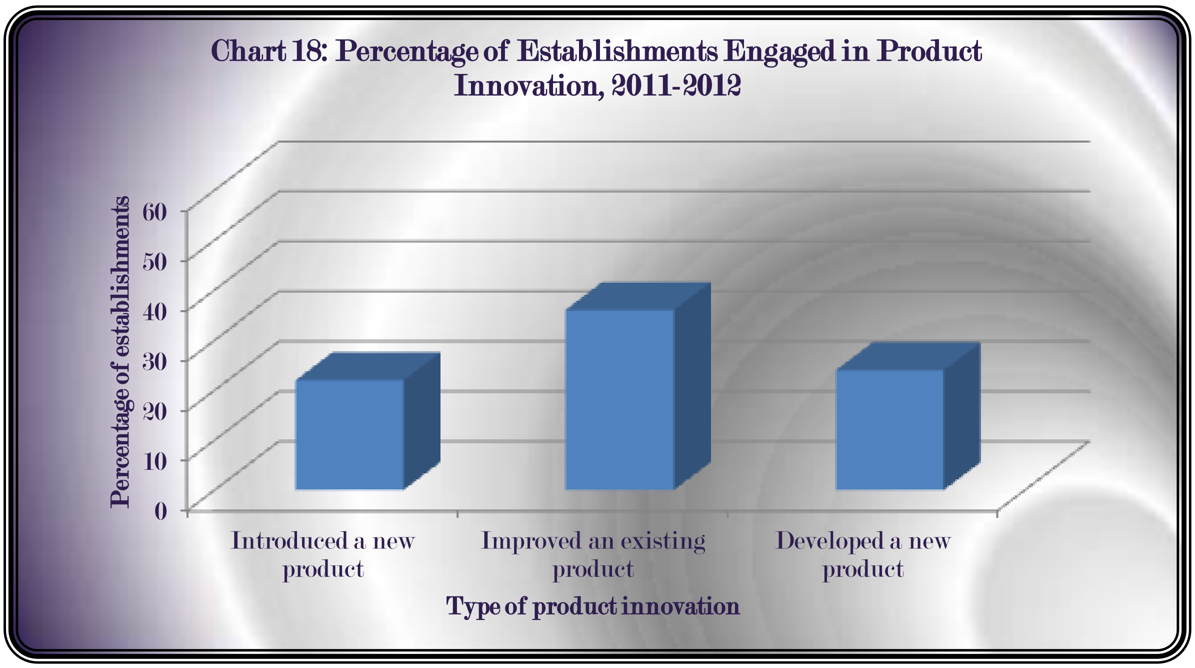


Source: Table 31

Table 32: Distribution of Establishments by Type of Product Innovation, 2011 - 2012

Type of innovation	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Introduced a new product	50	100	11	22	39	78
Improved an existing product	50	100	18	36	32	64
Developed a new product	50	100	12	24	38	76

In general, the majority of establishments in the Assembly-type and related industries of manufacturing was not engaged in product innovation in 2011 - 2012. Table 32 reveals that of the 50 establishments that responded to the survey, 36% indicated that they had improved an existing product while 24% and 22% developed and introduced new products respectively.

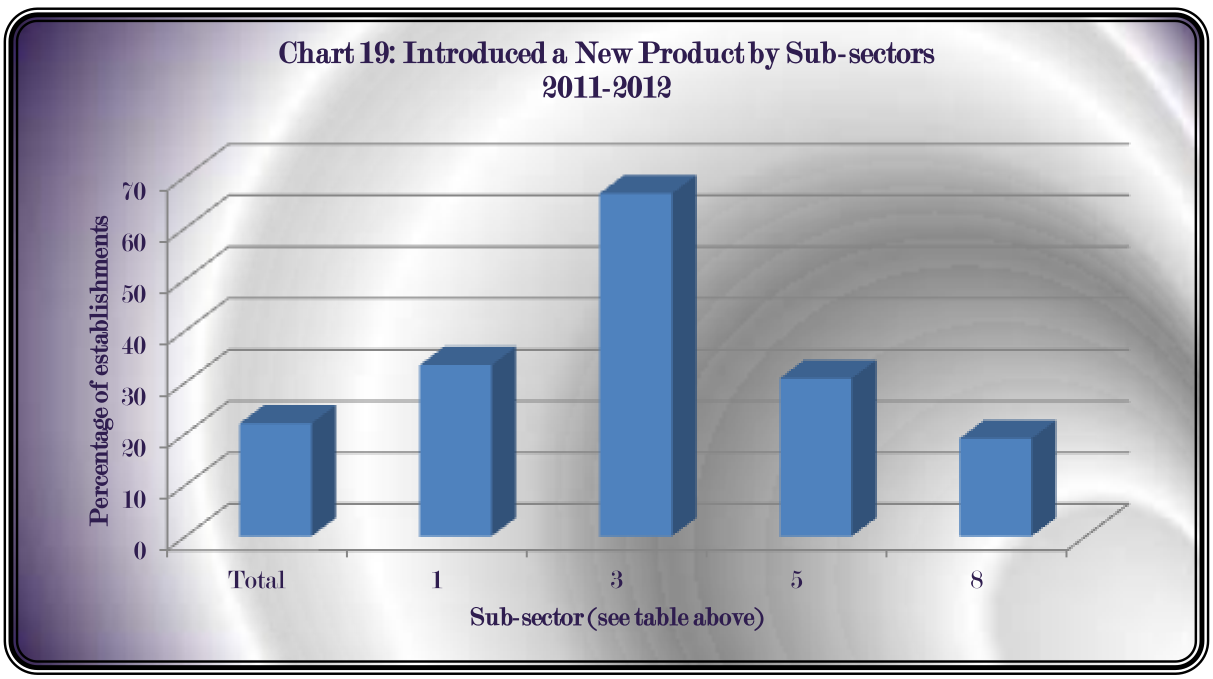


Source: Table 32

Table 33: Distribution of Establishments that Introduced a New Product by Sub-sectors, 2011-2012

Sub-sector	Introduced a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	11	22.0	39	78.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	2	66.7	1	33.3
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	4	30.8	9	69.2
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	4	19.0	17	81.0

The data show that the highest percentage (67%) of establishments that introduced a new product was among producers of electrical/electronic items followed by batteries, mufflers and radiators (33%) and metal building materials (31%). Approximately one-fifth (19%) of the manufacturers of all other metal products stated that they had introduced a new product.

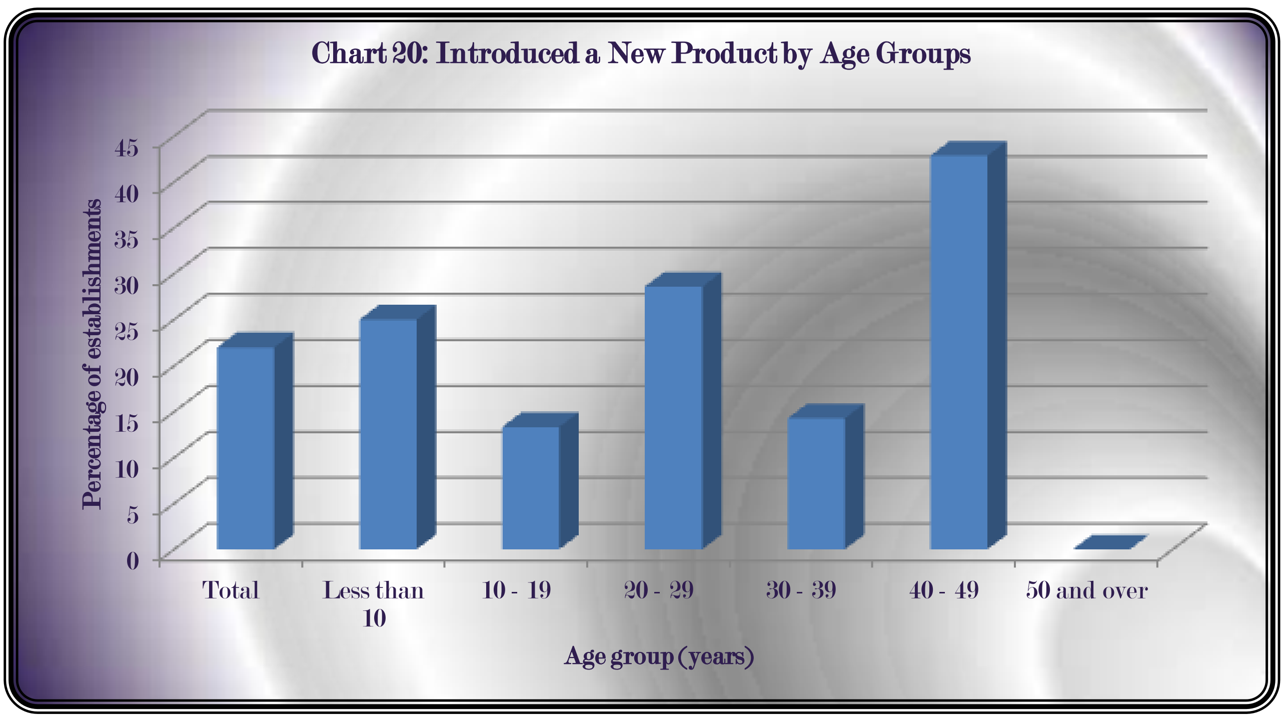


Source: Table 33

Table 34: Distribution of Establishments that Introduced a New Product by Age Groups

Age group (years)	Introduced a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	11	22.0	39	78.0
Less than 10	4	100.0	1	25.0	3	75.0
10 - 19	15	100.0	2	13.3	13	86.7
20 - 29	14	100.0	4	28.6	10	71.4
30 - 39	7	100.0	1	14.3	6	85.7
40 - 49	7	100.0	3	42.9	4	57.1
50 and over	3	100.0	0	0.0	3	100.0

Stratification of the data by age groups reveals that the largest proportion (43%) of establishments between 40 - 49 years old introduced new products compared to respondents in the other age cohorts. In addition, respondents 50 years and over did not introduce new products.

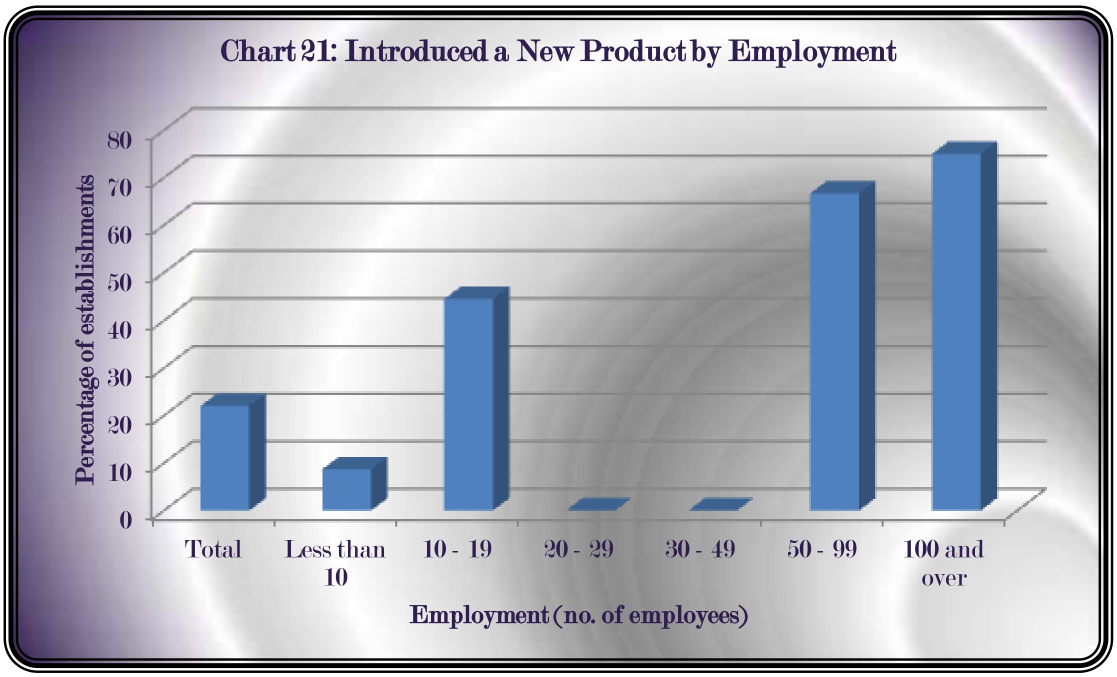


Source: Table 34

Table 35: Distribution of Establishments that Introduced a New Product by Employment

Employment (no. of employees)	Introduced a new product					
	Total		Yes		No	
	No. (1)	% (2)	No. (3)	% (4)	No. (5)	% (6)
Total	50	100.0	11	22.0	39	78.0
Less than 10	23	100.0	2	8.7	21	91.3
10 - 19	9	100.0	4	44.4	5	55.6
20 - 29	5	100.0	0	0.0	5	100.0
30 - 49	6	100.0	0	0.0	6	100.0
50 - 99	3	100.0	2	66.7	1	33.3
100 and over	4	100.0	3	75.0	1	25.0

In terms of employment, new product innovation was more prevalent amongst the larger establishments. Three-quarters (75%) and two-thirds (67%) of the respondents with over 100 and 50 - 99 employees respectively introduced new products. A substantial percentage (44%) of respondents with 10 - 19 employees stated that they had introduced a new product.

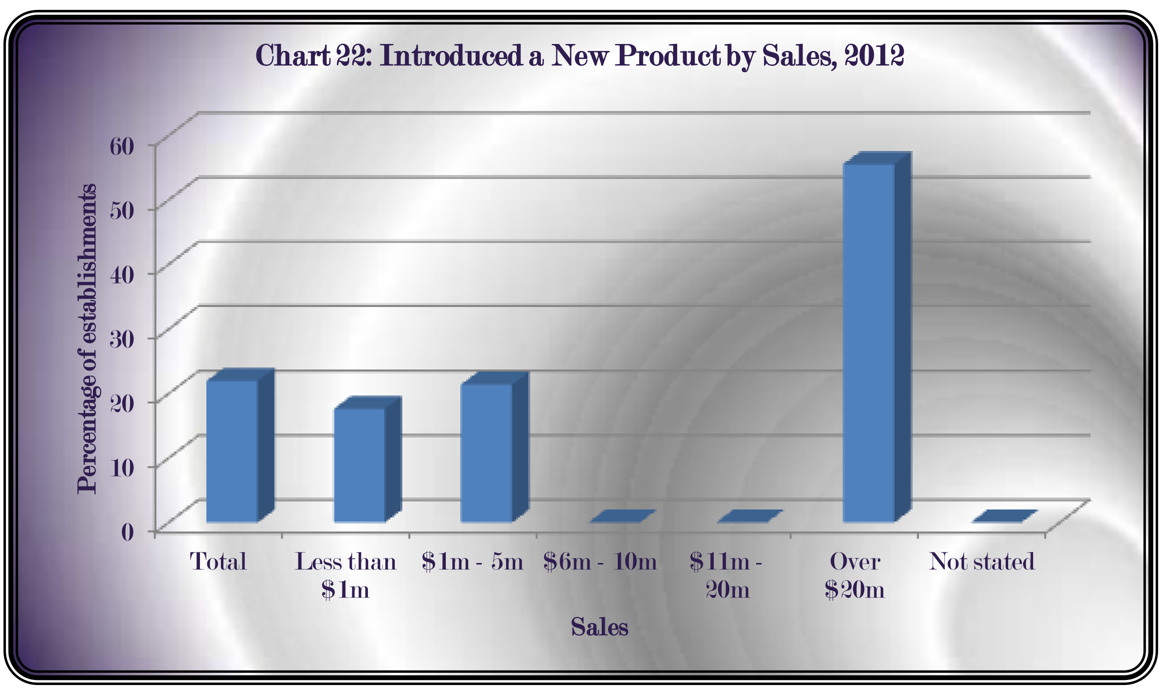


Source: Table 35

Table 36: Distribution of Establishments that Introduced a New Product by Sales, 2012

Sales	Introduced a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	11	22.0	39	78.0
Less than $1m	17	100.0	3	17.6	14	82.4
$1m - 5m	14	100.0	3	21.4	11	78.6
$6m - 10m	4	100.0	0	0.0	4	100.0
$11m - 20m	5	100.0	0	0.0	5	100.0
Over $20m	9	100.0	5	55.6	4	44.4
Not stated	1	100.0	0	0.0	1	100.0

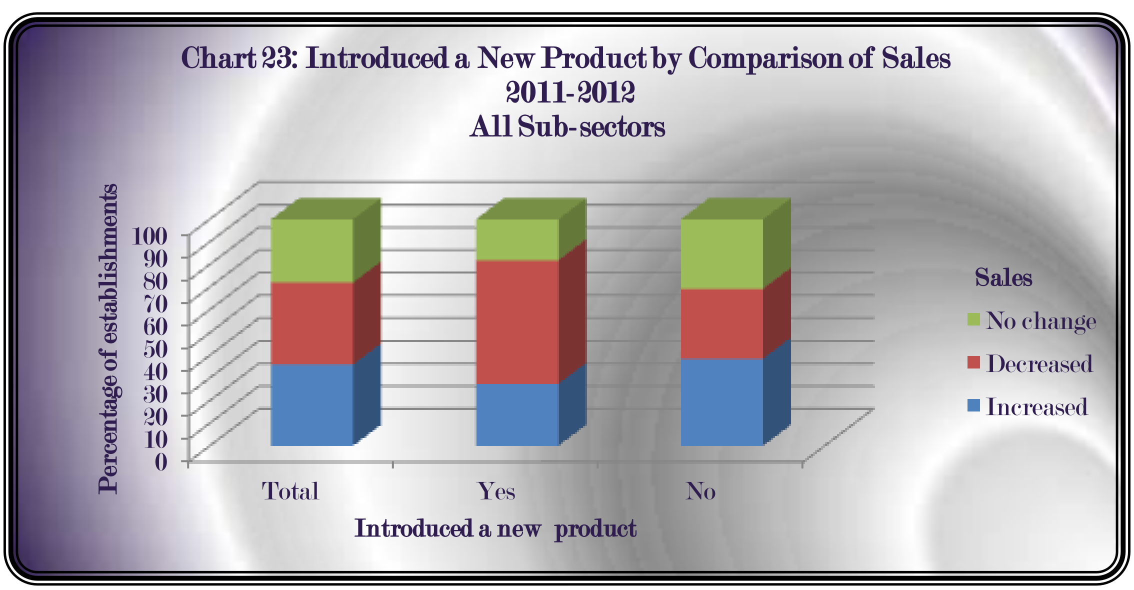
Over a half (56%) of the respondents that generated over $20m in sales in 2012 introduced a new product while approximately a fifth (21%) in the $1m - $5m and 18% less than $1m sales categories did likewise (Table 36). All of the establishments that reported sales between $6m - 10m and $11m - 20m were not involved in new product innovation. In addition, of the total establishments that introduced a new product, a larger proportion (55%) stated that sales decreased from 2011 to 2012 compared to 27% and 18% that recorded an increase and no change in sales respectively (Table 37). Of the establishments that did not introduce a new product, 39% showed an increase in sales over the reference period while 31% in each case registered a decrease and no change. By sub-sectors, a half (50%) of the establishments in assembly or manufacture of electrical/electronic items that introduced a new product reported a growth in sales while the majority of producers of metal building materials (75%) and all other metal products (50%) that were engaged in such activities registered a decrease in sales over the period 2011 - 2012.



