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*INSTITUT TEKNOLOGI MARA CAWANGAN SARAWAK*

# *PRODUCTION AND MARKETING PROBLEMS OF SMALL AND MEDIUM SCALE INDUSTRIES IN SARAWAK (A CASE STUDY)*

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*YAP YIN*
*NICHOLAS AMIN*

***ABSTRACT***

*Small and Medium Scale Industries have generated considerable interests among the academicians, the politicians and business sectors in the country. This is particularly evident from the numerous studies, various incentives and debates about them that have taken place lately in Malaysia. This keen interest is attributed to the fact that SMIs are regarded as the source of employment opportunities. They inspire entrepreneurs to become pioneers. SMIs also have potential roles to play in the developing economy. To date, however, there has not been any complete and serious study of the role of SMIs in Sarawak though data have been collected in the field. However, no in-depth analysis has been carried out so far. In an attempt to explore the situation currently prevailing in Sarawak, a study has been commissioned by the newly established Ministry of Industrial Development, Sarawak with the joint effort of MARA Institute of Technology, Sarawak Branch in 1989.*

*This paper is therefore an attempt to present the findings as well as to probe the peculiar problems faced by the SMIs in the manufacturing sector in Sarawak with regards to two key areas: production and marketing of their products. The study is based on the feedback through personal interviews from 620 SMIs from all over Sarawak and also from the feedbacks received from government agencies, financial agencies, banks and Non-Financial Public Enterprises (NFPE's).*

*The management and marketing of the establishments in eight selected industries will be discussed covering aspects on production and marketing. Findings such as the problems encountered in the development of industrial estates, implementation of process quality control, mechanisation and capacity utilisation of plants will be highlighted.*

*In the marketing of the finished products, most industrial establishments are besetted with numerous problems. Areas in marketing that will be discussed will include product demand pattern and product life cycle. Pricing systems and policies are among some of the areas being highlighted. In the concluding remarks, an attempt is made to discuss pertinent programmes that could be undertaken to*

*reduce the current problems face by industrialists in Sarawak in particular.*

## 1. INTRODUCTION

*This paper is based on the survey of the small and medium industries (SMIs) in Sarawak carried out in 1989. This survey was jointly conducted by the Ministry of Industrial Development, Sarawak and MARA Institute of Technology, Sarawak Branch. From a sampling frame of 783 manufacturing establishments provided by the Statistics Department of Sarawak in Kuching, a total of 620 or 79.2% of the establishments responded to the survey. Table 1 shows the distribution of manufacturing establishments while Table 2 shows the types of industries covered in the survey.*

*Table 1: Distribution of Manufacturing Establishments by Towns*

| *Towns* | *No. of Establishments* |
|---|---|
| *Kuching* | *370* |
| *Bintulu* | *17* |
| *Sibu* | *151* |
| *Miri* | *47* |
| *Others* | *35* |
| *TOTAL* | *620* |

*Note: In order to provide a general scenario of the manufacturing establishments in Sarawak no attempt is made to exclude the larger establishments (LIS). However, in order to have a clearer overview, the petroleum refinery, LNG plants and the ASEAN Bintulu Fertiliser Plants were excluded.*

*Table 2: Types of Industries*

| *Types of Industries* | *Industrial Codes* | *Number of Establishments* | *Percentage (%)* |
|---|---|---|---|
| *Food and Beverage* | 311-313 | 132 | 21.29 |
| *Wood and Wood Products* | 331-332 | 160 | 25.81 |
| *Paper, Printing and Publishing* | 341-342 | 56 | 9.03 |
| *Rubber Products* | 355 | 21 | 3.39 |
| *Plastic Products* | 356 | 22 | 3.55 |
| *Non-Metallic Mineral Products* | 361-369 | 58 | 9.35 |
| *Structural and Metallic Products* | 371-383 | 107 | 17.26 |
| *Ship-Building and Repair, Transport Equipment* | 384 | 31 | 5.00 |
| *Others: Textiles, Clothes Chemicals, Paints, Petroleum.* | 321, 322, 323,324, 351,352 385. | 33 | 5.32 |
| *TOTAL* | | 620 | 100.00 |

