

NATIONAL SURVEY OF INNOVATION

2000 - 2001

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List of Abbreviations

CIS	Community Innovation Survey
CIS-2	Second Community Innovation Survey
CPI	Consumer Price Index
EC	European Commission
EEA	European Economic Area
GDP	Gross Domestic Product
GNP	Gross National Product
MASTIC	Malaysian Science and Technology Information Centre
NIS	National Innovation Survey
NIS-1	First National Innovation Survey
NIS-2	Second National Innovation Survey
NIS-3	Third National Innovation Survey
OECD	Organization for Economic Co-operation and Development
R&D	Research and Development
RM	Ringgit Malaysia
S&T	Science and Technology

Country Abbreviations

Country	Abbreviation
Belgium	B
Denmark	DK
Germany	D
Spain	E
France	F
Ireland	IRL
Italy	I
Netherlands	NL
Austria	A
Portugal	P
Finland	FIN
Sweden	S
United Kingdom	UK
Norway	NO
Malaysia	MY

Executive Summary

The National Survey of Innovation 2000-2001 is the third national survey on innovation in the manufacturing sector to be carried out by the Malaysian Science and Technology Information Centre (MASTIC), Ministry of Science, Technology and the Environment. The objective of the study is to collect data on the state of innovation in the manufacturing sector during the period 2000-2001.

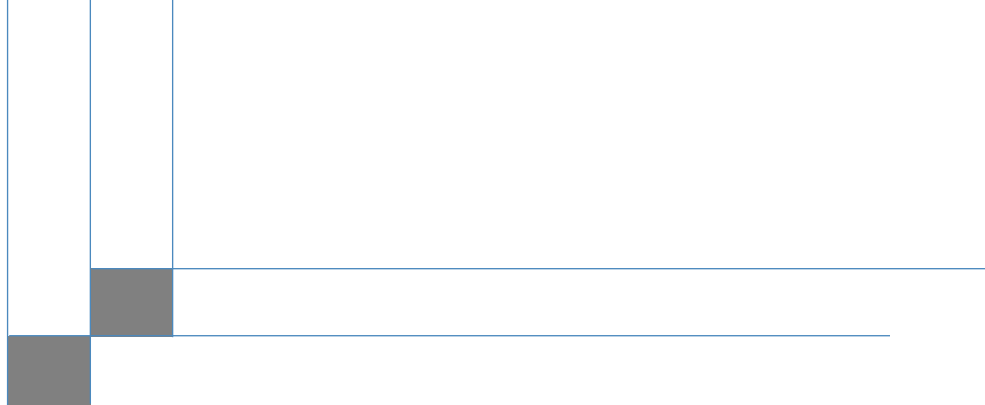
A total of 4,000 questionnaires were sent out to business establishments in the manufacturing sector. Of these, 749 complete questionnaires were received, giving a response rate of 19%. Of the 749 firms that completed the survey questionnaires, 263 firms indicated that they carried out innovating activities. In other words, about 35% of the firms that responded to the survey indicated that they carried out innovating activities.

The number of innovators varied from industry to industry in the manufacturing sector. Some sectors registered very low number of innovators such as the machinery and equipment industry n.e.c. (10%) and the wood products industry (16%). The highest numbers of innovators are found in industries such as electrical machinery and apparatus n.e.c. (67%), textile products (73%), scientific instruments (75%), motor vehicles (82%), radio, television and communications equipment (82%).

In terms of firm size, innovating activities tend to be carried out in larger firms. While majority of innovating and non-innovating firms tend to be locally-owned firms, foreign ownership presence is greater amongst innovating firms than non-innovating firms. Furthermore, most of the innovating firms (71%) are limited companies (Sdn.Bhd.) while a smaller proportion of non-innovating firms (44%) are limited companies. Some 51% of non-innovating firms are sole-proprietorship and partnership firms.

The largest number of innovating firms are to be found in industries such as food and beverages (35 firms or 14% of total number of innovating companies), publishing, printing and reproduction of recorded media (30 firms or 12%) and wearing apparel, dressing and dyeing of fur (29 firms or 11%).

In terms of geographical distribution, the top four states in Malaysia that are hosts to innovating companies are: Selangor (130 firms or 49%), Kuala Lumpur (68 firms or 26%), Penang (20 firms or 8%) and Johor (11 firms or 4%).



The survey also finds that about two-thirds of innovating firms (174 firms) in Malaysia are not subsidiaries of other firms. Of the 88 innovating firms that are subsidiaries of other companies, 60 of these firms have their headquarters located in Malaysia. The top locations for firms with foreign headquarters are Japan (13), Singapore (5), and the United States (4).