Source: Table 36

Table 37: Percentage of Establishments that Introduced a New Product by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Introduced a new product	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
	(1)	(2)	(3)	(4)	(5)
			(percentage)		
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	27.3	54.5	18.2
	No	100.0	38.5	30.8	30.8
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	0.0	0.0	100.0
	No	100.0	50.0	50.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	50.0	50.0	0.0
	No	100.0	0.0	100.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	25.0	75.0	0.0
	No	100.0	44.4	22.2	33.3
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	25.0	50.0	25.0
	No	100.0	35.3	23.5	41.2

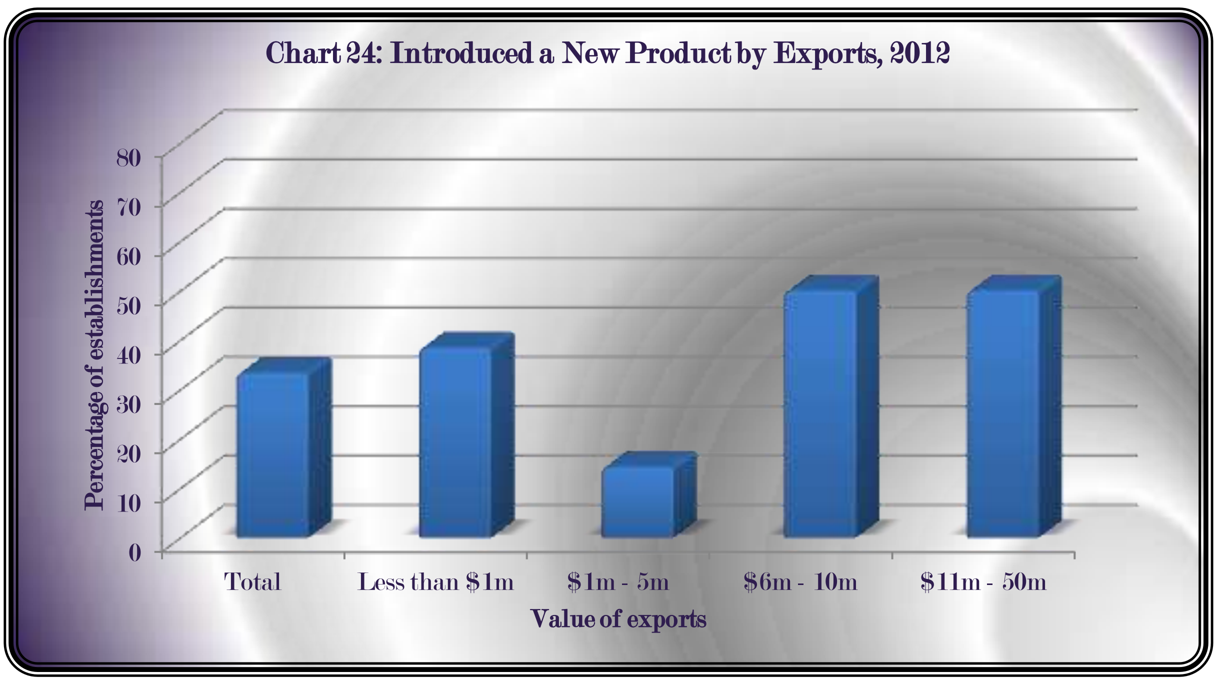


Source: Table 37

Table 38: Distribution of Establishments that Introduced a New Product by Exports, 2012

Exports	Introduced a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	9	33.3	18	66.7
Less than $1m	13	100.0	5	38.5	8	61.5
$1m - 5m	7	100.0	1	14.3	6	85.7
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	0	0.0	1	100.0

In terms of exports, new products were introduced by nine (33%) of the exporting establishments of which five (39%) were amongst establishments with exports valued less than $1m, two (50%) of four establishments with exports of $6m - $10m and one (50%) of two establishments with exports in the range of $11m - $50m in 2012.

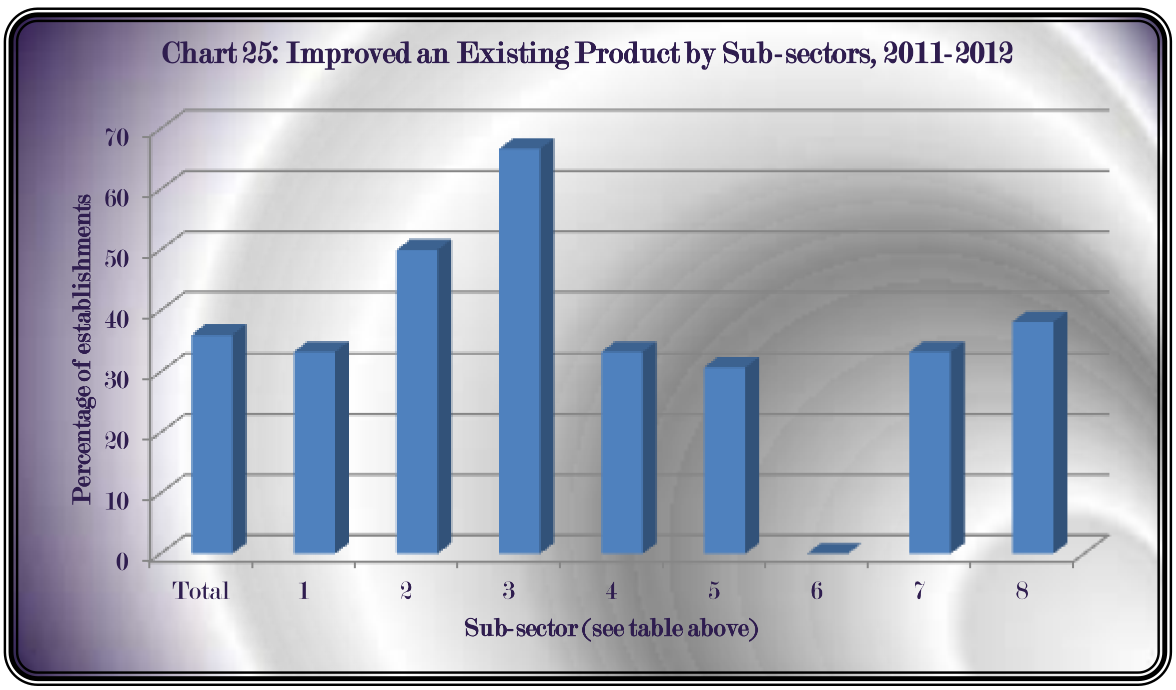


Source: Table 38

Table 39: Distribution of Establishments that Improved an Existing Product by Sub-sectors, 2011-2012

Sub-sector	Improved an existing product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	2	66.7	1	33.3
4 Boat building and ship repairs	3	100.0	1	33.3	2	66.7
5 Manufacture of metal building materials	13	100.0	4	30.8	9	69.2
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	1	33.3	2	66.7
8 Manufacture of all other metal products	21	100.0	8	38.1	13	61.9

Table 39 shows that approximately a third or more of the establishments in each sub-sector except manufacture of metal containers had improved an existing product. Two (67%) of three establishments in assembly or manufacture of electrical/electronic items improved an existing product followed by assembly of appliances (50%) and manufacture of all other metal products (38%).

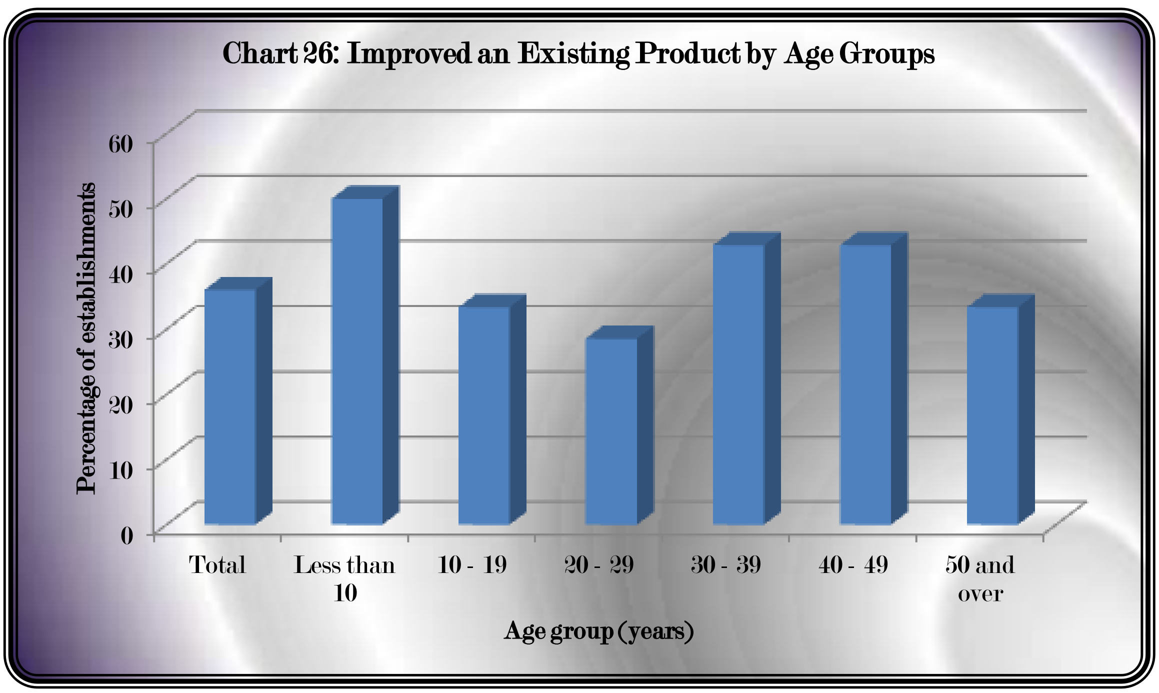


Source: Table 39

Table 40: Distribution of Establishments that Improved an Existing Product by Age Groups

Age group (years)	Improved an existing product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than 10	4	100.0	2	50.0	2	50.0
10 - 19	15	100.0	5	33.3	10	66.7
20 - 29	14	100.0	4	28.6	10	71.4
30 - 39	7	100.0	3	42.9	4	57.1
40 - 49	7	100.0	3	42.9	4	57.1
50 and over	3	100.0	1	33.3	2	66.7

Distribution of the establishments by age groups shows that half (50%) less than 10 years old improved an existing process and 43% in the 30 - 39 and 40 - 49 age categories did likewise. A third (33%) of the establishments between 10 - 19, and 50 years and over, and 29% in operation between 20 - 29 years improved an existing product.

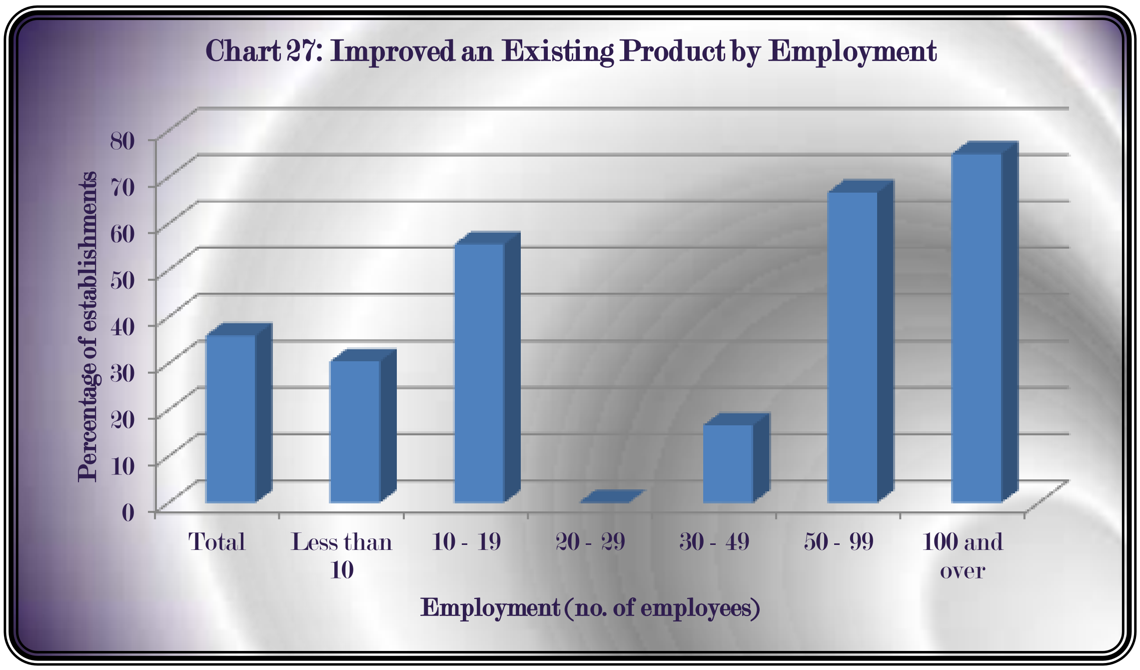


Source: Table 40

Table 41: Distribution of Establishments that Improved an Existing Product by Employment

Employment (no. of employees)	Improved an existing product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than 10	23	100.0	7	30.4	16	69.6
10 - 19	9	100.0	5	55.6	4	44.4
20 - 29	5	100.0	0	0.0	5	100.0
30 - 49	6	100.0	1	16.7	5	83.3
50 - 99	3	100.0	2	66.7	1	33.3
100 and over	4	100.0	3	75.0	1	25.0

The majority of establishments that employed 100 and more (75%), 50 - 99 (67%) and 10 - 19 (56%) employees improved an existing product. A significant percentage of establishments with 20 - 29 (100%), 30 - 39 (83%) and less than 10 (70%) employees was not engaged in product improvement innovation.

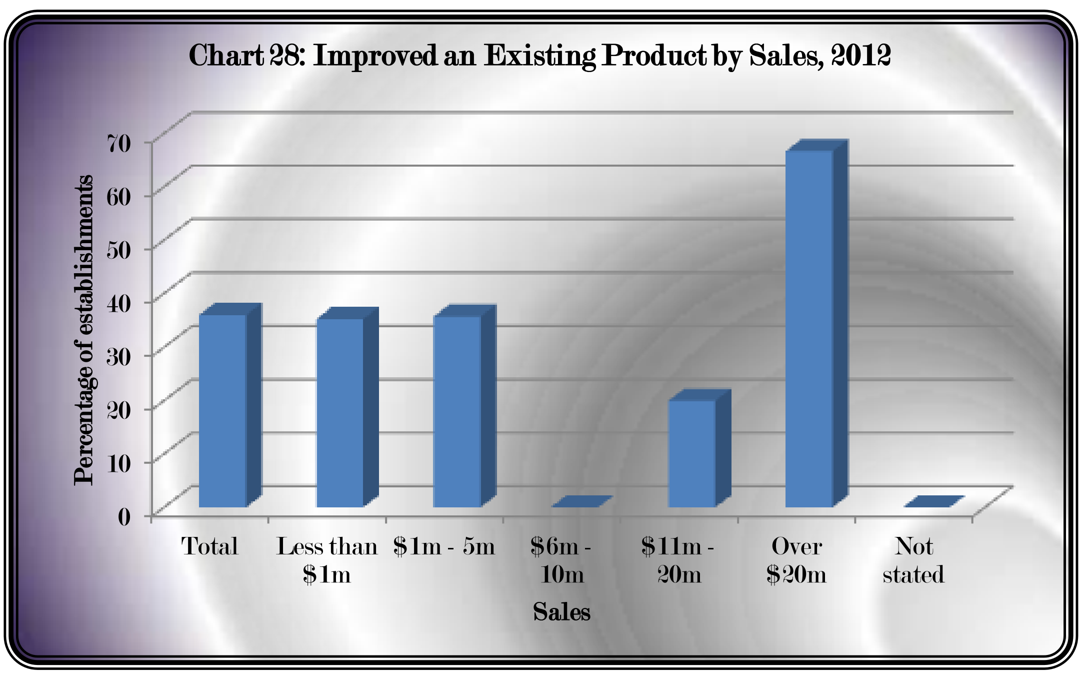


Source: Table 41

Table 42: Distribution of Establishments that Improved an Existing Product by Sales, 2012

Sales	Improved an existing product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than $1m	17	100.0	6	35.3	11	64.7
$1m - 5m	14	100.0	5	35.7	9	64.3
$6m - 10m	4	100.0	0	0.0	4	100.0
$11m - 20m	5	100.0	1	20.0	4	80.0
Over $20m	9	100.0	6	66.7	3	33.3
Not stated	1	100.0	0	0.0	1	100.0

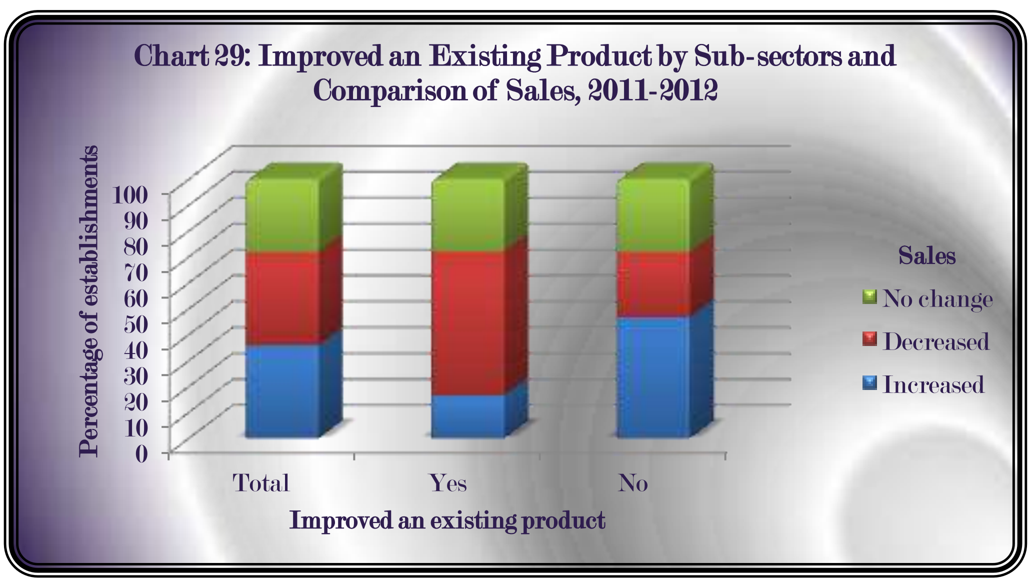
Overall, the survey results show that establishments in the lower and higher sale groups were engaged in improvement of existing products. Two-thirds (67%) of the respondents that generated over $20m in sales revenue in 2012 improved existing products (Table 42). In addition, of the establishments that improved an existing product, 17% stated that sales increased from 2011 to 2012 while a substantially larger proportion (56%) registered a decline and 28% recorded no change (Table 43). Of the establishments that did not improve an existing product, 47% showed a growth in sales over the reference period compared to 25% that registered a decrease and 28% that experienced no change. By industry, all (100%) of the manufacturers of metal furniture that had improved an existing product reported an increase in sales over the period 2011-2012. The majority of establishments in assembly or manufacture of electrical/electronic items (100%), boat building and ship repairs (100%), production of metal building materials (75%) and all other metal products (50%) that engaged in this type of product innovation registered a decline in sales.



Source: Table 42

Table 43: Percentage of Establishments that Improved an Existing Product by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Improved an existing	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		percentage			
Total	Total	100	36.0	36.0	28.0
	Yes	100	16.7	55.6	27.8
	No	100	46.9	25.0	28.1
1 Batteries, mufflers and radiators	Total	100	33.3	33.3	33.3
	Yes	100	0.0	0.0	100.0
	No	100	50.0	50.0	0.0
2 Assembly of appliances	Total	100	0.0	50.0	50.0
	Yes	100	0.0	0.0	100.0
	No	100	0.0	100.0	0.0
3 Assembly or manufacture of electrical/electronic items	Total	100	33.3	66.7	0.0
	Yes	100	0.0	100.0	0.0
	No	100	100.0	0.0	0.0
4 Boat building and ship repairs	Total	100	33.3	66.7	0.0
	Yes	100	0.0	100.0	0.0
	No	100	50.0	50.0	0.0
5 Manufacture of metal building materials	Total	100	38.5	38.5	23.1
	Yes	100	25.0	75.0	0.0
	No	100	44.4	22.2	33.3
6 Manufacture of metal containers	Total	100	50.0	50.0	0.0
	Yes	0	0.0	0.0	0.0
	No	100	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100	66.7	0.0	33.3
	Yes	100	100.0	0.0	0.0
	No	100	50.0	0.0	50.0
8 Manufacture of all other metal products	Total	100	33.3	28.6	38.1
	Yes	100	12.5	50.0	37.5
	No	100	46.2	15.4	38.5

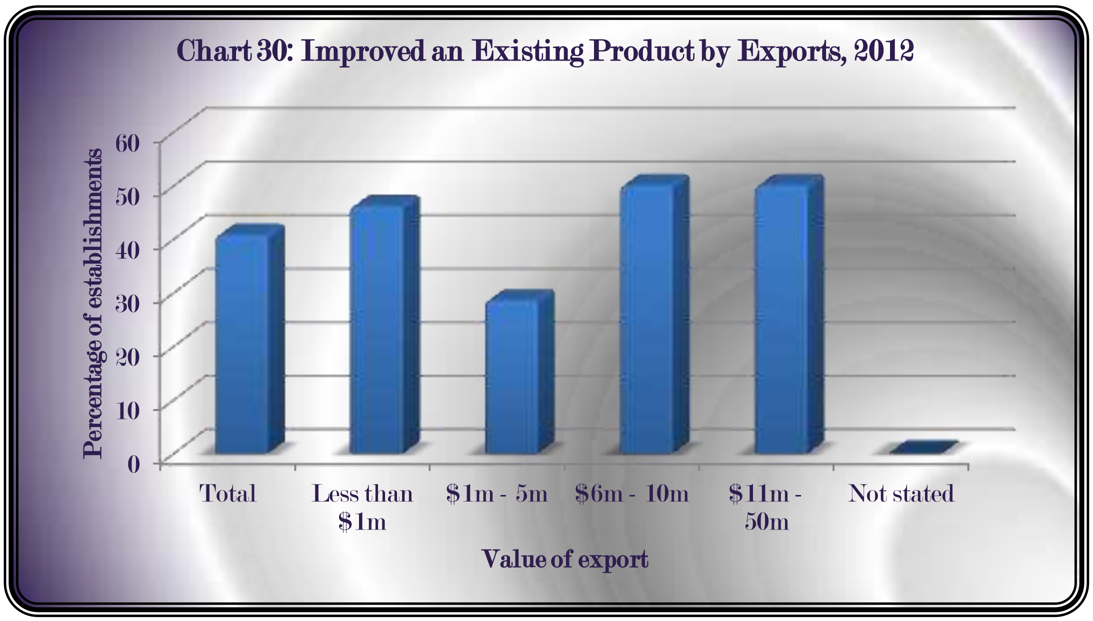


Source: Table 43

Table 44: Distribution of Establishments that Improved an Existing Product by Exports, 2012

Exports	Improved an existing product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	11	40.7	16	59.3
Less than $1m	13	100.0	6	46.2	7	53.8
$1m - 5m	7	100.0	2	28.6	5	71.4
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	0	0.0	1	100.0

In terms of exports, two-fifths (41%) of the exporting establishments improved an existing product while three-fifths (59%) indicated that they did not. A half (50%) of the establishments that exported between $6m-$10m and $11m-$50m, and 46% with export trade of less than $1m in 2012 improved an existing product.