*Note : The Classification is based on the Malaysian Industrial Classification Codes.*

*Based on the census of manufacturing establishments in 1981, Sarawak accounted for 1,533 or 7.5% of the number of manufacturing establishments in the whole country. This sector also accounted for 3.28% of the total revenue generated by the manufacturing establishments in the whole country. Although the overall contribution seems insignificant, Sarawak with a land area slightly smaller than Peninsular Malaysia is rich in natural resources such as timber, petroleum, LNG and non-metallic mineral resources such as kaolinitic clay and silica sand.*

*According to the Economic Report 1989/90 of the Ministry of Finance, Sarawak accounted for 43.5% of the natural outputs in logs, 99% output in pepper and, together with Sabah accounted for 45% of the natural crude petroleum. The largest LNG plant in the country is also located in Sarawak.*

*Hence, Sarawak has the essential ingredients for its industrial development especially in the manufacturing sector.*

*The survey into the production and marketing profiles of the manufacturing establishments will help to indicate the existing level of development of the SMIs.*

*In this paper, pertinent variables to the problems of production and marketing are highlighted. The main problems in production are manufacturing costs, raw materials/components, level of technology, product design/preparation and quality control. In marketing, the problem areas are products and service promotion, channels of distribution, integration, costing in physical distribution and raw materials procurement policies. An attempt is also made to give recommendations as to how best these problems can be solved in the light of these findings.*

*Table 3: Vital Statistics of the Manufacturing Sector - Sarawak*

| YEAR | Number of Establishments | Number of Persons Engaged as at 31st December | Value of Output ($'000) |
|---|---|---|---|
| 1974 | 382 | 15,840 | 768,807 |
| 1975 | 402 | 15,509 | 466,320 |
| 1976 | 429 | 17,060 | 568,380 |
| 1977 | 432 | 18,295 | 578,232 |
| 1978 | 468 | 20,708 | 682,124 |
| 1979 | 471 | 20,708 | 879,235 |
| 1980* | N.A. | N.A. | N.A. |
| 1981# | 1,533 | 24,153 | 1,257,924 |
| 1982 | 606 | 20,845 | 1,235,512 |
| 1983 | 561 | 23,209 | 2,574,196 |
| 1984 | 680 | 22,654 | 3,615,823 |
| 1985 | 654 | 22,107 | 3,735,744 |
| 1986 | 690 | 21,513 | 3,009,398 |
| 1987 | 670 | 21,638 | 3,421,569 |

Source: *Census and Annual Surveys of Manufacturing Industries, Department of Statistics, Sarawak, 1987.*

Note: ** The survey was not conducted for the reference year 1980.*

*# Figures for the year 1981 refer to all establishments (Census) for all the other preceeding years. The data refer to selected establishments only.*

## 2. PRODUCTION

### 2.1 DEFINITION OF SMALL AND MEDIUM SCALE INDUSTRIES

*In order to provide for a more comprehensive study of the SMIs the 620 establishments which responded to the survey were classified in terms of total employment size and paid-up capital. The definition of small scale Industry (SSI) adopted by the Ministry of Industrial Development in Sarawak (and the research team) is a registered industry which has shareholders' funds or paid-up capital of M$500,000 or less. The definition for medium scale industry is an industry which has shareholders's fund or paid-up capital of more than M$0.5 million and below M$2.5 million. However, certain countries classify the size of SMIs according to their employment size. Those with less than 10 are classified as tiny or traditional, 10 and below 50 as small, 50 to 199 as medium and 200 and above as large. As such no attempt is made in this paper to discuss the problems of the SMIs strictly according to their employment size or paid-up capital. It is found that problems in production and marketing faced by any manufacturing establishment are linked to their employment size and paid-up capital.*