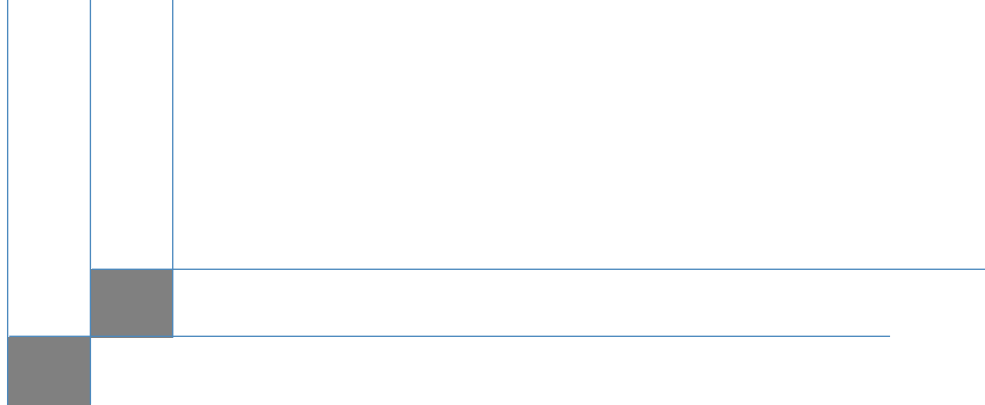
Most of the innovating companies were established within the period 1980-1999. Some 40% of the innovating firms were established in the period 1990-1999 while 25% of the innovating firms were established during 1980-1989.

The survey also indicates that innovation is carried by firms of all sizes. Some 45% of innovating firms are small firms (with less than 50 employees) while medium-sized (50-249 employees) and large-sized firms (more than 249 employees) account for 27% and 25% of total innovating firms, respectively. In terms of firm size measured by turnover, about 45% of innovating firms have annual turnover exceeding RM10 million.

Most of innovating companies (72%) are involved in both product and process innovation. Some 58% of innovating companies are reported to have on-going projects with product and process innovations.

From the survey, the most important objective for innovation is the improvement of product quality. Some 81% of all innovating firms cited this as an important objective of innovation. Other important objectives include the opening up of new markets or increase in market share (48%) and the extension of product range (47%). Only 33% of the innovating firms indicated government support as a highly important reason for undertaking innovation activities.

The most important sources of information for innovating firms are their clients or customers. Some 57% firms indicated this as a highly important source of information for innovation. Other important sources of information for innovation are within firms themselves (44%) and suppliers of equipment, materials, components or software (39%). It comes as no surprise that clients and suppliers are the major loci for cooperation for innovation (19 firms).



Around 96% of the innovating companies (or 246 firms) reported that they did not receive any government support or incentives. For those receiving government support, the most popular avenues are duty free importation of machinery or equipment (56 firms), tax incentives (22 firms) and technical support services (16 firms).

In terms of resources devoted to innovation, most firms spent less than RM100,000 per annum. Most of these expenditures are channelled towards R&D activities (256 firms), training (255 firms) and design (255 firms).

There are significant variations in the impact of innovation on firms' turnover across the various manufacturing industries. They range from as low as 10% (in the textiles industry) to as high as 91% (in fabricated metal products industry). For most industries, the impact of innovation on turnover falls into the range of 40-60%. A majority of innovating firms also reported that they are able to effectively and efficiently harness the fruits of innovation in terms of product development, efficient use of R&D, technological breakthrough and commercialization of new technologies.

In terms of factors hampering innovations, the most important factor is the high cost of innovation. Other important factors include lack of skilled personnel and lack of information on technology. Regulatory factors and organisational rigidities are not considered to be important factors hampering innovation.

Overall, the level and pattern of innovation in Malaysia's manufacturing sector is below that achieved in most developed countries in Europe. European countries with comparable levels of innovation include Finland (36%) and Belgium (34%). Similarly, the level of innovation expenditure as a percentage of turnover is still relatively low in Malaysia.

Malaysia: Key Socio-Economic Indicators, 1998-2001

	1998	1999	2000	2001
Population (million persons)	22.2	22.7	23.5	24.0
Labour Force (million persons)	8.8	9.2	9.6	9.9
Unemployment (as a % of labour force)	3.2	3.4	3.1	3.6
GNP Per Capita (at current price, RM)	12,080	12,305	13,333	12,867
Real GDP (RM billion)	182.2	193.3	209.5	210.5
Real GDP (RM billion)	172.8	179.7	190.5	192.8
% Change in real GDP	-7.4	6.1	8.3	0.4
GDP by Industrial Origin (RM, Constant 1987 Prices)				
Agriculture, forestry and fishery	17,512	17,575	17,687	17,906
Mining & quarrying	14,357	13,977	14,416	14,552
Manufacturing	50,900	57,761	69,867	70,007
Construction	7,241	6,926	6,996	7,340
Services	101,753	106,654	111,747	116,644
CPI (1994 = 100)	5.3	2.8	1.6	1.4
PPI (1994 = 100)	10.7	-3.3	3.1	-5.0
Merchandise balance (RM billion)	69.2	86.0	79.1	69.9
Services balance (RM billion)	-22.2	-31.6	-10.7	-8.4
Current account balance (RM billion)	37.4	47.9	32.3	27.7
Current account balance as a % of GDP	13.2	15.9	10.3	9.0
National debt (RM billion)	163.0	162.2	160.9	173.8
External debt service ratio	6.7	6.1	5.4	6.1

Sources: Bank Negara Malaysia Annual Report
Economic Report, Ministry of Finance