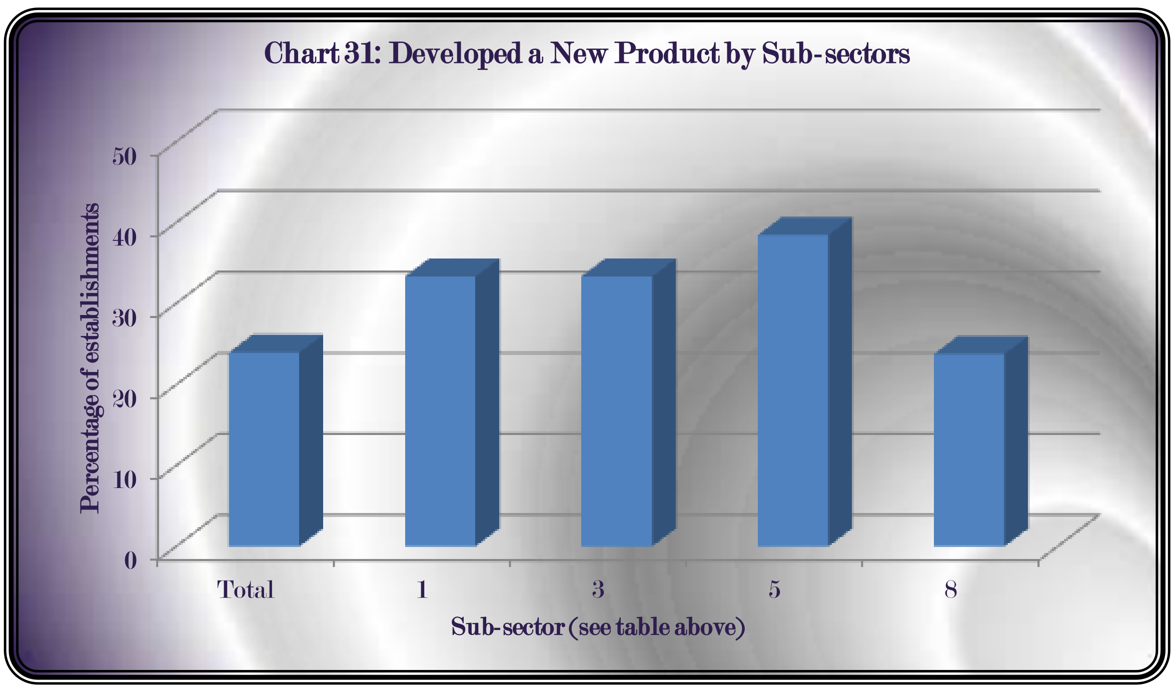


Source: Table 44

Table 45: Distribution of Establishments that Developed a New Product by Sub-sectors

Sub-sector	Developed a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	5	38.5	8	61.5
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	5	23.8	16	76.2

Overall, a quarter (24%) of the establishments in the Assembly-type and related industries sector that participated in the survey was engaged in new product development. By sub-sectors, only respondents in manufacture of metal building materials (39%), batteries, mufflers and radiators (33%), assembly or manufacture of electrical/electronic items (33%) and manufacture of all other metal products (24%) developed new products.

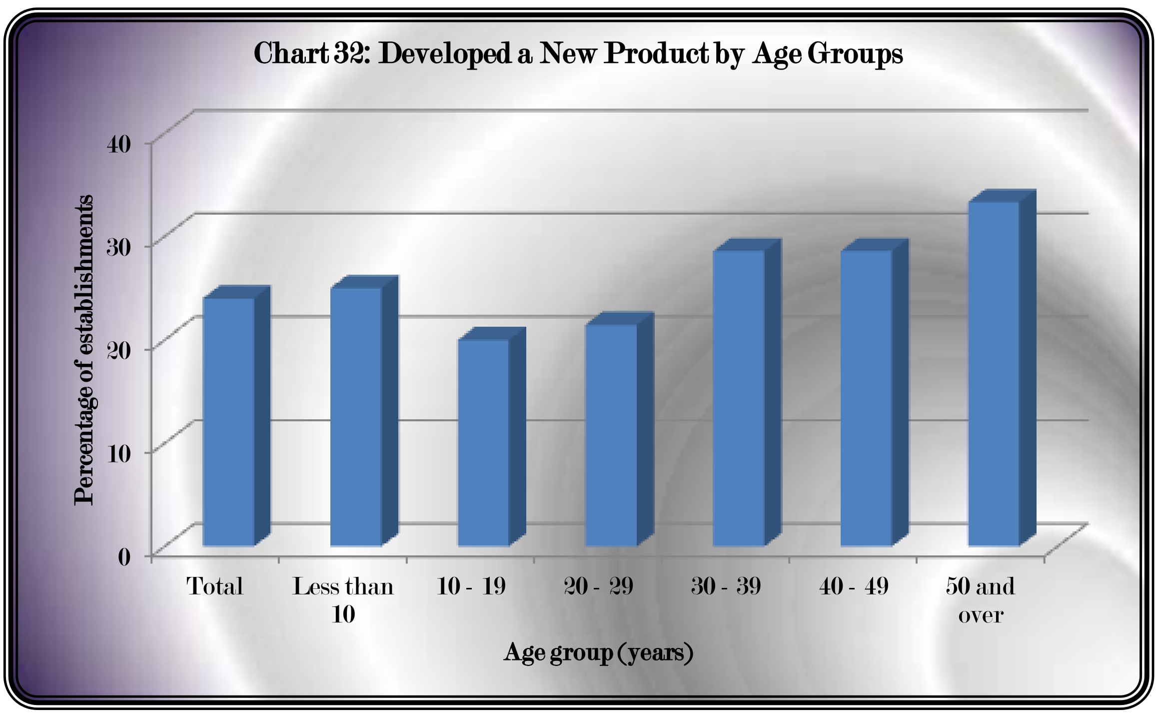


Source: Table 45

Table 46: Distribution of Establishments that Developed a New Product by Age Groups

Age group (years)	Developed a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than 10	4	100.0	1	25.0	3	75.0
10 - 19	15	100.0	3	20.0	12	80.0
20 - 29	14	100.0	3	21.4	11	78.6
30 - 39	7	100.0	2	28.6	5	71.4
40 - 49	7	100.0	2	28.6	5	71.4
50 and over	3	100.0	1	33.3	2	66.7

The distribution of establishments by age group reveals that a relatively larger proportion of establishments 50 years and over (33%) and 29% in each case of those in operation for 30 - 39 and 40 - 49 years developed a new product compared to respondents in the other age categories. A quarter (25%) of the establishments less than 10 years old was also engaged in research and development.

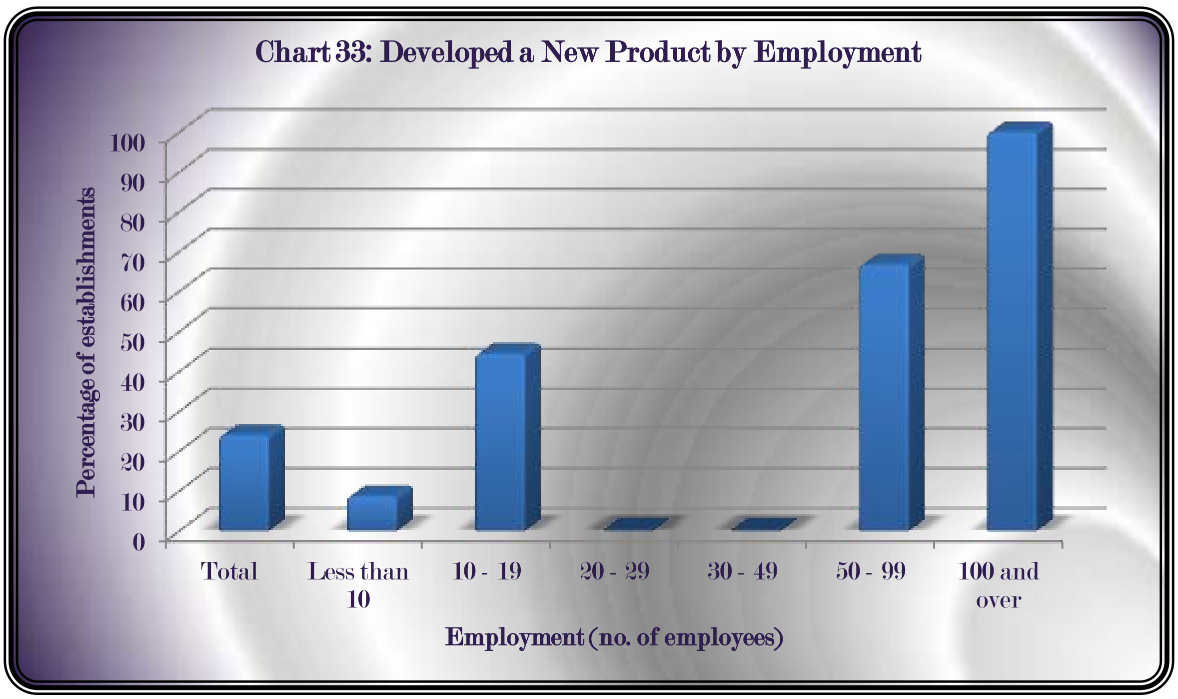


Source: Table 46

Table 47: Distribution of Establishments that Developed a New Product by Employment

Employment (no. of employees)	Developed a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than 10	23	100.0	2	8.7	21	91.3
10 - 19	9	100.0	4	44.4	5	55.6
20 - 29	5	100.0	0	0.0	5	100.0
30 - 49	6	100.0	0	0.0	6	100.0
50 - 99	3	100.0	2	66.7	1	33.3
100 and over	4	100.0	4	100.0	0	0.0

In terms of employment, new product development was more prevalent amongst the larger establishments. All (100%) of the respondents with 100 and more employees developed a new product and two-thirds (67%) of the establishments that employed between 50 - 99 persons did likewise.

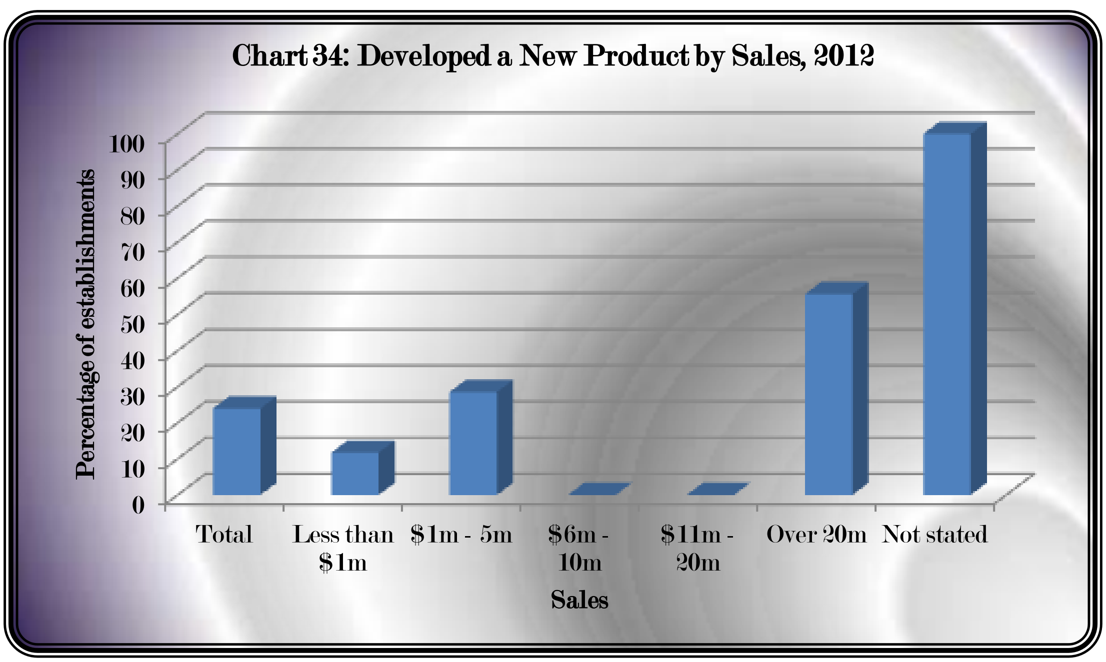


Source: Table 47

Table 48: Distribution of Establishments that Developed a New Product by Sales, 2012

Sales	Developed a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than $1m	17	100.0	2	11.8	15	88.2
$1m - 5m	14	100.0	4	28.6	10	71.4
$6m - 10m	4	100.0	0	0.0	4	100.0
$11m - 20m	5	100.0	0	0.0	5	100.0
Over 20m	9	100.0	5	55.6	4	44.4
Not stated	1	100.0	1	100.0	0	0.0

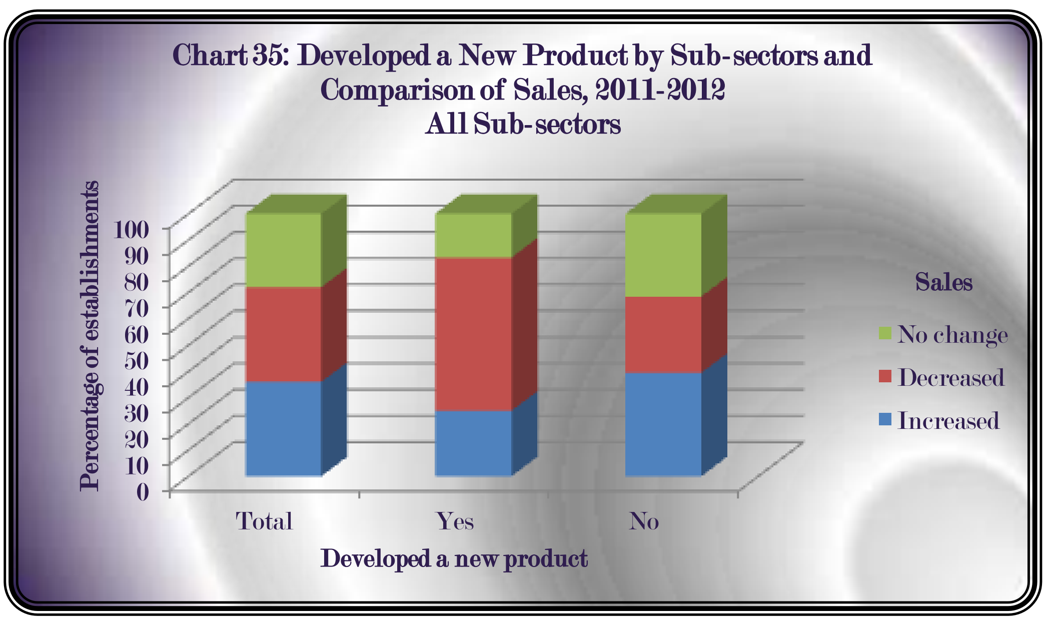
Table 48 shows that over a half (56%) of the establishments that reported sales revenue of over $20m in 2012 developed new products and 29% that generated $1m - $5m were also engaged in research and development. In addition, of the establishments that developed a new product, a quarter (25%) showed a growth in sales over the period 2011 - 2012 while a larger proportion (58%) recorded a decrease and 17% experienced no change (Table 49). Of the establishments that did not develop a new product, two-fifths (40%) reported an increase in sales over the reference period while 29% and 32% registered a decline and no change respectively. A further review of the data by sub-sector reveals that the majority of respondents in each sub-sector that developed new products recorded a decrease in sales from 2011 - 2012. In contrast, 50% of the establishments in batteries, mufflers and radiators, electrical/electronic items, metal building materials and metal containers and 67% in metal furniture that were not engaged in research and development reported growth in sales in the 2011 - 2012 period.



Source: Table 48

Table 49: Percentage of Establishments that Developed a New Product by Sub-sectors and Comparison of Sales 2011 - 2012

Sub-sector	Developed a new product	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	25.0	58.3	16.7
	No	100.0	39.5	28.9	31.6
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	0.0	0.0	100.0
	No	100.0	50.0	50.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	0.0	100.0	0.0
	No	100.0	50.0	50.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	20.0	60.0	20.0
	No	100.0	50.0	25.0	25.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	40.0	60.0	0.0
	No	100.0	31.3	18.8	50.0

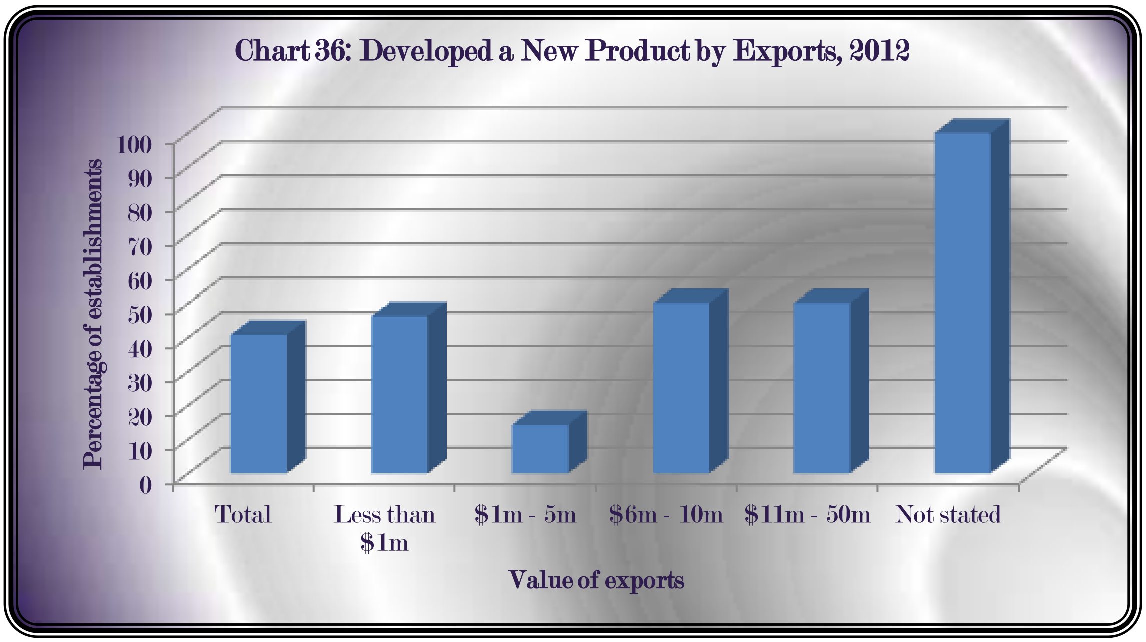


Source: Table 49

Table 50: Distribution of Establishments that Developed a New Product by Exports, 2012

Exports	Developed a new product					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	11	40.7	16	59.3
Less than $1m	13	100.0	6	46.2	7	53.8
$1m - 5m	7	100.0	1	14.3	6	85.7
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	1	100.0	0	0.0

The data reveal that two-fifths (41%) of the exporting firms developed new products while three-fifths (59%) indicated that they did not. A half (50%) of the establishments that exported between $6m-$10m and $11-$50m and 46% with exports of less than $1m in 2012 developed a new product.