*The classification of the manufacturing establishments in terms of existing paid-up capital and total employment size given in Table 4 and 5 respectively. It can be seen from Table 4 that the SMIs account for 87.6% of all the establishments in terms of existing paid-up capital while using the total employment size classification SMIs account for 85% of the establishments. Sole proprietorship and partnership account for 51.8% of all the establishments while private limited companies constitute 44.5% of the rest of the establishments. Public limited companies account for only 3.2% of the establishments.*

*Table 4: Industry Size by Existing Paid-up Capital*

| INDUSTRY SIZE | EXISTING PAID-UP CAPITAL ($) | NUMBER OF ESTABLISHMENTS | | | |
|---|---|---|---|---|---|
| | | SUBTOTAL | % | TOTAL | % |
| SMALL | < 50,000 | 147 | 23.71 | 434 | 70.00 |
| | 50,000 & < 100,000 | 78 | 12.58 | | |
| | 100,000 & < 250,000 | 136 | 21.94 | | |
| | 250,000 to 500,000 | 73 | 11.77 | | |
| MEDIUM | > 500,000 & < 1M | 49 | 7.90 | 109 | 17.58 |
| | 1M & < 2.5M | 60 | 9.68 | | |
| LARGE | 2.5M AND ABOVE | 40 | 6.45 | 40 | 6.45 |
| NOT APPLICABLE | | 37 | 5.97 | 37 | 5.97 |
| TOTAL | | 620 | 100.00 | 620 | 100.00 |

*Table 5: Size of Industries According to Employment Size*

| INDUSTRY SIZE | NUMBER OF EMPLOYEES | NUMBER OF INDUSTRIES | | | |
|---|---|---|---|---|---|
| | | SUBTOTAL | % | TOTAL | % |
| SMALL | Up to 9 | 214 | 34.52 | 502 | 80.97 |
| | 10 - 49 | 288 | 46.45 | | |
| MEDIUM | 50 - 99 | 45 | 7.26 | 87 | 14.03 |
| | 100 - 199 | 42 | 6.77 | | |
| LARGE | 200 & above | 21 | 3.39 | 21 | 3.39 |
| NOT APPLICABLE | | 10 | 1.61 | 10 | 1.61 |
| TOTAL | | 620 | 100.00 | 620 | 100.00 |

## 2.2 *INDUSTRIAL ESTATES*

*Although industrial estates were established to cater for the SMIs, the study revealed that only 212 or 34.19% of the establishments are located in industrial estates. The majority of them tend to be located within the proximity of urban centres. This is further confirmed by the research team which observed many SMIs operating in residential areas in Kuching city and in Miri town. The establishments which operate in industrial estates did not give good rating to pertinent variables relating to site suitability, availability of capable workforce, supply of utilities and even the growth potential of the industrial estates.*

*The main grouses seemed to be the distance of the industrial estates to financial institutions and residential areas. Furthermore those SMIs operating outside industrial estates tend to use the premises as workshops, marketing outlets and homes. Hence, any attempt through legislations to force these SMIs to operate in the designated industrial estates may force them to close down. The reason is that additional expenses and management required to acquire an industrial lot in the estates and operating separate marketing outlets in the town centres may be beyond the financial and managerial capability of the SMIs. Perhaps a more integrated approach in the planning of industrial estates should be adopted taking into account the factors mentioned above.*

## 2.3 *CONTRIBUTION OF SMIs TO GROSS SALES AND VALUE-ADDED*

*To provide a picture of the relative productivity of the industries, their gross sales and value added for three financial years ranging from 1986 to 1988 have been analysed. There is 14.6% increase in total gross sales/ receipts from services rendered from 1986 to 1988. The three industries with the largest percentages in gross sales (1988) are the Wood and Wood Products Industry (43.26%), Food and Beverage Industry (22.53%) and the Structural and Metallic Products Industry (11.56%). The Lorenz curve is also used to highlight the disparity between percentage of gross sales and percentage of establishments (Figure 1).*