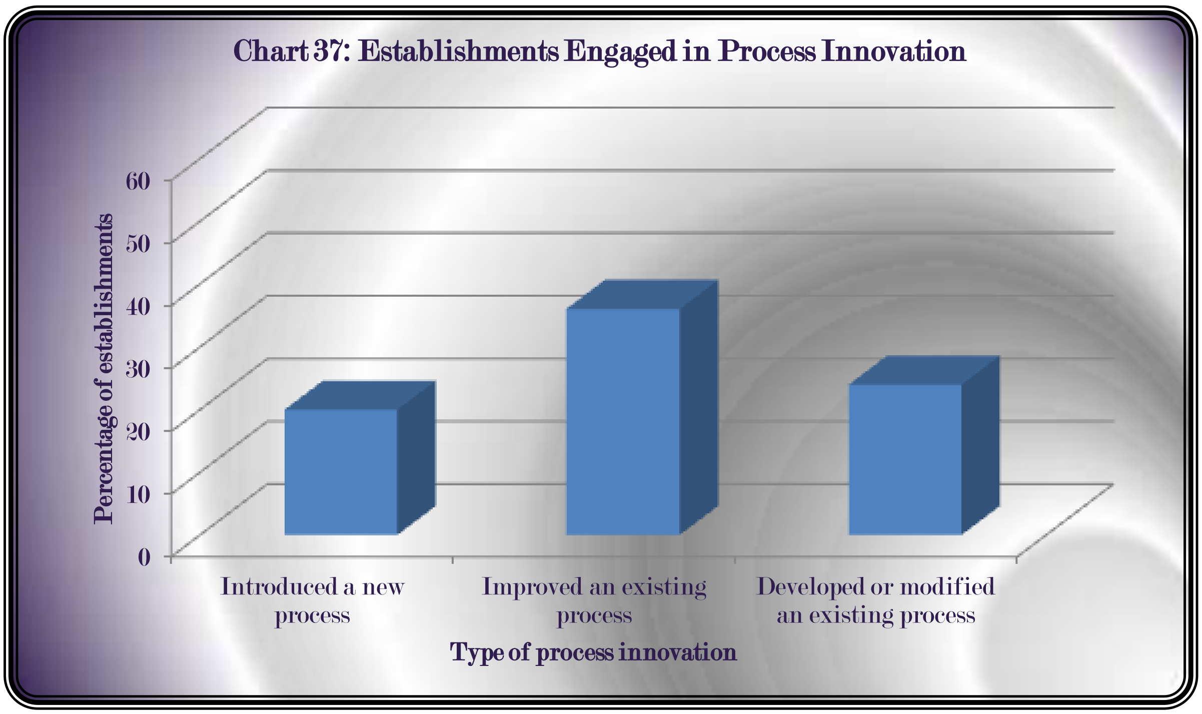


Source: Table 50

Table 51: Distribution of Establishments by Type of Process Innovation

Type of process innovation	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Introduced a new process	50	100	10	20	40	80
Improved an existing process	50	100	18	36	32	64
Developed or modified an existing process	50	100	12	24	38	76

Table 51 reveals that of the 50 establishments in the Assembly-type and related industries sector that responded to the survey, 36% indicated that they had improved an existing process while 24% developed or modified an existing process and 20% introduced a new process.

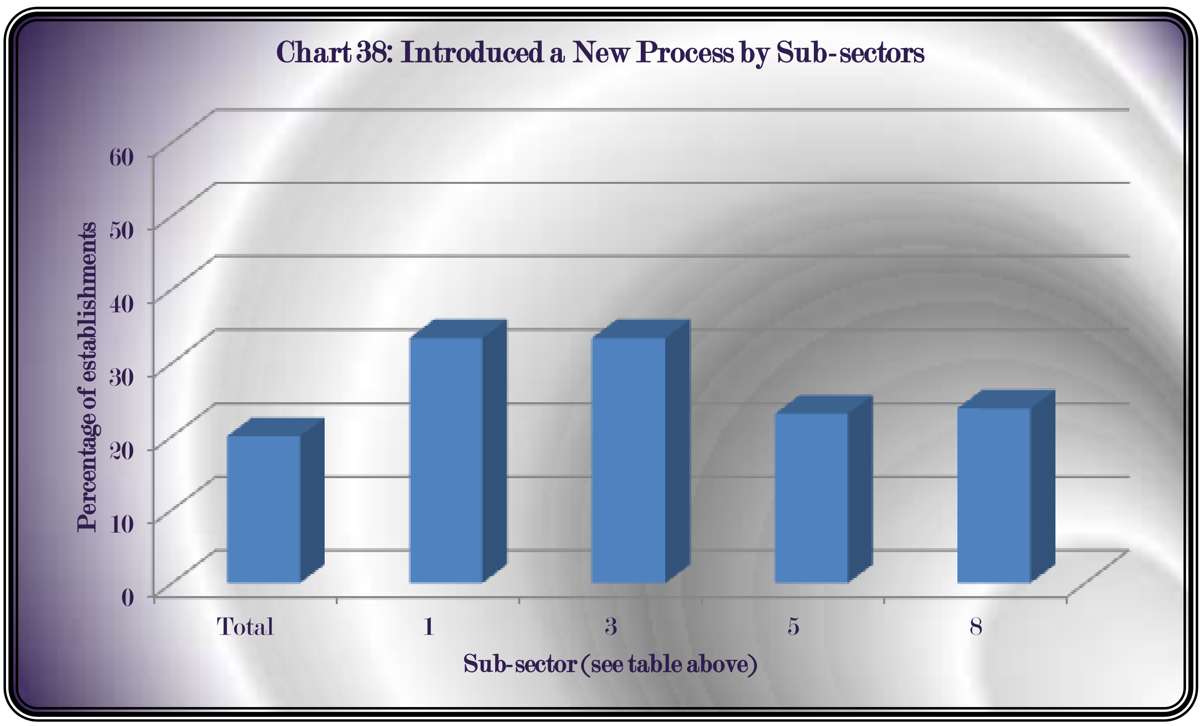


Source: Table 51

Table 52: Distribution of Establishments that Introduced a New Process by Sub-sectors

Sub-sector	Introduced a new process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	10	20.0	40	80.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	3	23.1	10	76.9
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	5	23.8	16	76.2

A relatively small percentage of establishments by sub-sectors were engaged in innovation of the introduction of a new process. Only establishments in batteries, mufflers and radiators (33%), assembly or manufacture of electrical/electronic items (33%), manufacture of all other metal products (24%) and manufacture of metal building materials (23%) introduced new processes.

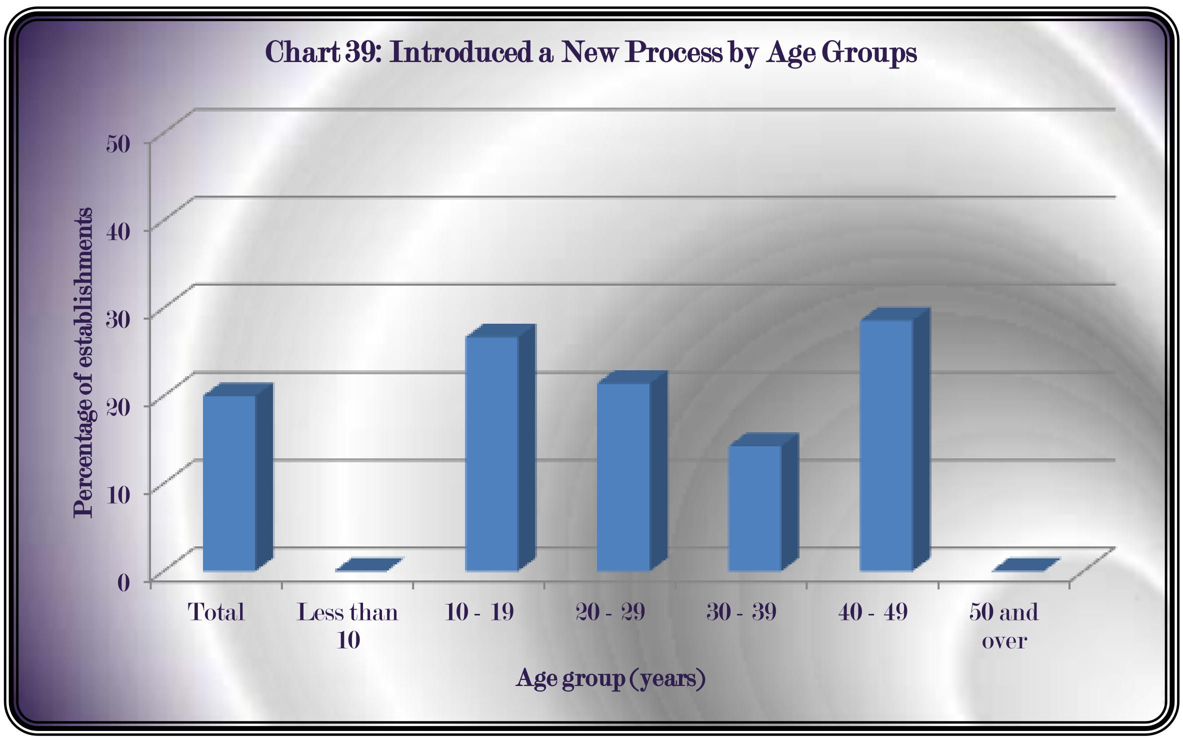


Source: Table 52

Table 53: Distribution of Establishments that Introduced a New Process by Age Groups

Age group (years)	Introduced a new process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	10	20.0	40	80.0
Less than 10	4	100.0	0	0.0	4	100.0
10 - 19	15	100.0	4	26.7	11	73.3
20 - 29	14	100.0	3	21.4	11	78.6
30 - 39	7	100.0	1	14.3	6	85.7
40 - 49	7	100.0	2	28.6	5	71.4
50 and over	3	100.0	0	0.0	3	100.0

A review of the data stratified by age group shows that over a quarter of establishments in the 40 - 49 (29%) and 10 - 19 (27%) age cohorts introduced new processes while one-fifth (21%) between 20 - 29 years did likewise.

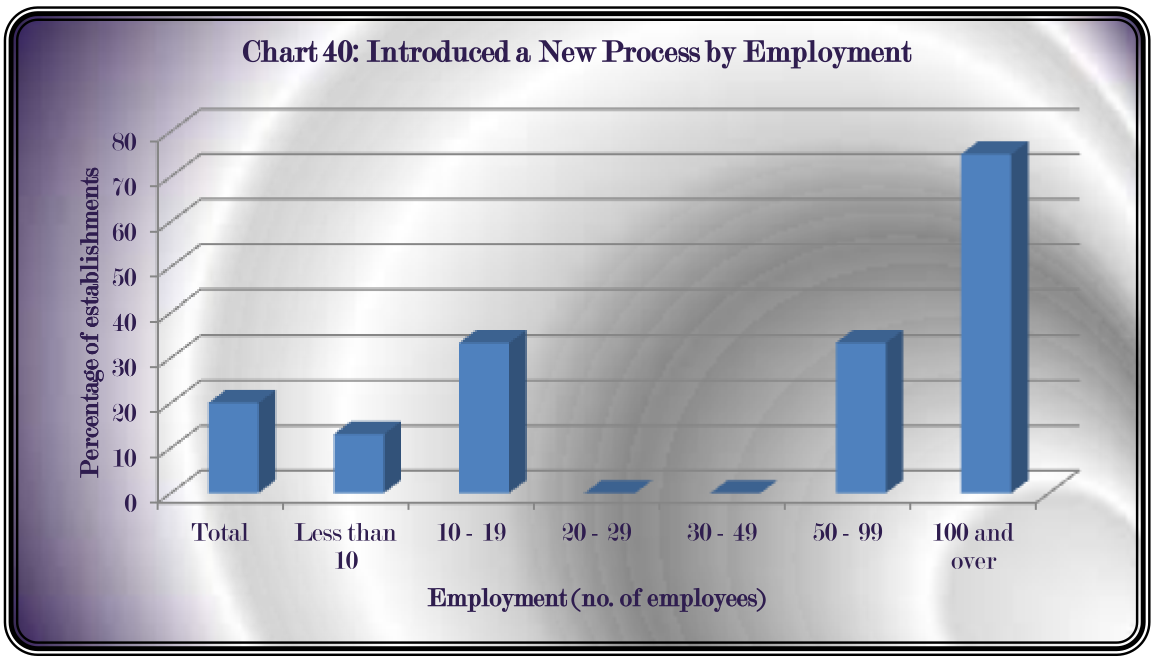


Source: Table 53

Table 54: Distribution of Establishments that Introduced a New Process by Employment

Employment (no. of employees)	Introduced a new process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	10	20.0	40	80.0
Less than 10	23	100.0	3	13.0	20	87.0
10 - 19	9	100.0	3	33.3	6	66.7
20 - 29	5	100.0	0	0.0	5	100.0
30 - 49	6	100.0	0	0.0	6	100.0
50 - 99	3	100.0	1	33.3	2	66.7
100 and over	4	100.0	3	75.0	1	25.0

By employment, a significantly larger percentage (75%) of establishments with 100 and more employees introduced new processes compared to the establishments in the other employment groups.



Source: Table 54

Table 55: Distribution of Establishments that Introduced a New Process by Sales, 2012

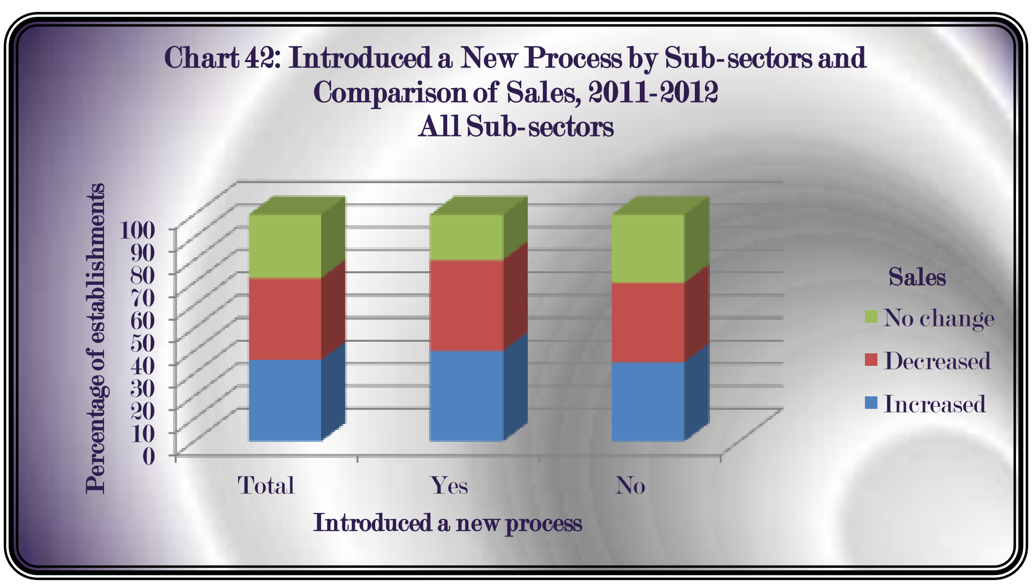
Sales	Introduced a new process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	10	20.0	40	80.0
Less than $1m	17	100.0	1	5.9	16	94.1
$1m - 5m	14	100.0	4	28.6	10	71.4
$6m - 10m	4	100.0	0	0.0	4	100.0
$11m - 20m	5	100.0	1	20.0	4	80.0
Over $20m	9	100.0	3	33.3	6	66.7
Not stated	1	100.0	1	100.0	0	0.0

Table 55 shows that one-third (33%) of the respondents that reported sales revenue in excess of $20m in 2012 was engaged in innovation of introduction of a new process while 29% and 20% that generated $1m - $5m and $11m - $20m in sales respectively did likewise. Of the establishments that introduced new processes, two-fifths (40%) indicated that sales had increased over the period 2011 - 2012 while a similar percentage (40%) reported decreases and 20% experienced no change (Table 56). Thirty-five percent (35%) of the establishments that did not introduce a new process recorded growth in sales while a similar percentage (35%) experienced declines and 30% registered no change over the reference period.

Source: Table 55

Table 56: Percentage of Establishments that Introduced a New Process by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Introduced a new process	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	40.0	40.0	20.0
	No	100.0	35.0	35.0	30.0
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	0.0	0.0	100.0
	No	100.0	50.0	50.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	0.0	100.0	0.0
	No	100.0	50.0	50.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	33.3	33.3	33.3
	No	100.0	40.0	40.0	20.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	60.0	40.0	0.0
	No	100.0	25.0	25.0	50.0

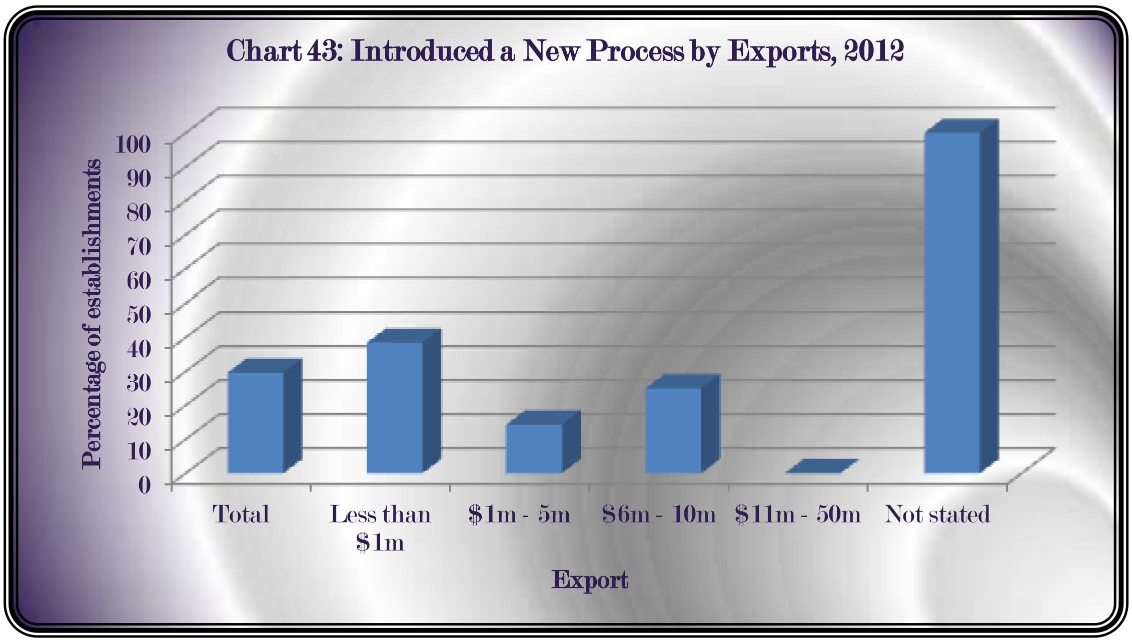


Source: Table 56

Table 57: Distribution of Establishments that Introduced a New Process by Exports, 2012

Export	Introduced a new process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	8	29.6	19	70.4
Less than $1m	13	100.0	5	38.5	8	61.5
$1m - 5m	7	100.0	1	14.3	6	85.7
$6m - 10m	4	100.0	1	25.0	3	75.0
$11m - 50m	2	100.0	0	0.0	2	100.0
Not stated	1	100.0	1	100.0	0	0.0

In terms of export trade, new processes were introduced by eight (30%) of the exporting establishments while a substantially larger proportion (19 or 71%) was not engaged in this activity.

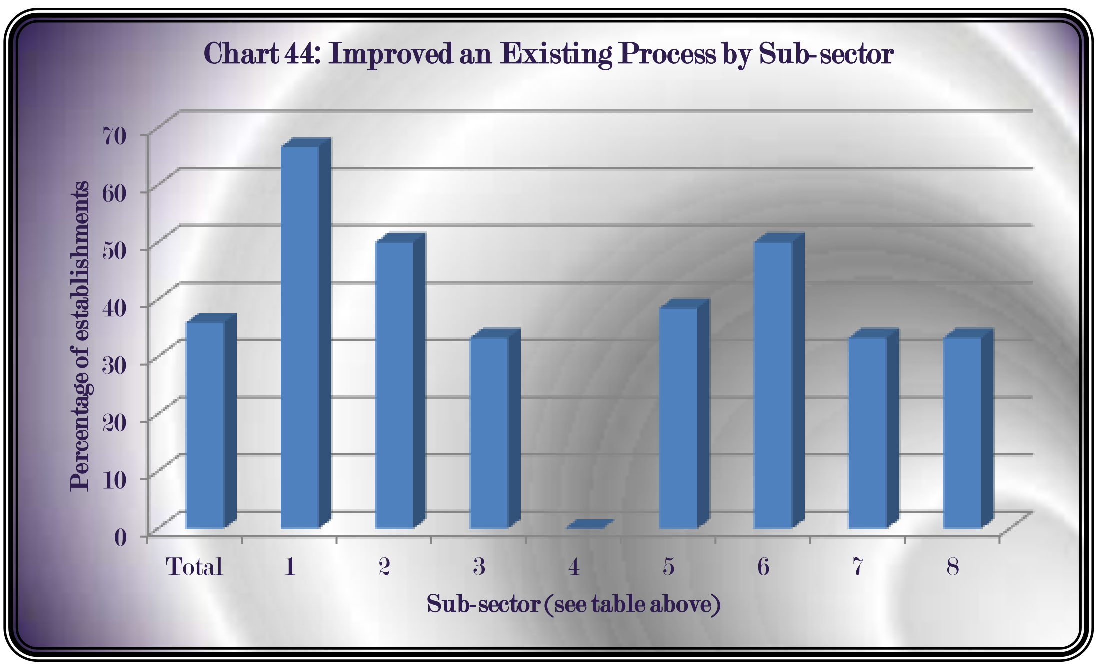


Source: Table 57

Table 58: Distribution of Establishments that Improved an Existing Process by Sub-sectors

Sub-sector	Improved an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
1 Batteries, mufflers and radiators	3	100.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	5	38.5	8	61.5
6 Manufacture of metal containers	2	100.0	1	50.0	1	50.0
7 Manufacture of metal furniture	3	100.0	1	33.3	2	66.7
8 Manufacture of all other metal products	21	100.0	7	33.3	14	66.7

As shown above, all sub-sectors except boat building and ship repairs of the Assembly-type and related industries sector were engaged in innovation of improvement of an existing process. The majority (67%) of establishments in batteries, mufflers and radiators stated that they had improved an existing process while a half in assembly of appliances (50%) and production of metal containers (50%) did likewise. Additionally, a substantial percentage (39%) of producers of metal building materials reported improvements to existing processes.

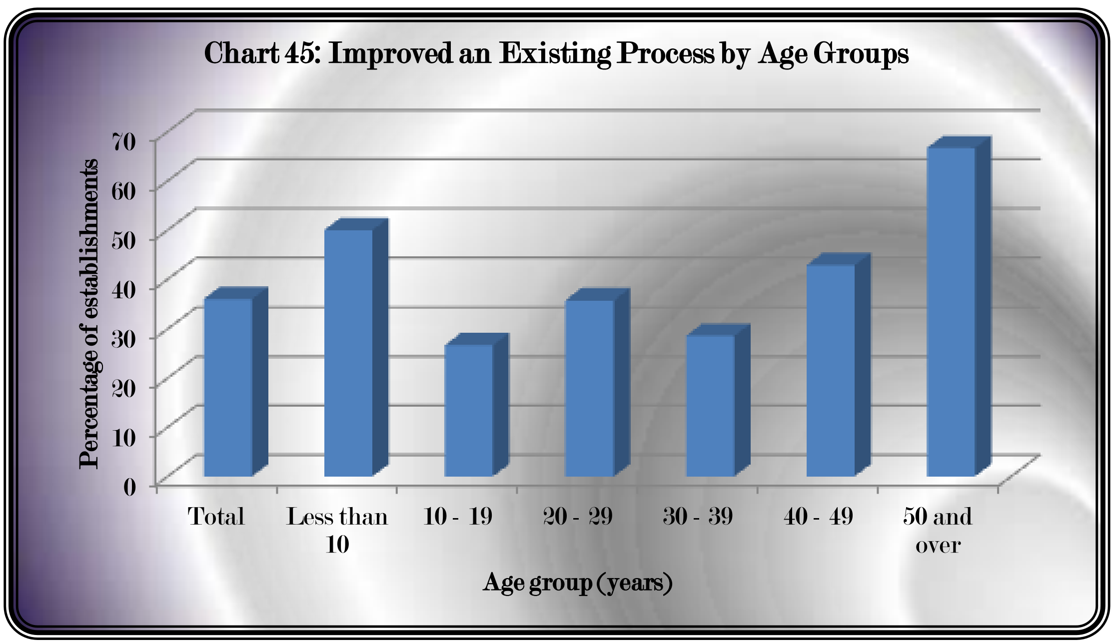


Source: Table 58

Table 59: Distribution of Establishments that Improved an Existing Process by Age Groups

Age group (years)	Improved an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than 10	4	100.0	2	50.0	2	50.0
10 - 19	15	100.0	4	26.7	11	73.3
20 - 29	14	100.0	5	35.7	9	64.3
30 - 39	7	100.0	2	28.6	5	71.4
40 - 49	7	100.0	3	42.9	4	57.1
50 and over	3	100.0	2	66.7	1	33.3

Stratification of the data by age groups reveals that the highest percentage (67%) of respondents that improved existing processes was amongst establishments 50 years and over followed by those in operation for less than 10 (50%) and 40 - 49 (43%) years.

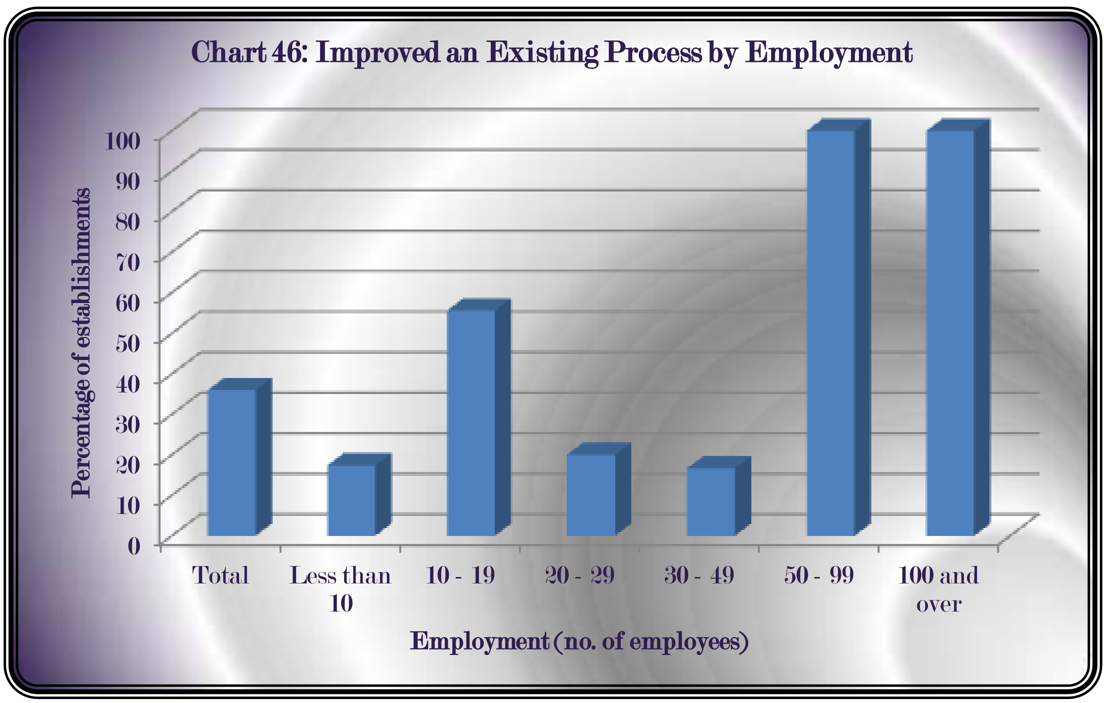


Source: Table 59

Table 60: Distribution of Establishments that Improved an Existing Process by Employment

Employment (no. of employees)	Improved an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than 10	23	100.0	4	17.4	19	82.6
10 - 19	9	100.0	5	55.6	4	44.4
20 - 29	5	100.0	1	20.0	4	80.0
30 - 49	6	100.0	1	16.7	5	83.3
50 - 99	3	100.0	3	100.0	0	0.0
100 and over	4	100.0	4	100.0	0	0.0

The distribution of establishments by employment groups shows that improvements to existing processes were prevalent amongst the larger establishments; all (100%) of the establishments with 50 or more employees had improved an existing process. In addition, over a half (56%) of the establishments with 10 - 19 employees improved existing processes.

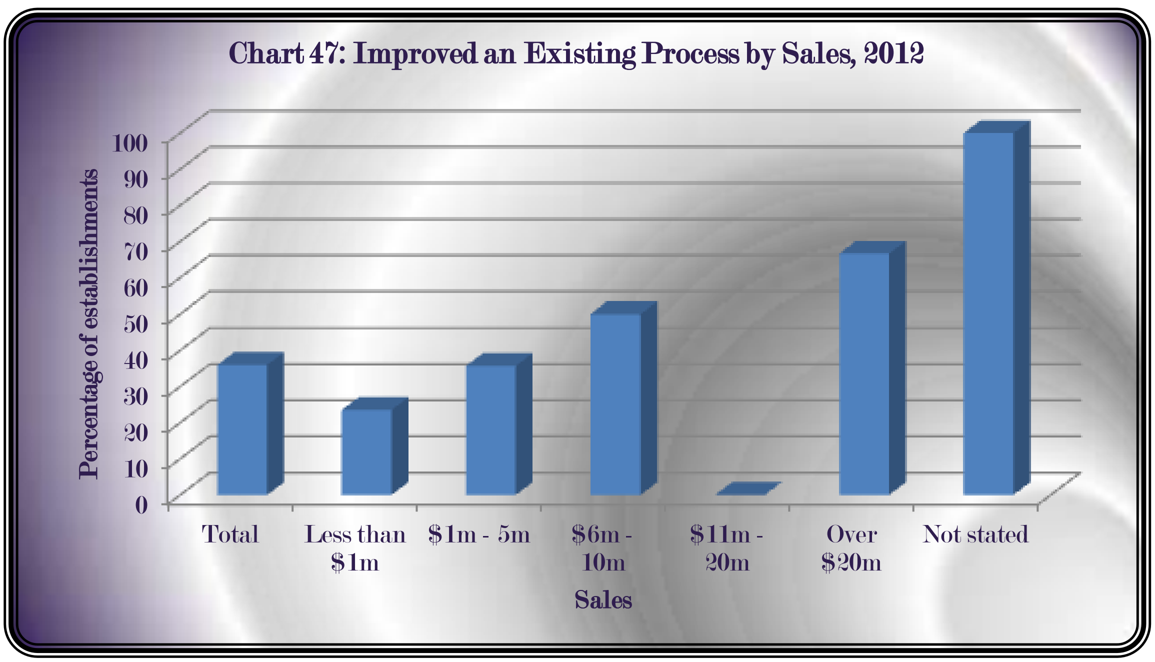


Source: Table 60

Table 61: Distribution of Establishments that Improved an Existing Process by Sales, 2012

Sales	Improved an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	18	36.0	32	64.0
Less than $1m	17	100.0	4	23.5	13	76.5
$1m - 5m	14	100.0	5	35.7	9	64.3
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 20m	5	100.0	0	0.0	5	100.0
Over $20m	9	100.0	6	66.7	3	33.3
Not stated	1	100.0	1	100.0	0	0.0

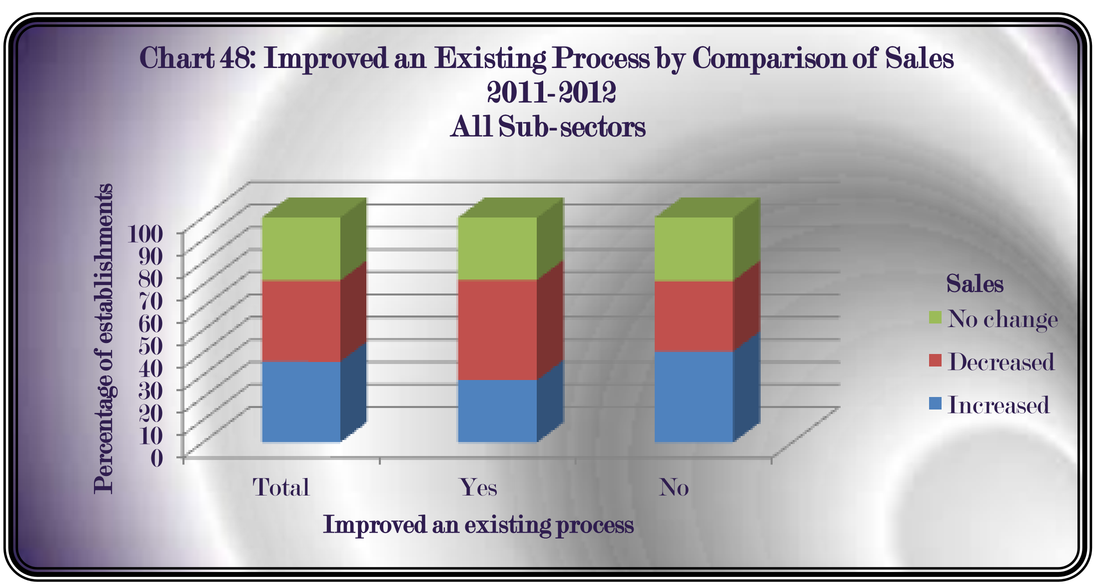
In terms of sales, two-thirds (67%) of the respondents that generated over $20m in sales revenue in 2012 improved an existing process while a half (50%) that reported $6m - $10m in sales did likewise (Table 61). Overall, of the establishments that improved existing processes, 28% indicated that sales had increased over the period 2011 - 2012 while a higher percentage (44%) reported decreases and 28% experienced no change (Table 62). Two-fifths (41%) of the establishments that did not improve an existing process recorded growth in sales while 31% and 28% registered declines and no change respectively. A further review of the data by sub-sectors shows that all (100%) the manufacturers of metal containers and furniture that improved an existing process experienced growth in sales over the period 2011 - 2012.



Source: Table 61

Table 62: Percentage of Establishments that Improved an Existing Process by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Improved an existing process	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	27.8	44.4	27.8
	No	100.0	40.6	31.3	28.1
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	50.0	0.0	50.0
	No	100.0	0.0	100.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	100.0	0.0	0.0	100.0
	No	100.0	0.0	100.0	0.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	0.0	100.0	0.0
	No	100.0	50.0	50.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	20.0	60.0	20.0
	No	100.0	50.0	25.0	25.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	100.0	100.0	0.0	0.0
	No	100.0	0.0	100.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	100.0	100.0	0.0	0.0
	No	100.0	50.0	0.0	50.0
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	14.3	57.1	28.6
	No	100.0	42.9	14.3	42.9

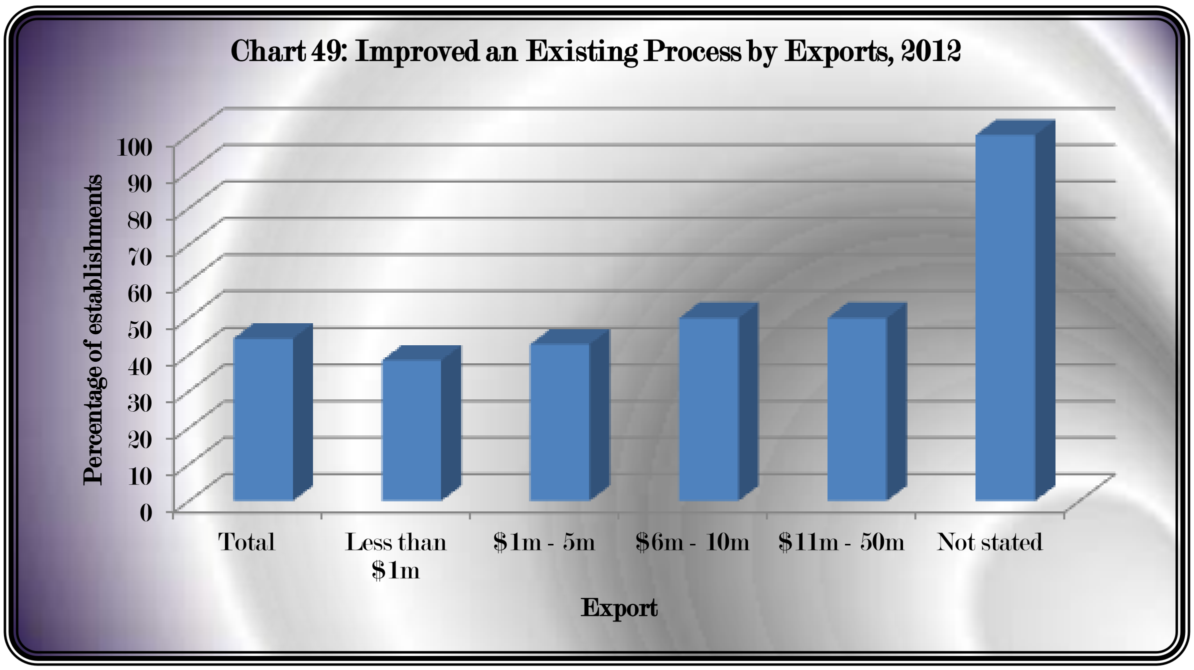


Source: Table 62

Table 63: Distribution of Establishments that Improved an Existing Process by Exports, 2012

Exports	Improved an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	12	44.4	15	55.6
Less than $1m	13	100.0	5	38.5	8	61.5
$1m - 5m	7	100.0	3	42.9	4	57.1
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	1	100.0	0	0.0

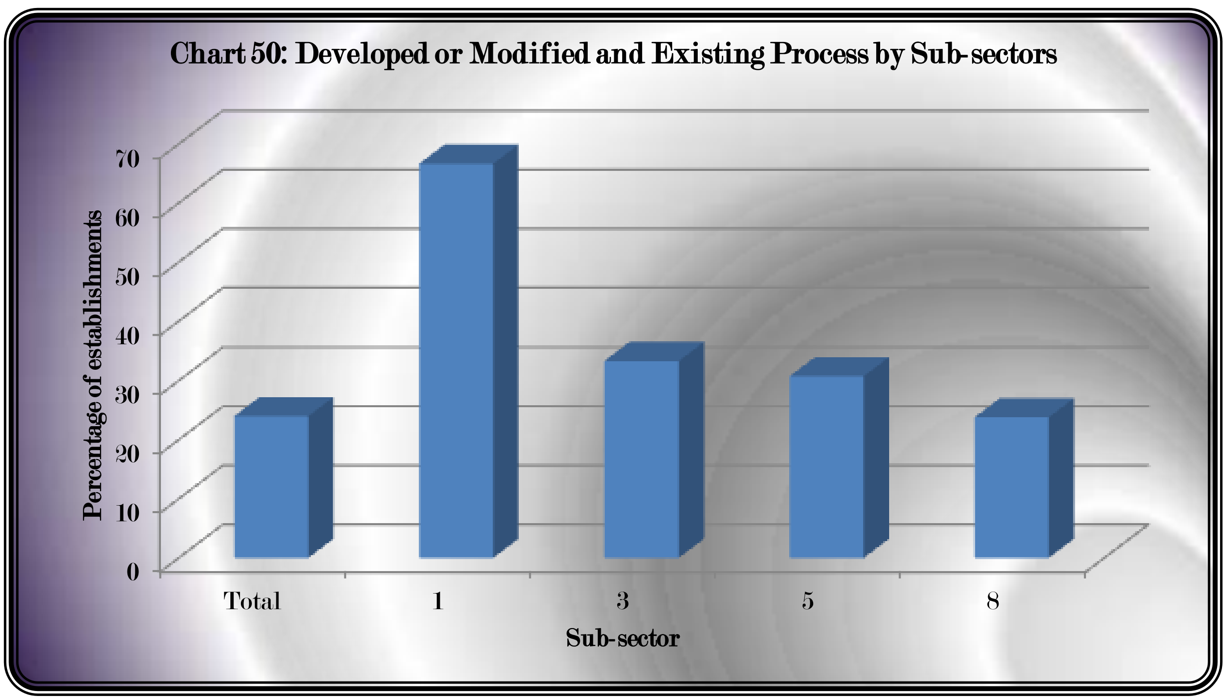
A higher percentage (56%) of the exporting establishments in 2012 did not improve an existing process compared to 44% that did.



Source: Table 63

Table 64: Distribution of Establishments that Developed or Modified an Existing Process by Sub-sectors						
Sub-sector	Developed or modified an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
1 Batteries, mufflers and radiators	3	100.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	0	0.0	2	100.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7
4 Boat building and ship repairs	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	4	30.8	9	69.2
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	5	23.8	16	76.2

Innovation activity including the development or modification of a process by sub-sectors of the Assembly-type and related industries sector is provided in Table 64 above. The table shows that a quarter (24%) of the establishments, especially those in batteries, mufflers and radiators (67%), stated that they had developed or modified an existing process. A third of the respondents in assembly or manufacture of electrical/electronic items (33%) and production of metal building materials (31%), and a quarter (24%) of the producers of all other metal products developed or modified existing processes.