*Point B of the Lorenz curve shows that 60% of the establishments account for 6% of the gross sales while point C shows that 80% of the establishments account for 20% of the gross sales. Such disparities between percentage of gross sales and percentage of establishments imply that the small and medium sized establishments contribute very little to the total sales figure.*

*Figure 1: Lorenz Curve Showing Percentage of Establishments to Gross Sales (1987-88)*

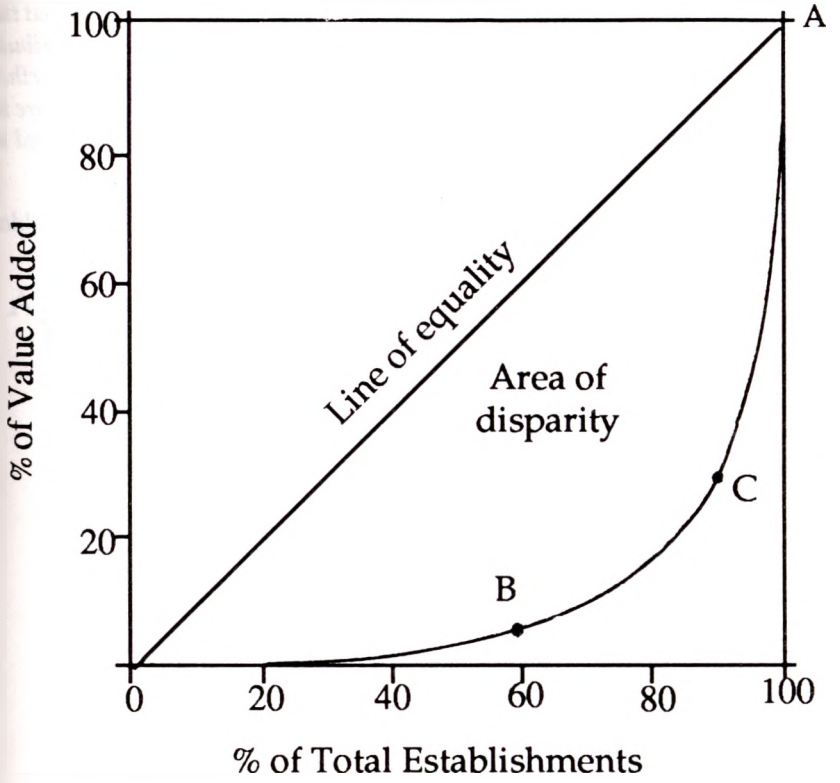
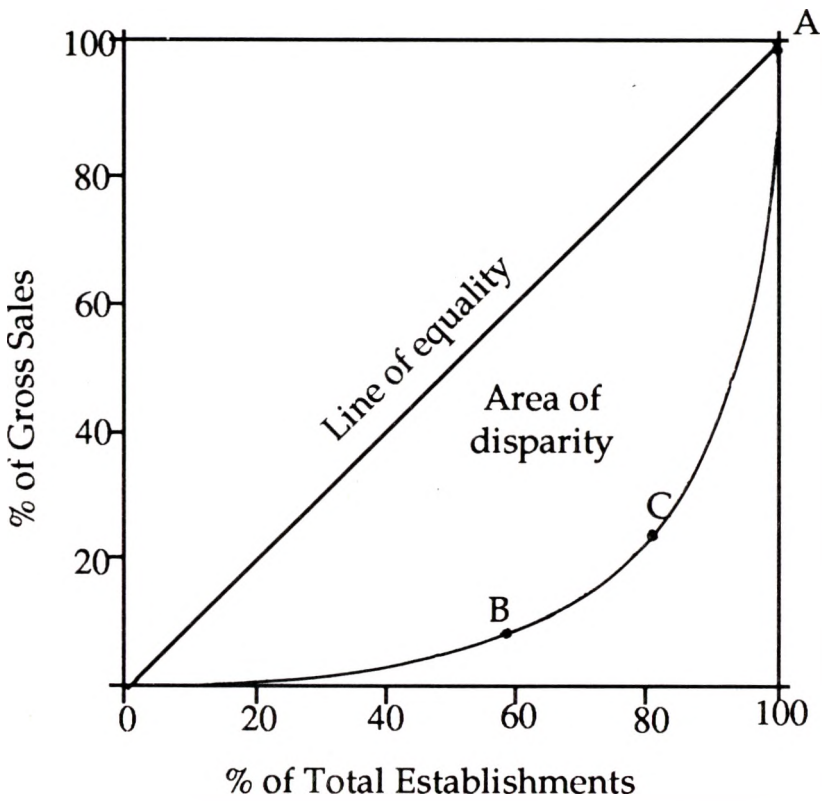