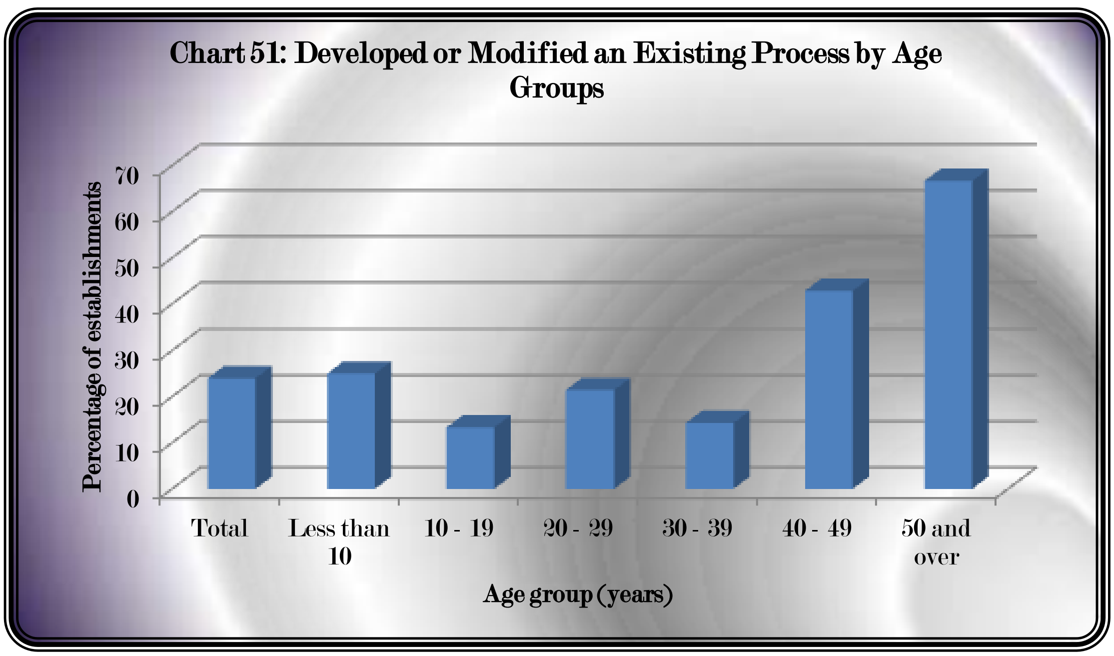


Source: Table 64

Table 65: Distribution of Establishments that Developed or Modified an Existing Process by Age Groups

Age group (years)	Developed or modified an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than 10	4	100.0	1	25.0	3	75.0
10 - 19	15	100.0	2	13.3	13	86.7
20 - 29	14	100.0	3	21.4	11	78.6
30 - 39	7	100.0	1	14.3	6	85.7
40 - 49	7	100.0	3	42.9	4	57.1
50 and over	3	100.0	2	66.7	1	33.3

The distribution of establishments by age groups reveals that the highest percentage (67%) of respondents that developed or modified existing processes was amongst the older establishments, 50 years and over and between 40 - 49 (43%) years.

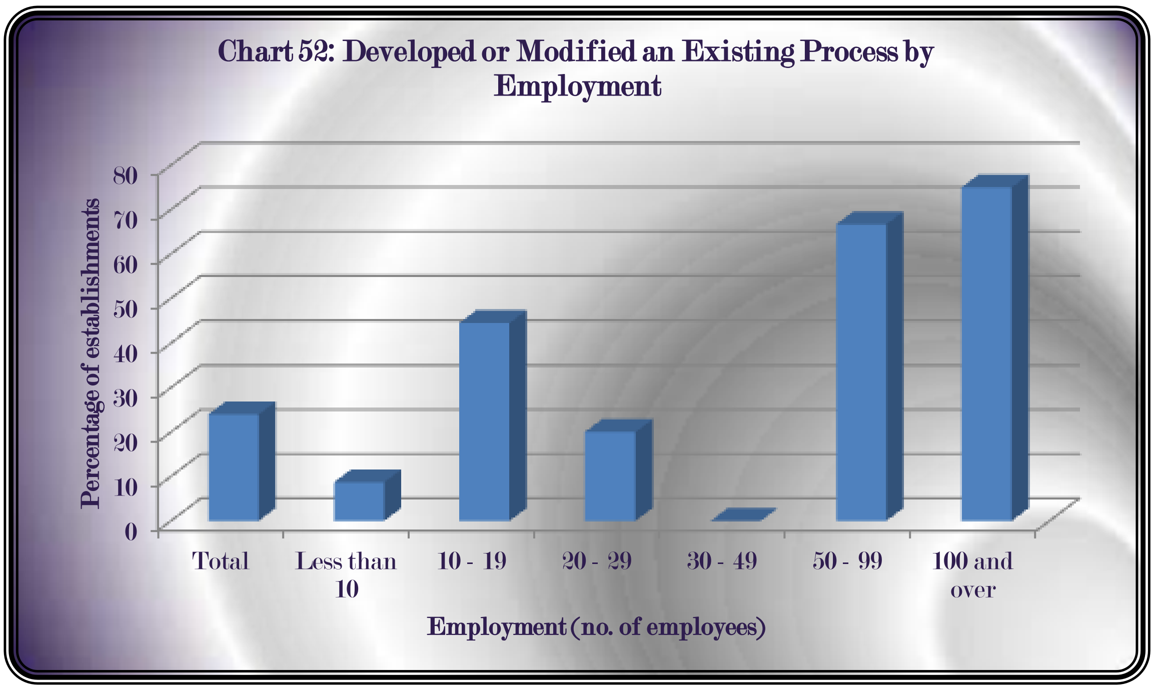


Source: Table 65

Table 66: Distribution of Establishments that Developed or Modified an Existing Process by Employment

Employment (no. of employees)	Developed or modified an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than 10	23	100.0	2	8.7	21	91.3
10 - 19	9	100.0	4	44.4	5	55.6
20 - 29	5	100.0	1	20.0	4	80.0
30 - 49	6	100.0	0	0.0	6	100.0
50 - 99	3	100.0	2	66.7	1	33.3
100 and over	4	100.0	3	75.0	1	25.0

By employment, the data show that the majority of establishments with 100 and more (75%) and 50 - 99 (67%) employees was engaged in development or modification of existing processes.

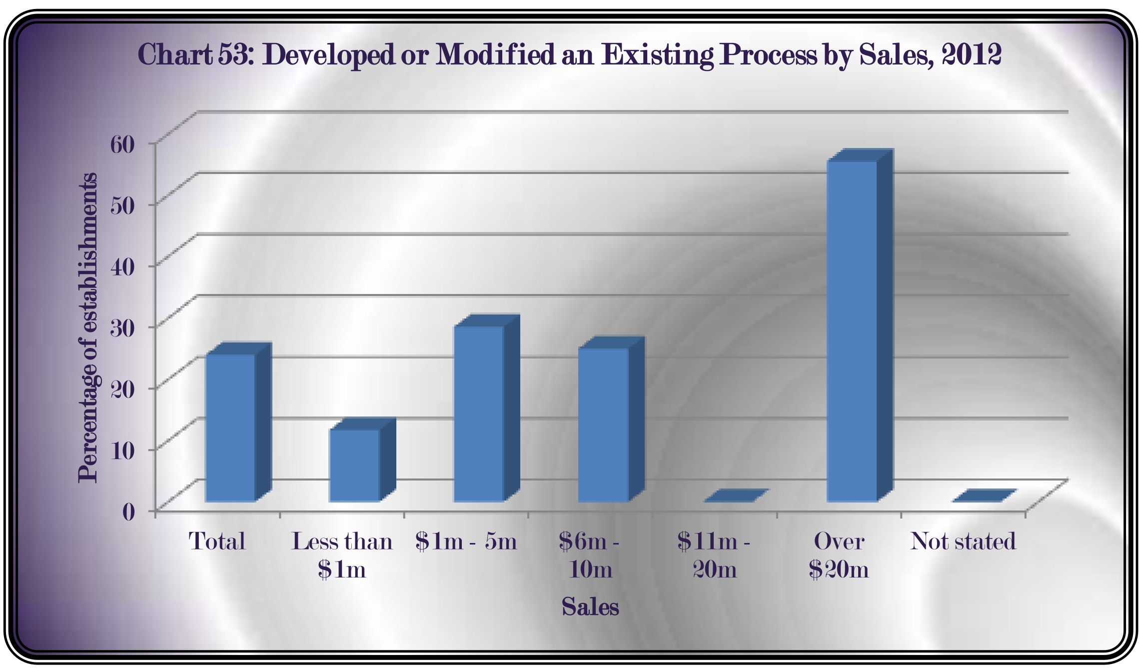


Source: Table 66

Table 67: Distribution of Establishments that Developed or Modified an Existing Process by Sales, 2012

Sales	Developed or modified an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	12	24.0	38	76.0
Less than $1m	17	100.0	2	11.8	15	88.2
$1m - 5m	14	100.0	4	28.6	10	71.4
$6m - 10m	4	100.0	1	25.0	3	75.0
$11m - 20m	5	100.0	0	0.0	5	100.0
Over $20m	9	100.0	5	55.6	4	44.4
Not stated	1	100.0	0	0.0	1	100.0

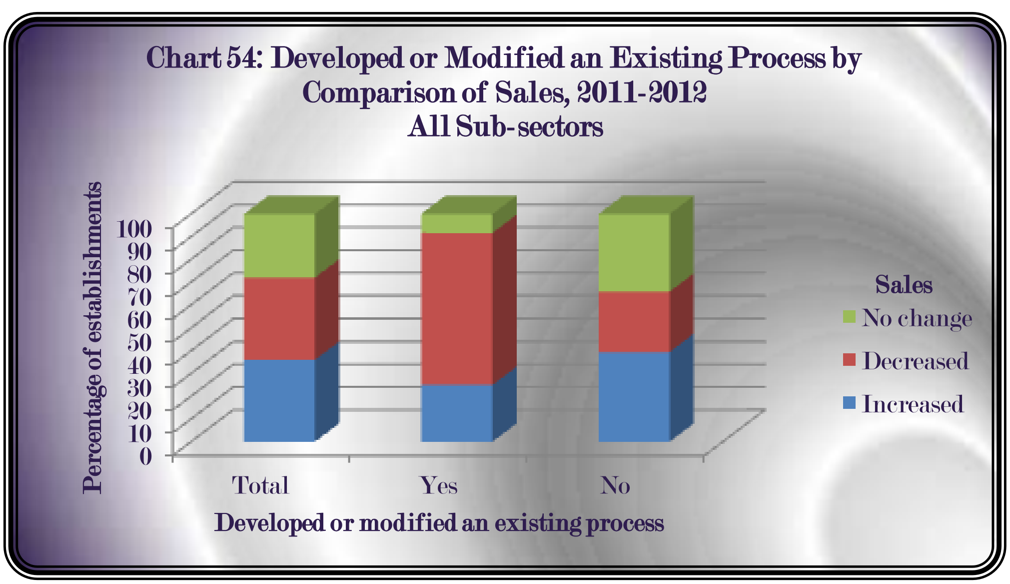
Table 67 shows that a substantially larger proportion (56%) of the respondents that generated over $20m in sales revenue in 2012 developed or modified an existing process compared to respondents in the other sales categories. Of the establishments that developed or modified existing processes, a quarter (25%) indicated that sales had increased over the period 2011 - 2012 while a higher percentage (67%) reported decreases and 8% experienced no change (Table 68). Two-fifths (40%) of the establishments that did not develop or modify an existing process recorded growth in sales while 26% and 34% registered declines and no change respectively. By industry, the data reveal that the majority of establishments in all sub-sectors that developed or modified an existing process recorded decreases in sales over the period 2011 - 2012.



Source: Table 67

Table 68: Percentage of Establishments that Developed or Modified an Existing Process by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Developed or modified an existing process	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	25.0	66.7	8.3
	No	100.0	39.5	26.3	34.2
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	50.0	0.0	50.0
	No	100.0	0.0	100.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	0.0	100.0	0.0
	No	100.0	50.0	50.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	25.0	75.0	0.0
	No	100.0	44.4	22.2	33.3
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	20.0	80.0	0.0
	No	100.0	37.5	12.5	50.0

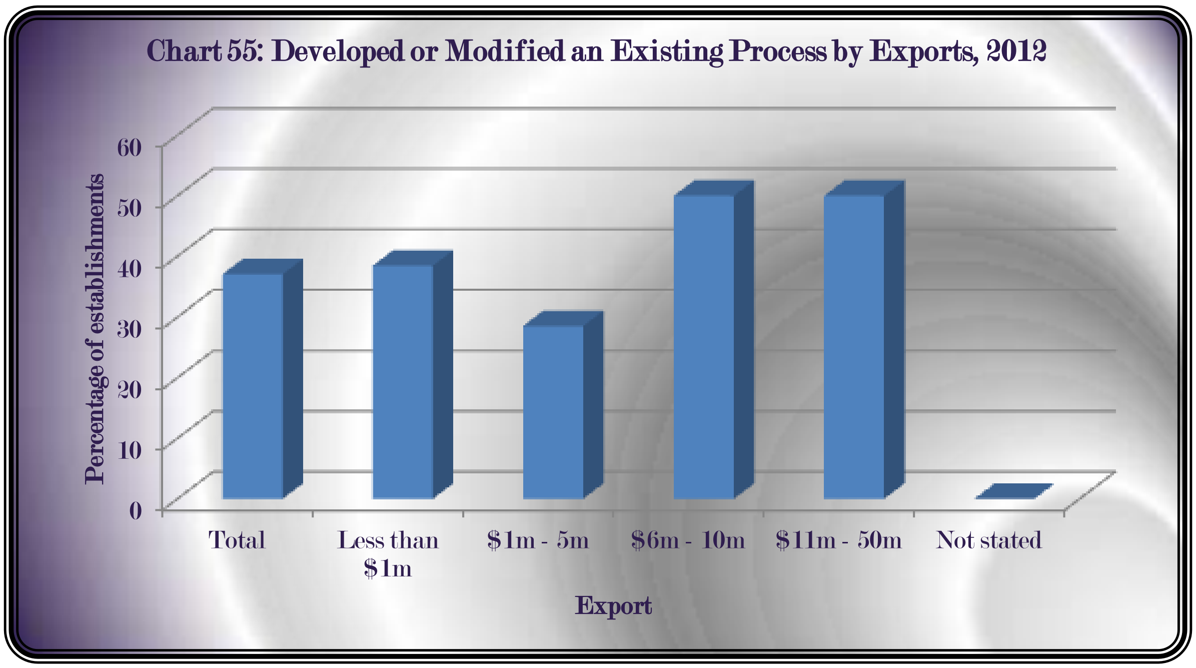


Source: Table 68

Table 69: Distribution of Establishments that Developed or Modified an Existing Process by Exports, 2012

Exports	Developed or modified an existing process					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	27	100.0	10	37.0	17	63.0
Less than $1m	13	100.0	5	38.5	8	61.5
$1m - 5m	7	100.0	2	28.6	5	71.4
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	0	0.0	1	100.0

In terms of exports, a higher percentage (63%) of the exporting establishments did not improve an existing process compared to 37% that did in 2012. A half (50%) of the establishments that generated $6m and more in export earnings was engaged in development or modification of existing processes.

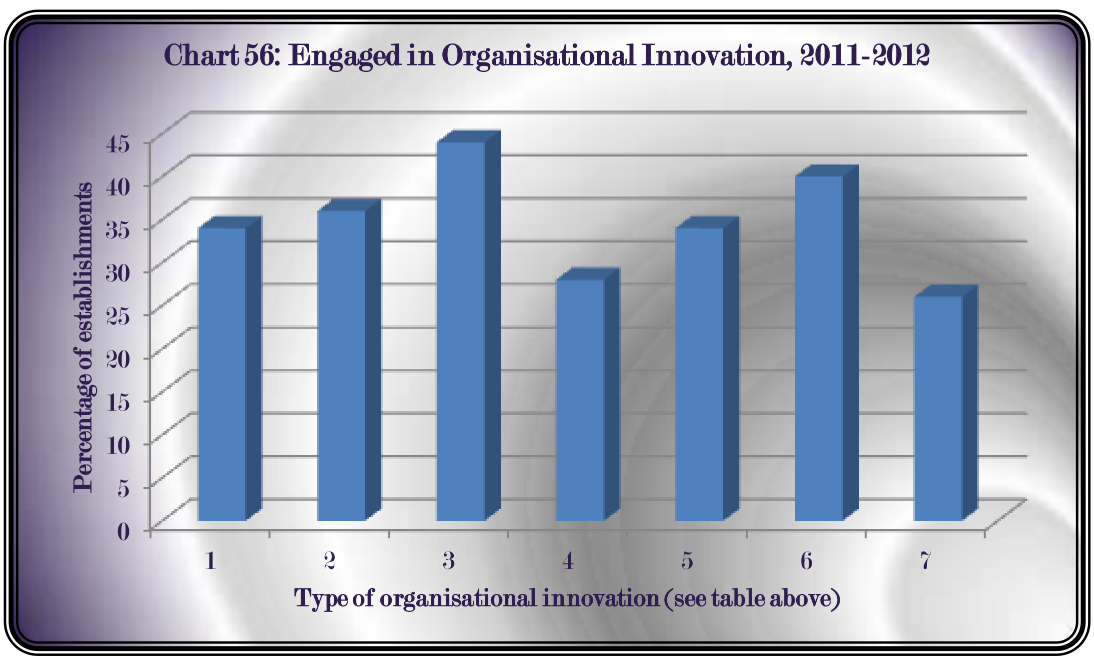


Source: Table 69

Table 70: Distribution of Establishments by Type of Organisational Innovation, 2011 - 2012

Type of organisational innovation	Engaged in organisation innovation							
	Total		Yes		No		Started but later abandoned	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 Introduced changes in management systems and techniques	50	100.0	17	34.0	32	64.0	1	2.0
2 Introduced/improved quality assurance systems	50	100.0	18	36.0	32	64.0	0	0.0
3 Introduced/improved maintenance routines and systems	50	100.0	22	44.0	27	54.0	1	2.0
4 Improved plant layout	50	100.0	14	28.0	36	72.0	0	0.0
5 Introduced/improved waste management procedures	50	100.0	17	34.0	33	66.0	0	0.0
6 Introduced/expanded in-house training programme	50	100.0	20	40.0	29	58.0	1	2.0
7 Implemented major changes in organisational strategy and structure	50	100.0	13	26.0	37	74.0	0	0.0

The table above shows the distribution of establishments that were engaged in various types of organisational innovation in 2011 - 2012. A relatively large percentage of respondents had introduced/improved maintenance routines and systems (44%) and introduced/expanded in-house training programme (40%). Approximately a third of the establishments had introduced/improved quality assurance systems (36%), introduced changes in management systems and techniques (34%) and introduced/improved waste management procedures (34%). In addition, over a quarter of the respondents had improved plant layout (28%) and 26% implemented major changes in organisational strategy and structure.

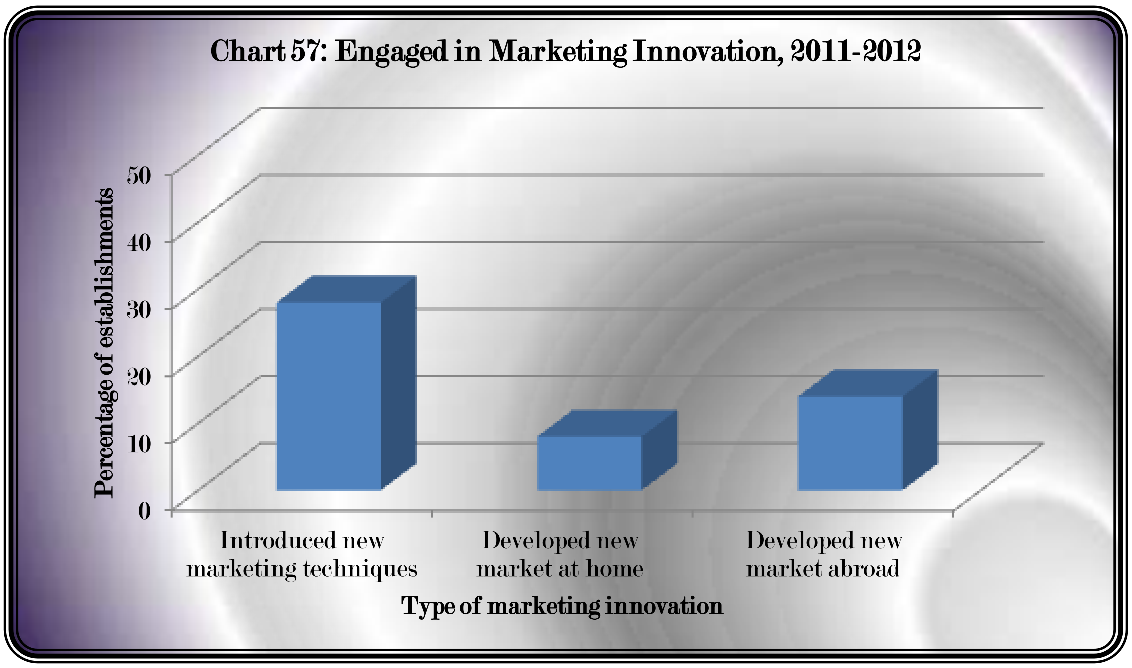


Source: Table 70

Table 71: Distribution of Establishments by Type of Marketing Innovation, 2011 - 2012

Type of marketing innovation	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Introduced new marketing techniques	50	100.0	14	28.0	36	72.0
Developed new market at home	50	100.0	4	8.0	46	92.0
Developed new market abroad	50	100.0	7	14.0	43	86.0

Marketing innovation included the implementation of marketing methods and the development of new markets at home and abroad. Overall, most establishments from the Assembly-type and related industries sector that participated in the survey were not engaged in these innovative activities during 2011 - 2012. Twenty-eight percent (28%) of the establishments stated that they had introduced new marketing techniques, while 8% and 14% developed new markets at home and abroad respectively.

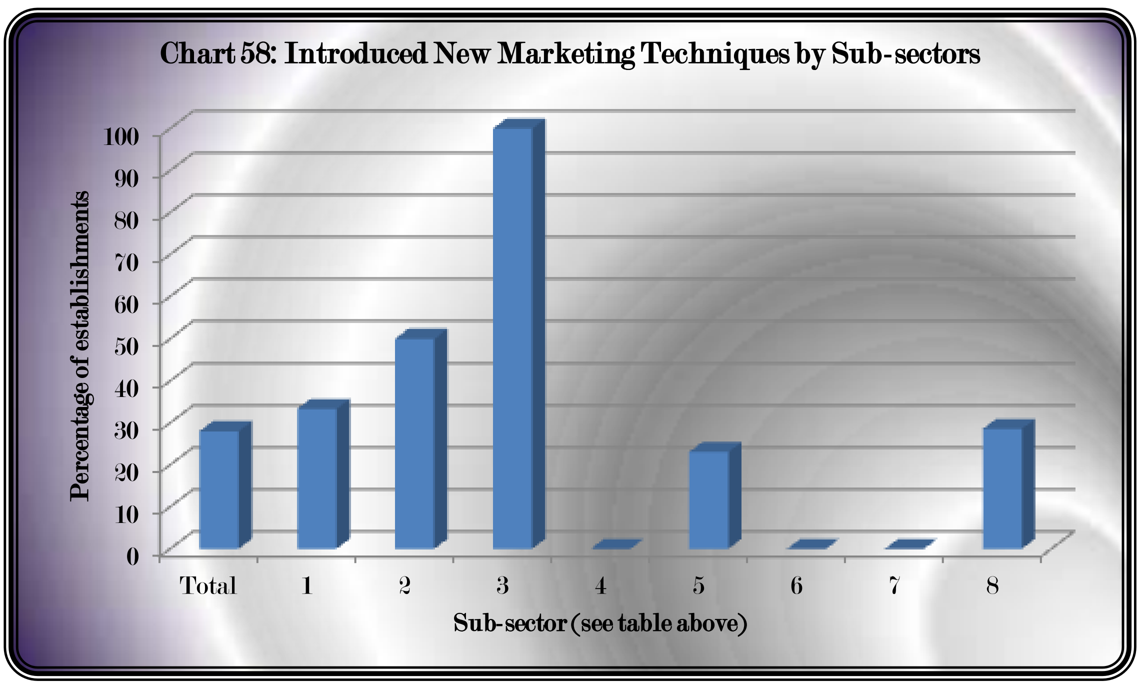


Source: Table 71

Table 72: Distribution of Establishments that Introduced New Marketing Techniques by Sub-sectors

Sub-sector	Introduced new marketing techniques					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	14	28.0	36	72.0
1 Batteries, mufflers and radiators	3	100.0	1	33.3	2	66.7
2 Assembly of appliances	2	100.0	1	50.0	1	50.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	3	100.0	0	0.0
4 Boat building and ship repair	3	100.0	0	0.0	3	100.0
5 Manufacture of metal building materials	13	100.0	3	23.1	10	76.9
6 Manufacture of metal containers	2	100.0	0	0.0	2	100.0
7 Manufacture of metal furniture	3	100.0	0	0.0	3	100.0
8 Manufacture of all other metal products	21	100.0	6	28.6	15	71.4

A significantly larger percentage (100%) of the establishments in assembly or manufacture of electrical/electronic items introduced new marketing techniques compared to establishments in the other sub-sectors. A half (50%) of the respondents in assembly of appliances introduced new marketing techniques and one-third (33%) in batteries, mufflers and radiators did likewise. Additionally 29% and 23% of the manufacturers of all other metal products and metal building materials introduced new marketing techniques respectively.

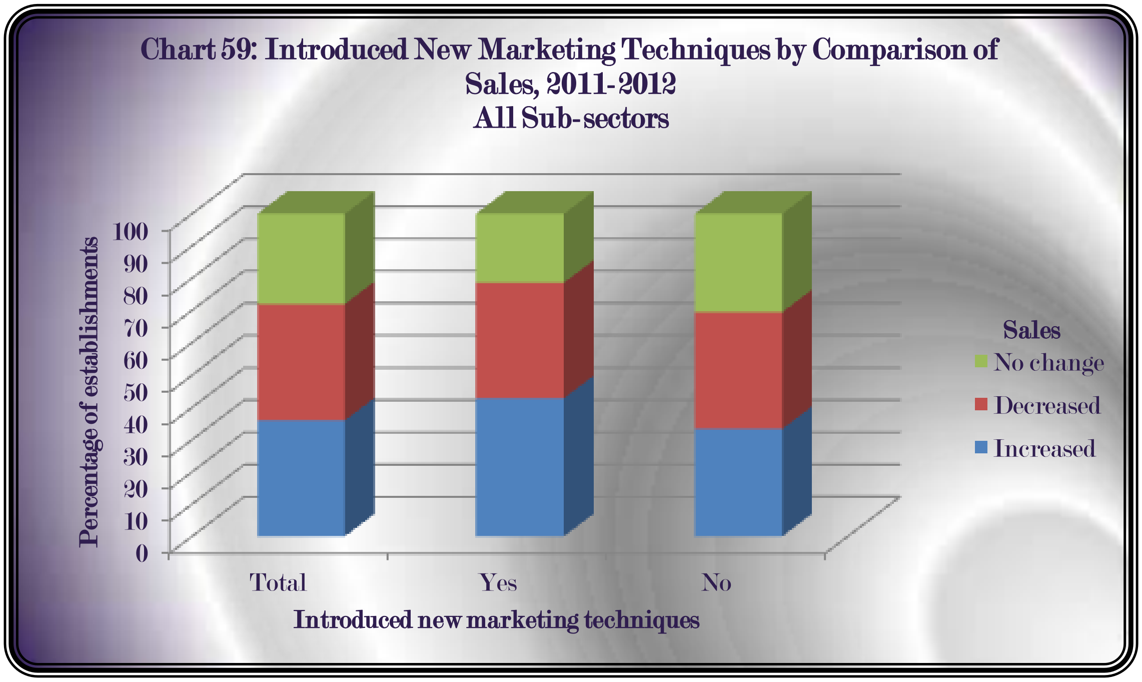


Source: Table 72

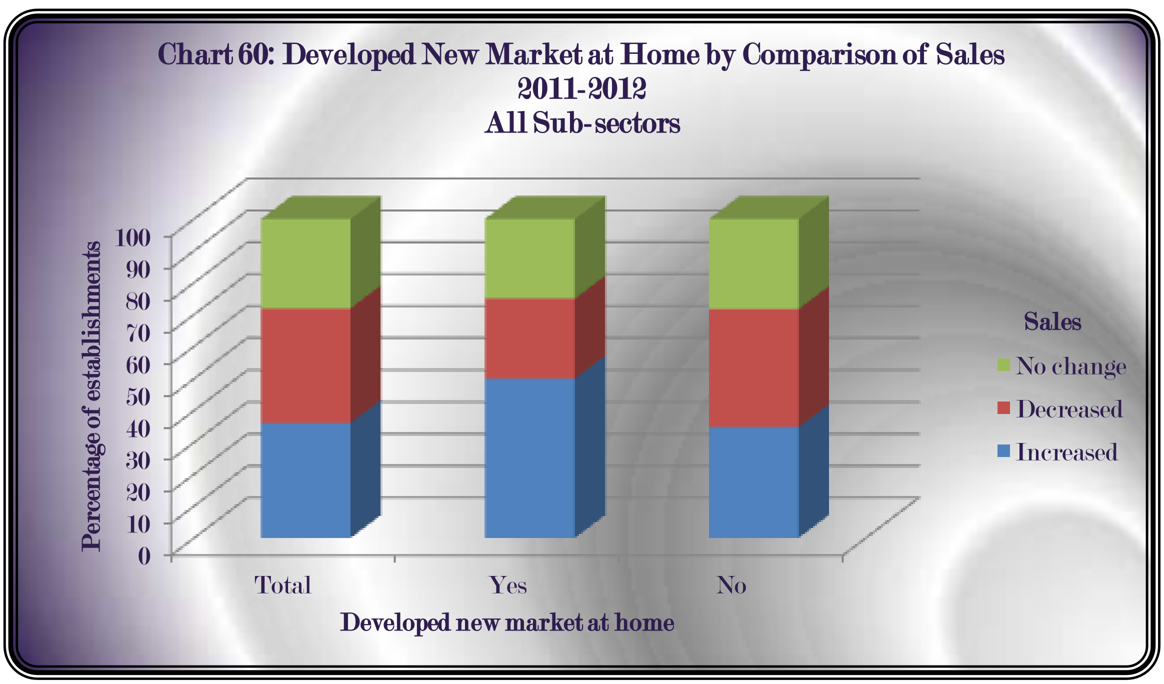
Table 73: Introduced New Marketing Techniques by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Introduced new marketing techniques	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	42.9	35.7	21.4
	No	100.0	33.3	36.1	30.6
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	100.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	100.0	0.0	0.0	100.0
	No	100.0	0.0	100.0	0.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	33.3	66.7	0.0
	No	0.0	0.0	0.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	66.7	33.3	0.0
	No	100.0	30.0	40.0	30.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	33.3	33.3	33.3
	No	100.0	33.3	26.7	40.0

Table 73 shows that a relatively higher percentage (43%) of the establishments that introduced new marketing techniques reported growth in sales from 2011 to 2012 compared to 36% that registered decreases and 21% that experienced no change in sales. Of the establishments that did not introduce new marketing techniques, 33% recorded an increase in sales while 36% and 31% showed declines and no change respectively. By industry, all (100%) of the establishments in batteries, mufflers and radiators, and 67% in metal building materials that introduced new marketing techniques experienced growth in sales over the reference period 2011 - 2012.



Source: Table 73



Source: Table 74

Table 74: Developed New Market at Home by Sub-sectors and Comparison of Sales, 2011 - 2012

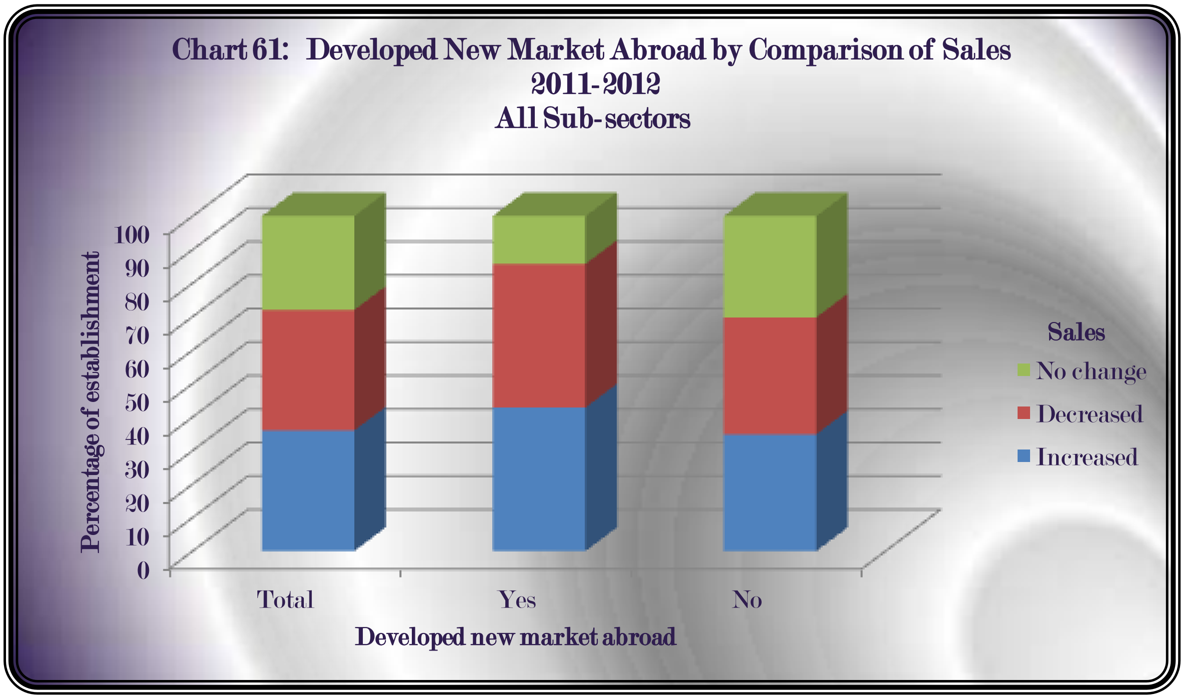
Sub-sector	Developed new market at home	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	50.0	25.0	25.0
	No	100.0	34.8	37.0	28.3
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	0.0	0.0	100.0
	No	100.0	50.0	50.0	0.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	66.7	33.3	0.0
	No	100.0	30.0	40.0	30.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	28.6	38.1

A half (50%) of the establishments that developed a new market at home reported growth in sales over the period 2011 - 2012 while a quarter (25%) in each case registered decreases and no change. Of the establishments that did not develop new markets at home, 35% recorded an increase in sales while 37% and 28% showed declines and no change respectively. By sub-sector, two-thirds (67%) of the producers of metal building materials that developed a new market at home experienced increases in sales from 2011 to 2012.

Table 75: Developed New Market Abroad by Sub-sectors and Comparison of Sales, 2011 - 2012

Sub-sector	Developed new market	Comparison of sales, 2011 - 2012			
		Total	Increased	Decreased	No change
		(1)	(2)	(3)	(4)
		(percentage)			
Total	Total	100.0	36.0	36.0	28.0
	Yes	100.0	42.9	42.9	14.3
	No	100.0	34.9	34.9	30.2
1 Batteries, mufflers and radiators	Total	100.0	33.3	33.3	33.3
	Yes	100.0	100.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
2 Assembly of appliances	Total	100.0	0.0	50.0	50.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	0.0	50.0	50.0
3 Assembly or manufacture of electrical/electronic items	Total	100.0	33.3	66.7	0.0
	Yes	100.0	100.0	0.0	0.0
	No	100.0	0.0	100.0	0.0
4 Boat building and ship repairs	Total	100.0	33.3	66.7	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	33.3	66.7	0.0
5 Manufacture of metal building materials	Total	100.0	38.5	38.5	23.1
	Yes	100.0	33.3	66.7	0.0
	No	100.0	40.0	30.0	30.0
6 Manufacture of metal containers	Total	100.0	50.0	50.0	0.0
	Yes	0.0	0.0	0.0	0.0
	No	100.0	50.0	50.0	0.0
7 Manufacture of metal furniture	Total	100.0	66.7	0.0	33.3
	Yes	0.0	0.0	0.0	0.0
	No	100.0	66.7	0.0	33.3
8 Manufacture of all other metal products	Total	100.0	33.3	28.6	38.1
	Yes	100.0	0.0	50.0	50.0
	No	100.0	36.8	26.3	36.8

The table above shows that 43% of the establishments that developed a new market abroad reported growth in sales over the period 2011 - 2012 while a similar percentage (43%) showed declines and 14% experienced no change in sales. Of the establishments that did not develop new markets abroad, 35% in each case recorded increases and decreases in sales while 30% experienced no change.

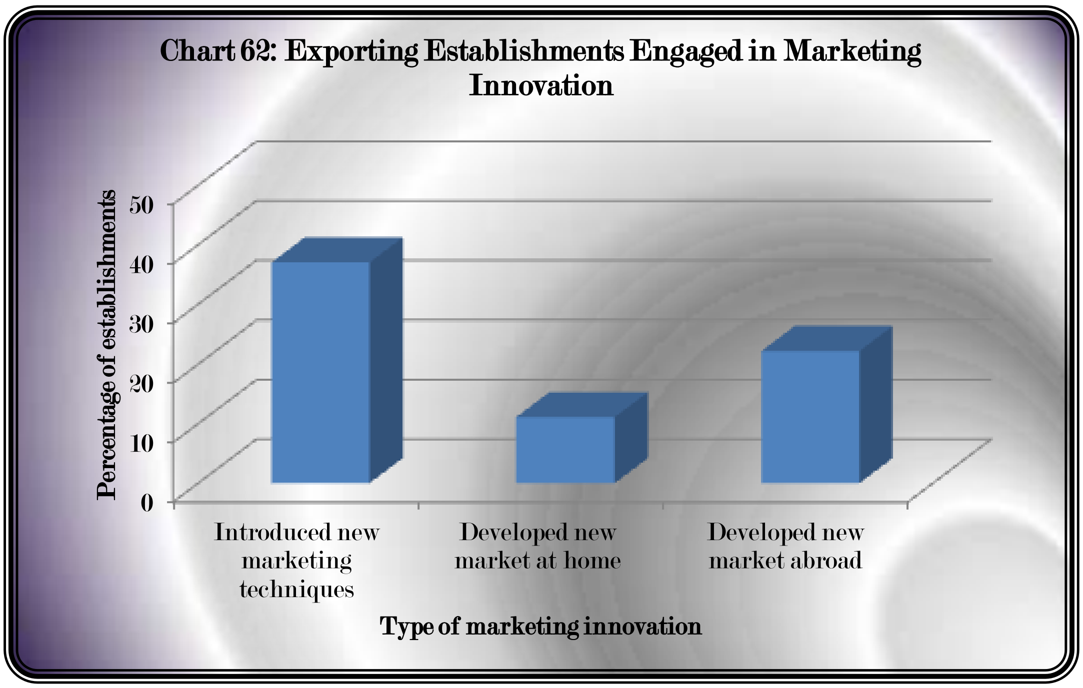


Source: Table 75

Table 76: Distribution of Exporting Establishments Engaged in Marketing Innovation

Type of marketing innovation	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Introduced new marketing techniques	27	100.0	10	37.0	17	63.0
Developed new market at home	27	100.0	3	11.1	24	88.9
Developed new market abroad	27	100.0	6	22.2	21	77.8

Of the 27 exporting establishments, ten (37%) had introduced new marketing techniques while three (11%) and six (22%) developed new markets at home and abroad respectively.



Source: Table 76

Table 77: Distribution of Establishments that Introduced New Marketing Techniques by Exports, 2012

Exports	Introduced new marketing techniques					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	14	28.0	36	72.0
Less than $1m	13	100.0	5	38.5	8	61.5
$1m - 5m	7	100.0	3	42.9	4	57.1
$6m - 10m	4	100.0	2	50.0	2	50.0
$11m - 50m	2	100.0	0	0.0	2	100.0
Not stated	1	100.0	0	0.0	1	100.0
Not applicable	23	100.0	4	17.4	19	82.6

The data reveal that a half (50%) of the establishments that reported export sales between $6m - $10m in 2012 had introduced new marketing techniques while a similar percentage (50%) that earned $11m - $50m in exports developed new markets at home and abroad (Tables 77 - 79).