*Figure 2 shows that in terms of value added, the disparity is even greater. In fact, the curve indicates that 60% of all the establishments account for only 5% of the value added while 90% of all the establishments account for only 32% of the total value added. All these disparities suggest that the SMIs are mainly operating at a marginal level and do not contribute significantly to the value added in the production process. This is further substantiated by the finding that about 90% of the establishments are in fact partially mechanised. Thus, their contribution is small compared to the large industries in the state.*

*Figure 2: Lorenz curve showing the Relationship between Value Added and the Percentage of Establishments.*



## 2.4 *LEVEL OF TECHNOLOGY*

*The level of technology or the state of art used by the establishments in the production process has a great effect on the productivity and efficiency of the establishments. For this study, the level of technology used is classified into three levels namely fully manual, partially mechanised and fully mechanised. Fully manual is the simplest level while partially mechanised is the more sophisticated level which might be considered as intermediate by international standard. The study shows that only 33 or 5.32% of the establishments are fully mechanised or using more sophisticated technology. In spite of this situation, only 24% of such establishments plan to increase in both mechanisation and capacity. The rest of the establishments (57%) do not to have any changes to upgrade the level of technology. More than a third of those which choose to maintain the status quo feel satisfied with the existing set up while only 4% give lack of technological know-how as reason. Hence, it can be implied that the SMIs are mainly small family-owned establishments which are generally operating at sub-optimal level. They do not feel the need to upgrade the level of technology used. This may be due to lack of domestic demand as the majority of the products are for local consumption. Also the departure from the traditional production techniques may not be socially desirable especially in the context of family-run businesses where consensus has to be sought on any form of capital investment, expansion programme and modernisation plan.*

## 2.5 *PRODUCT DESIGN OR PREPARATON*

*The ability of the establishments to design their own products or formulate the preparations to meet local as well as overseas demand will help the establishments to gain access to new market and to gain a significant competition advantage. However,Table 6 shows that only 28.55% of the establishments design their own products or formulate their own preparations. About 31% either modify and copy, modify only or combine modification with their own design or preparations. Such a practice is much cheaper than that of designing their own product which is an expensive process in terms of time, costs and facilities involved. It could be inferred that the 28.55% of the establishments which use their own design or preparations have been using those handed down from "father to sons" and right down the line. This is especially apparent in the Food and Beverage Industry.*

*Table 6: Product Design or Preparation*

| *Product Design or Preparation* | *Number of Establishments* | *Percentage (%)* |
|---|---|---|
| *Own* | *177* | *28.55* |
| *Own and Modification* | *129* | *20.61* |
| *Modification only* | *14* | *2.56* |
| *Modification and copy* | *55* | *8.87* |
| *Copy only* | *41* | *6.61* |
| *Licensed* | *66* | *10.66* |
| *All of the above* | *58* | *9.35* |
| *Others* | *80* | *12.90* |
| *TOTAL* | *620* | *100.00* |

## 2.6 *QUALITY CONTROL*

*Quality can be defined generally as fitness for use. Specifically, according to the consensus definition in ANSI/ ASQC Standard A3 (1978), quality can be formally defined as "...the totality of features and characteristics of a product or service that bear on its ability to satisfy given needs."*

*Quality control, on the other hand is concerned with the operational techniques and the activities which sustain a quality of product or service that will satisfy given needs. The study of SMIs in Sarawak shows that only about one third of the establishments have quality control departments to ensure that the products or preparations produced or formulated satisfy the main dimensions of product quality such as design or specification, colour scheme reliability, durability and serviceability. This implies that two-third of the establishments do not regard quality assurance as a key management function. Out of the one-third or 228 establishments having quality control departments, 83.36% practice it in all stages of the production process starting from procurement of raw material/components to the final stages of packaging or delivery.*

*Table 7: Stages of Quality Control*

| *Stages of Quality Control* | *Percentage of Establishments with QC Department* | *Overall Percentage* |
|---|---|---|
| *Procurement or purchasing* | *84.35* | *31.01* |
| *Initial stage of production* | *86.13* | *31.67* |
| *Final stage of production* | *87.74* | *32.26* |
| *Storage* | *72.26* | *26.57* |
| *Transportation or delivery* | *86.32* | *31.73* |

*The findings in Table 7 tally with the findings that only 30% of the establishments give excellent rating in terms of quality satisfaction to five quality parameters. These parameters are design or specification, appearance or colour scheme, conformity to performance, conformity to safety and durability or serviceability. Such rampant disregard for quality control on the part of about two-thirds of the total manufacturing establishments could be due to the misconception that "quality costs too much". Perhaps this misconception is dispelled by the findings in Table 8 where the percentage of establishments from each industry having between 5% and under 10% of minor, major and critical defects are shown.*

*Critical defects are the characteristics which are crucial for the safety of the user or crucial for the functions of the products which deteriorate very rapidly with increasing deviations from the specified limits. These will be noticed by the customers and will result in complaints. Major defects are characteristics or functions which deteriorate fairly quickly with increasing deviations from specification limits. These will indirectly affect safety of the products and will probably be noticed by customers and may give rise to complaints. Minor defects, on the other hand, are characteristics or functions which deteriorate slowly with increasing deviations from specification limits. They may not be noticed by customers and probably will not result in complaints. It should be noted that any defect or nonconformity is not only due to poor design or manufactured quality but also due to the results of incomplete, inadequate, poorly planned and controlled manufacturing processes.*

*Such defects or non conforming materials, parts or finished products are either discarded or reworked. All these result in increased production costs. Table 8 also shows that in the Wood and Wood Products Industry, 21.79% of the establishments have between 5% and under 10% critical defects. If such defects are eliminated or reduced through the practice of quality control in all stages of the production process, the productivity of the manufacturing may be increased. Likewise the manufacturing and corporate costs may be reduced; prices of products and services may be reduced to enhance their marketability both at domestic and international levels.*

*The SMIs which do not have quality control department practice some form of quality control in the production process albeit using their subjective judgements, which may vary from establishment to establishment within the industry. As an initial step to promote the awareness of quality assurance, there is a need to introduce standards for each type of industry. Efforts by SIRIM should be complemented by the various Chambers of Commerce and Trade Associations.*

*It is hoped that eventually the SMIs could produce items or preparations which can conform to the SIRIM as well as those of the International Organisations for Standardisation (ISO). Many processed food or wood products could not be exported because of the lack of conformity to SIRIM, ISO or the American National Standards Institute (ANSI) specifications.*

*The conversion process of the SMIs in Sarawak is hampered by the following constraints:*

2.6.1 *89% of the production set-ups are partially mechanised with crude adaptations and modifications.*

2.6.2 *Inputs in terms of raw materials/components account for over 60% of the manufacturing costs.*