Table 78: Distribution of Establishments that Developed New Market at Home by Exports, 2012

Exports	Developed new market at home					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	4	8.0	46	92.0
Less than $1m	13	100.0	1	7.7	12	92.3
$1m - 5m	7	100.0	1	14.3	6	85.7
$6m - 10m	4	100.0	0	0.0	4	100.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	0	0.0	1	100.0
Not applicable	23	100.0	1	4.3	22	95.7

Table 79: Distribution of Establishments that Developed New Market Abroad by Exports, 2012

Exports	Developed new market abroad					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	7	14.0	43	86.0
Less than $1m	13	100.0	2	15.4	11	84.6
$1m - 5m	7	100.0	2	28.6	5	71.4
$6m - 10m	4	100.0	1	25.0	3	75.0
$11m - 50m	2	100.0	1	50.0	1	50.0
Not stated	1	100.0	0	0.0	1	100.0
Not applicable	23	100.0	1	4.3	22	95.7

Table 80: Rating of Reasons for Innovating

Reason	Rating						
	Total	Not important	Slightly important	Important	Very important	Not stated	Not applicable
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Reduce production costs	**100.0**	**2.0**	**4.0**	**40.0**	**22.0**	**2.0**	**30.0**
Improve productivity	**100.0**	**2.0**	**2.0**	**28.0**	**38.0**	**0.0**	**30.0**
Extend product range	**100.0**	**14.0**	**14.0**	**22.0**	**18.0**	**2.0**	**30.0**
Improve product quality	**100.0**	**4.0**	**6.0**	**16.0**	**42.0**	**2.0**	**30.0**
Increase market share	**100.0**	**12.0**	**4.0**	**24.0**	**26.0**	**4.0**	**30.0**
Improve customer satisfaction	**100.0**	**4.0**	**0.0**	**16.0**	**48.0**	**2.0**	**30.0**
Deal with new competitors at home	**100.0**	**6.0**	**8.0**	**22.0**	**30.0**	**4.0**	**30.0**
Deal with new competitors in export markets	**100.0**	**22.0**	**6.0**	**14.0**	**18.0**	**10.0**	**30.0**
Improve working conditions	**100.0**	**4.0**	**6.0**	**32.0**	**26.0**	**2.0**	**30.0**
Develop more environmental-friendly products and processes	**100.0**	**10.0**	**12.0**	**26.0**	**16.0**	**6.0**	**30.0**
Comply with local laws or standards	**100.0**	**2.0**	**6.0**	**28.0**	**28.0**	**6.0**	**30.0**
Other	**100.0**	**4.0**	**0.0**	**4.0**	**8.0**	**54.0**	**30.0**

The table above shows the rating of reasons for innovation provided by the survey establishments. A substantial percentage of respondents rated improving customer satisfaction (48%), product quality (42%) and productivity (38%) as very important reasons for innovating. Reducing production costs (40%) and improving working conditions (32%) were also identified as important. The lowest rating was assigned to dealing with new competitors in exports, in that 22% of the respondents indicated that it was not important.

Table 81: Rating of Obstacles to Innovation

Obstacle	Rating					
	Total	Not relevant/ appropriate	Slightly significant	Moderately significant	Very significant	Not stated
	(1)	(2)	(3)	(4)	(5)	(6)
	(percentage)					
High cost of the innovation project	**100.0**	26.0	14.0	26.0	24.0	10.0
Lack of financing	**100.0**	38.0	10.0	26.0	18.0	8.0
Lack of skilled/qualified personnel	**100.0**	32.0	24.0	18.0	18.0	8.0
Long administrative/approval process within the firm	**100.0**	54.0	22.0	4.0	8.0	12.0
Lack of information on technology itself	**100.0**	52.0	10.0	16.0	10.0	12.0
Lack of information on markets	**100.0**	46.0	10.0	16.0	14.0	14.0
Domestic economis conditions	**100.0**	24.0	18.0	30.0	20.0	8.0
Legislation	**100.0**	50.0	16.0	12.0	14.0	8.0
Weak customer demand	**100.0**	32.0	22.0	18.0	18.0	10.0
Lack of marketing capability	**100.0**	44.0	24.0	14.0	8.0	10.0
Lack of external technical support	**100.0**	52.0	16.0	18.0	4.0	10.0
Other	**100.0**	8.0	2.0	2.0	4.0	84.0

In the Assembly-type and related industries sector, the main obstacle to innovation was identified as the high cost of the innovation project, which a quarter (24%) of the respondents stated to be very significant. Approximately one-fifth of the respondents rated domestic economic conditions (20%), lack of financing (18%), lack of skilled/qualified personnel (18%) and weak customer demand (18%) also as very significant obstacles to innovation. A half or more of the respondents indicated that long administrative/approval process within the firm (54%), lack of information on technology itself (52%), lack of external technical support (52%) and legislation (50%) were not relevant/appropriate.

Table 82: Rating of Sources of Information for Innovation

Sources of Information	Rating				
	Total	Not used	Moderately important	Very important	Not applicable
	(1)	(2)	(3)	(4)	(5)
	(percentage)				
Within your firm	**100.0**	**4.0**	**10.0**	**56.0**	**30.0**
Parent firm	**100.0**	**52.0**	**8.0**	**10.0**	**30.0**
Customers	**100.0**	**6.0**	**18.0**	**46.0**	**30.0**
Client firm for which the respondent is a subcontractor	**100.0**	**42.0**	**10.0**	**18.0**	**30.0**
Suppliers of equipment, material and components or software	**100.0**	**22.0**	**28.0**	**20.0**	**30.0**
Consultancy firms	**100.0**	**36.0**	**18.0**	**16.0**	**30.0**
Government or public research institutes	**100.0**	**40.0**	**14.0**	**16.0**	**30.0**
Fairs, exhibitions, conferences	**100.0**	**32.0**	**22.0**	**16.0**	**30.0**
Business and industry associations	**100.0**	**24.0**	**24.0**	**22.0**	**30.0**
Professional journals and trade publications	**100.0**	**42.0**	**20.0**	**8.0**	**30.0**
Education and research institutes	**100.0**	**42.0**	**20.0**	**8.0**	**30.0**
Other	**100.0**	**66.0**	**0.0**	**4.0**	**30.0**

The majority of respondents identified their establishments (56%) and customers (46%) as very important sources of information for innovation. Suppliers, and business and industry associations were considered moderately important sources of information by 28% and 24% of the respondents respectively. A substantial percentage of respondents did not use parent firms (52%), client firms (42%), professional journals and trade publications (42%), education and research institutes (42%), government or public research institutes (40%), consultancy firms (36%), and fairs, exhibitions and conferences (32%) as sources of information on innovation.

Table 83: Sources of Information Used by Type of Innovation

Sources of Information	Type of innovation			
	Product	Process	Marketing	Management
	(1)	(2)	(3)	(4)
	(percentage)			
Within your firm	20.0	38.0	22.0	26.0
Parent firm	6.0	2.0	6.0	16.0
Customers	40.0	8.0	16.0	8.0
Client firm for which the respondent is a subcontractor	14.0	4.0	6.0	6.0
Suppliers of equipment, material and components or software	24.0	22.0	6.0	6.0
Consultancy firms	14.0	4.0	14.0	4.0
Government or public research institutes	8.0	0.0	10.0	6.0
Fairs, exhibitions, conferences	14.0	4.0	8.0	2.0
Business and industry associations	16.0	4.0	20.0	2.0
Professional journals and trade publications	14.0	6.0	8.0	4.0
Education and research institutes	10.0	8.0	6.0	0.0
Other	4.0	0.0	2.0	0.0

Overall, Table 82 shows the establishment as the main source of information on innovation. Customers (40%) were identified as the major source of information on product innovation followed by suppliers (24%) and their establishments (20%). In addition, establishments (38%) and suppliers (22%) were seen as the main sources of information on process innovation. With respect to marketing innovation, one-fifth of the respondents used their establishments (22%) and business and industry associations (20%). A quarter (26%) of the respondents accessed information on management innovation within their establishments.

Table 84: Sources of Co-operative and Collaborative Arrangements

Source	Co-operation and collaboration				
	Total	Yes	No	Not stated	Not applicable
	(1)	(2)	(3)	(4)	(5)
	(percentage)				
Competitor	**100.0**	12.0	56.0	2.0	30.0
Customers	**100.0**	20.0	48.0	2.0	30.0
Suppliers	**100.0**	18.0	50.0	2.0	30.0
Associated companies within your corporate group	**100.0**	8.0	60.0	2.0	30.0
Consulting and marketing firms	**100.0**	4.0	64.0	2.0	30.0
Private research institutes	**100.0**	2.0	66.0	2.0	30.0
Public research institutes	**100.0**	4.0	64.0	2.0	30.0
Universities or higher education institutes	**100.0**	4.0	64.0	2.0	30.0
Government ministry	**100.0**	8.0	60.0	2.0	30.0
Other	**100.0**	0.0	62.0	8.0	30.0

In general, most establishments in the industry were not engaged in co-operative and collaborative arrangements as a means of diffusion. One-fifth of the establishments had co-operative and collaborative arrangements with customers (20%) and suppliers (18%) (Table 84) while a similar percentage (18%) cited accessing new markets as the reason for collaboration (Table 85).

Table 85: Reasons for Collaboration

Reason	Collaboration				
	Total	Yes	No	Not stated	Not applicable
	(1)	(2)	(3)	(4)	(5)
	(percentage)				
Sharing costs	**100.0**	8.0	18.0	4.0	70.0
Spreading risks	**100.0**	10.0	16.0	4.0	70.0
Accessing research and development	**100.0**	12.0	14.0	4.0	70.0
Prototype development	**100.0**	2.0	24.0	4.0	70.0
Scaling-up production processess	**100.0**	10.0	16.0	4.0	70.0
Accessing critical expertise	**100.0**	12.0	14.0	4.0	70.0
Accessing new markets	**100.0**	18.0	8.0	4.0	70.0
Accessing distribution channels	**100.0**	12.0	14.0	4.0	70.0
Other	**100.0**	0.0	24.0	6.0	70.0

Table 86: Impact of Innovation on Performance Indicators

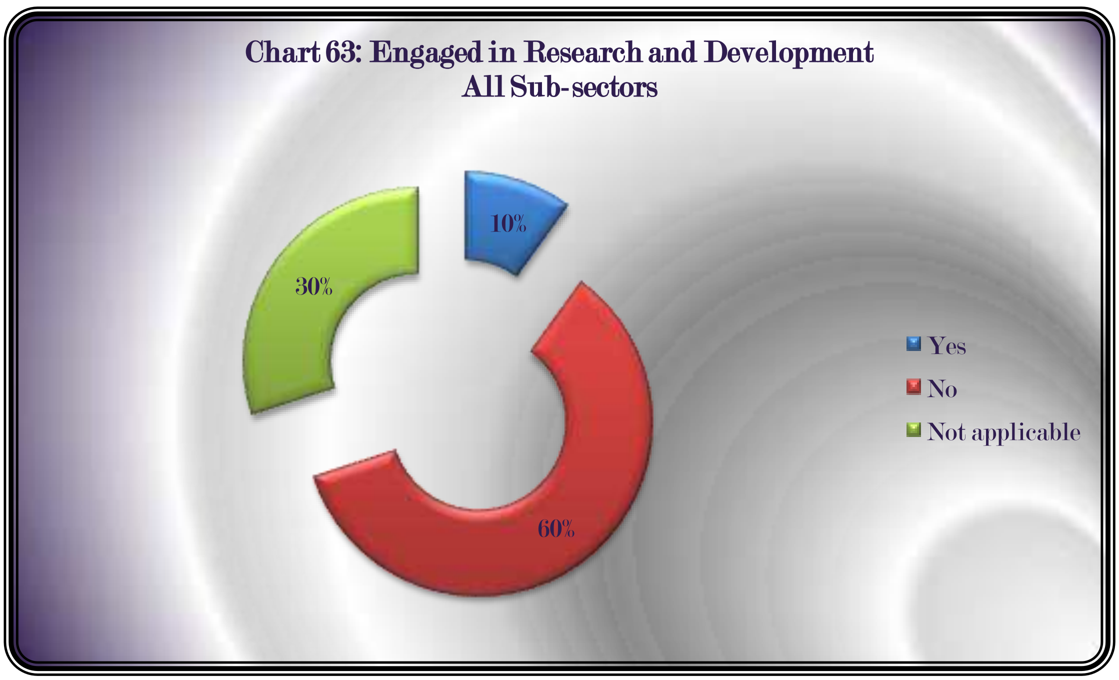
Indicator	Impact						
	Total	Increase	Decrease	No change	Do not know	Not stated	Not applicable
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(percentage)						
Profitability	100.0	28.0	12.0	18.0	10.0	2.0	30.0
Market share	100.0	24.0	10.0	20.0	14.0	2.0	30.0
Export growth	100.0	14.0	6.0	28.0	12.0	10.0	30.0
Productivity	100.0	46.0	6.0	12.0	4.0	2.0	30.0
Competitiveness	100.0	38.0	8.0	12.0	8.0	4.0	30.0
Cash flow	100.0	30.0	12.0	16.0	10.0	2.0	30.0
Diversification	100.0	20.0	2.0	30.0	12.0	6.0	30.0
Product differentiation	100.0	36.0	2.0	26.0	4.0	2.0	30.0
Positive environmental impact	100.0	28.0	2.0	28.0	8.0	4.0	30.0
Compliance with regulations	100.0	30.0	2.0	26.0	8.0	4.0	30.0
Employment	100.0	18.0	6.0	38.0	4.0	4.0	30.0
Service quality	100.0	38.0	2.0	20.0	6.0	4.0	30.0
Other	100.0	4.0	0.0	4.0	0.0	62.0	30.0

The impact of innovation on key performance indicators of the Assembly-type and related industries sector as a whole is shown in the table above. A substantial percentage of respondents indicated that innovation resulted in increased productivity (46%), competitiveness (38%) and service quality (38%). A quarter or more of the respondents recorded increases in product differentiation (36%), cash flow (30%), compliance with regulations (30%), profitability (28%), positive environmental impact (28%) and market share (24%). A relatively large proportion of respondents experienced no change in employment (38%), export growth (28%) and positive environmental impact (28%).

Table 87: Research and Development by Sub-sectors

Sub-sector	Research and development							
	Total		Yes		No		Not applicable	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	**50**	**100.0**	**5**	**10.0**	**30**	**60.0**	**15**	**30.0**
1 Batteries, mufflers and radiators	3	100.0	0	0.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	0	0.0	2	100.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	1	33.3	2	66.7	0	0.0
4 Boat building and ship repairs	3	100.0	0	0.0	1	33.3	2	66.7
5 Manufacture of metal building materials	13	100.0	1	7.7	7	53.8	5	38.5
6 Manufacture of metal containers	2	100.0	0	0.0	1	50.0	1	50.0
7 Manufacture of metal furniture	3	100.0	0	0.0	2	66.7	1	33.3
8 Manufacture of all other metal products	21	100.0	3	14.3	13	61.9	5	23.8

Of the 50 establishments that participated in the survey, only 10% stated that they had undertaken research and development activities while a significantly larger percentage (90%) did not (Table 87). Two (4%) establishments utilised trademarks to protect intellectual property (Table 88).



Source: Table 87

Table 88: Protection of Intellectual Property

Method to protect intellectual property	Total		Yes		No		Not applicable	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Patents	50	100.0	0	0.0	5	10.0	45	90.0
Trademarks	50	100.0	2	4.0	3	6.0	45	90.0
Copyrights	50	100.0	0	0.0	5	10.0	45	90.0
Confidentiality agreements	50	100.0	0	0.0	5	10.0	45	90.0
Trade secrets	50	100.0	0	0.0	5	10.0	45	90.0
Other	50	100.0	0	0.0	5	10.0	45	90.0

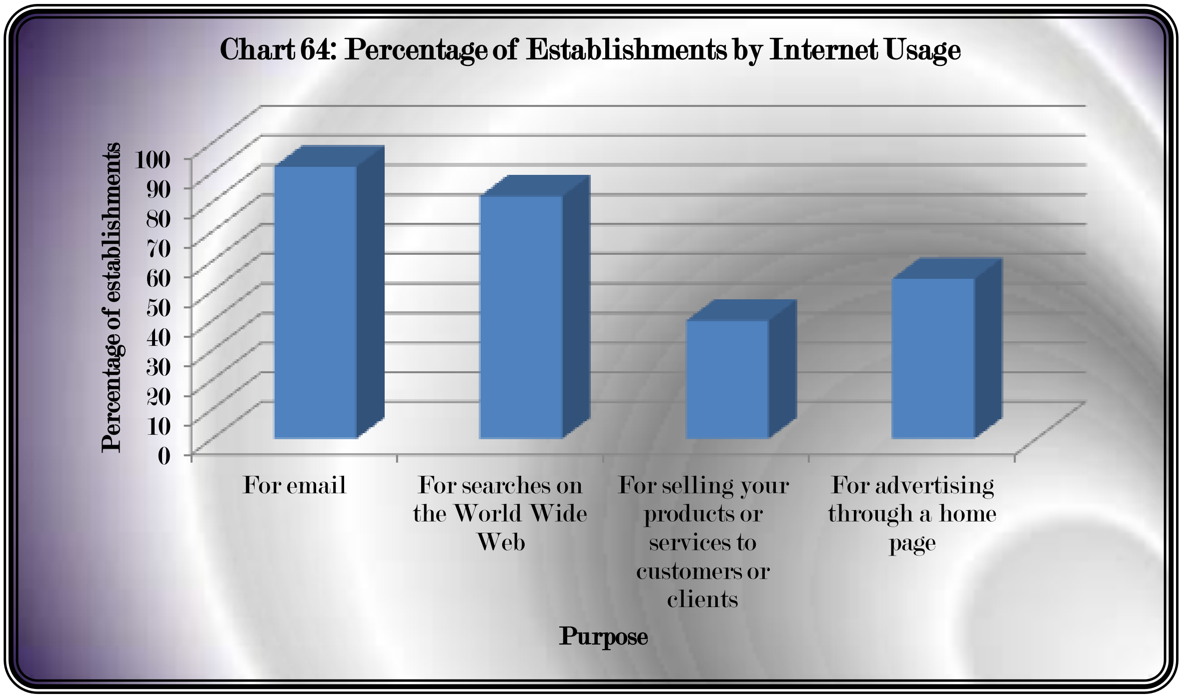
Table 89: Internet Usage by Sub-sectors

Sub-sector	Internet usage					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
Total	50	100.0	46	92.0	4	8.0
1 Batteries, mufflers and radiators	3	100.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	2	100.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	3	100.0	0	0.0
4 Boat building and ship repairs	3	100.0	3	100.0	0	0.0
5 Manufacture of metal building materials	13	100.0	12	92.3	1	7.7
6 Manufacture of metal containers	2	100.0	2	100.0	0	0.0
7 Manufacture of metal furniture	3	100.0	3	100.0	0	0.0
8 Manufacture of all other metal products	21	100.0	19	90.5	2	9.5

The majority (92%) of respondents, including all sub-sectors, utilised the Internet mainly for email (92%) and searches on the world wide web (82%) (Tables 89 and 90). A half (54%) of the respondents used the Internet for advertising through a home page and two-fifths (40%) for e-commerce.

Table 90: Distribution of Establishments that Used the Internet by Purpose

Purpose	Internet usage					
	Total		Yes		No	
	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)
For email	50	100.0	46	92.0	4	8.0
For searches on the World Wide Web	50	100.0	41	82.0	9	18.0
For selling your products or services to customers or clients	50	100.0	20	40.0	30	60.0
For advertising through a home page	50	100.0	27	54.0	23	46.0



Source: Table 90

Table 91: Distribution of Establishments that Use Government Support or Assistance by Sub-sectors

Sub-sector	Used government support or assistance							
	Total		Yes		No		Not applicable	
	No.	%	No.	%	No.	%	No.	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	50	100.0	0	0.0	35	70.0	15	30.0
1 Batteries, mufflers and radiators	3	100.0	0	0.0	2	66.7	1	33.3
2 Assembly of appliances	2	100.0	0	0.0	2	100.0	0	0.0
3 Assembly or manufacture of electrical/electronic items	3	100.0	0	0.0	3	100.0	0	0.0
4 Boat building and ship repairs	3	100.0	0	0.0	1	33.3	2	66.7
5 Manufacture of metal building materials	13	100.0	0	0.0	8	61.5	5	38.5
6 Manufacture of metal containers	2	100.0	0	0.0	1	50.0	1	50.0
7 Manufacture of metal furniture	3	100.0	0	0.0	2	66.7	1	33.3
8 Manufacture of all other metal products	21	100.0	0	0.0	16	76.2	5	23.8

Government support programmes for innovation, found inapplicable by 30%, were not accessed by any of the responding establishments of the sub-sectors.