2.6.3 *Supply of raw material/components is lacking in quality and quantity, with long and unreliable lead time distribution.*

*The capacity utilisation of the establishments is not very high. From the overall perspective, those establishments which operate at between 60-80% capacity utilisation account for 37% of the establishments throughout the three consecutive financial years from 1986-1988. For those which operate between 80% to 100% capacity utilisation, the percentage of*

*establishments have improved slightly from 42.69% in 1986 to 46.25% in 1988. It should be noted that these are aggregates for the industries and there are variations between capital intensive processes such as the Plastic Products Industry which depends heavily on physical facilities and machinery for the conversion processes and the labour intensive conversion processes such as Food and Beverage Industry which is dominated by human skill.*

*Furthermore, in the context of the SMIs in Sarawak very high capacity utilisation may not be possible or even desirable because of the lack of continuous and steady domestic demand. In fact only 57.58% of the establishments indicated that the demand for their products is steady and continuous.*

*Table 8: Types of Industry by Products Defect of between 5% and under 10%*
*(Percentage of total establishments)*

| Types of Industries | Types of defects | | |
|---|---|---|---|
| | Minor | Major | Critical |
| Food and Beverage | 17.81 | 16.36 | 14.04 |
| Wood and Wood Products | 19.01 | 28.40 | 21.79 |
| Paper, Printing and Publishing | 27.08 | 35.90 | 17.65 |
| Rubber Products | 20.00 | 9.09 | 9.09 |
| Plastic Products | 7.14 | 11.11 | 18.18 |
| Non-Metallic Mineral Products | 11.90 | 7.14 | 6.25 |
| Structural and Metallic Products | 21.52 | 5.45 | 9.09 |
| Ship-Building and Repair, Transport Equipment | 18.75 | 28.57 | 25.00 |
| Others | 12.00 | 17.65 | 11.76 |

## 2.7 *RAW MATERIALS/COMPONENTS*

*Raw materials or components are the most important input in the conversion process. The SMIs in Sarawak are very dependent on*

*imported raw materials/components. The study shows that 42.58% of the establishments have to import the raw materials or components because local substitutes are inadequate or not available. The Plastic Products Industry is most dependent on import as 86.27% of the establishments import their raw materials or components.*

*Furthermore 72.73% of the establishments in the Plastic Products Industry import more than 50% of the raw materials or components. The other industries which import more than half of their raw materials or components are the Paper, Printing and Publishing Industry and the Structural and Metallic Products Industry. On the whole the SMIs face serious problems in procuring raw materials. 54.20% of the establishments experience shortages in the supply of raw materials one time or the other while 11.45% experience shortages all the time or most of the time. Indigeneous sources of raw materials or components are not available or insufficient for specific industries so they are forced to import the materials at considerably high costs.*

*In addition the SMIs also experience delay in the delivery of raw materials or components more than 50% of the time. With regards to the quality of raw materials or components, only 59.04% rate them as either good or excellent.*

## *2.8 MANUFACTURING COST*

*Manufacturers in general are concerned with cost minimisation in the production process. Hence there is a need to monitor the changing patterns in the components breakdown of the manufacturing costs. For this study, the total manufacturing costs are broken down into the following components;*

*2.8.1 Raw materials or components*
*2.8.2 Direct labour cost*
*2.8.3 Power and water consumption*
*2.8.4 Manufacturing overheads*
*2.8.5 Others*

*Over the past three financial years, raw materials or components account for about 62% of the total manufacturing cost. This could be due to freight charges as 42.58% of the establishments import their raw materials or components. In the Food and Beverage Industry, the cost of raw materials has gone over 66%. Perhaps this is one of the reasons why most of the*

*establishments absorb the 5% sales tax in order to remain competitive resulting in lower profit margins. The component breakdown of the Non-Metallic Mineral Products Industry also differs significantly from the overall components breakdown in the cost of raw materials and direct labour costs. This could be attributed to the availability of the raw materials locally for this industry as only 13.79% of the establishments import more than 50% of the raw materials. The high direct labour cost in this industry could be due to the shortage of skilled workers.*

*Hence, it can be concluded that although the SMIs in Sarawak account for 95% of the establishments, their contributions in terms of gross sales and value-added are insignificant. Besides using out-dated production machinery they have to cope with the high cost of imported raw materials or components of which the supply is unreliable in terms of delivery time, quantity and quality.*

*There is little inclination to make further capital investment through the upgrading of their production machinery. Plagued with these problems and coupled with a non-continuous unstable local demand, the SMIs do not generally emphasize on production planning or any quality control which , as we shall see later, will adversely affect the market for their products.*

## 3. *MARKETING*

### 3.1 *GENERAL PROFILE OR MARKETING*

*In any manufacturing establishment, marketing is a very vital element for its success or failure. Marketing originates from the desire to satisfy the wants or needs of the customers and not merely dealing with selling of products. Hence, marketing should satisfy the needs of the consumers by means of the product or service and the hosts of activities associated with creating, delivering and finally consuming it. (Kotler, et al. eds. 1988)*

*Out of the 620 establishments covered in the survey only 198 or 31.94% have marketing departments of which the Paper, Printing and Publishing Industry, the Rubber Product Industry and the Food and Beverage Industry have the highest number of establishments with such a department. The absense of a marketing department will adversely affect the effectiveness and efficiency of product/ services marketing. The establishment concerned is unable to penetrate the market or command a larger segment of the market. Such a situation arises because all efforts are*

*focused on production. Manufacturing establishments may have great technical competence or good quality products. Yet if they are not consumer-oriented, they may just fail as a business venture. Most establishments are more product-oriented rather than marketing-oriented. They are more concerned with selling the final product which may not be what the consumer needs. Truly marketing-minded or marketing-oriented establishments should try to create value-satisfying goods and services that the consumer wants to buy and not what they can produce based on what they think the consumer needs.*

*The total number of marketing staff for all the establishments under the study is 5,852 (24.16%) out of the total workers of 24,225. The highest number of marketing personnel is found in Wood and Wood Products Industry (1,428 or 24.40%), followed closely by the Structural and Metallic Products Industry (1,260 or 21.53%) and the Food and Beverage Industry (1,163 or 19.87%). It is generally observed that the bigger establishments tend to have more personnel in the marketing line compared to their smaller counterparts. Comparing the number of marketing personnel to the total employment size, it is generally found that marketing seems to be very much a neglected function when compared to other functions such as production and finance.*

*Most establishments (45.32%) do not conduct market feasibility or market research prior to the setting up of the establishments. They do not emphasize market planning. Without this, they would not be able to gauge or make a proper assessment of market expectations as well as the potentiality of the market which they are going to enter.*

*Market research is vital as it enables an organization, for instance, to keep abreast with the needs, preferences and buying habits of consumers in each segment of the market. It will enable the entrepreneurs to make decisions as to whether to go ahead or withdraw altogether from the venture so as to reduce risks.*

## 3.2 *PRODUCT/SERVICE DEMAND PATTERN*

*The ability of the manufacturing establishments to continue production and maintain growth or profitability depends very much on the demands for their products or services. Production is demand related. When there is a strong demand for a product or service, production would continue to grow parallel to the demand pattern. To depict this demand pattern five categories are identified namely: continuous and steady, seasonal, one-off,*

*fluctuating and others. On the whole, 57.58% or 357 establishments indicated the demand for their products/services as continuous and steady, 14.52% as seasonal, 5.97% as one off, 20.18% as fluctuating and 1.13% as others.*

*Paper, Printing and Publishing establishments stated the demand for their products as continuous and steady. Basically they have a captive market and their products or services have a rather steady and stable demand pattern over time as compared to other industries. They also have a relatively large local market. The other industrial establishments that have a similar demand pattern are the food and Beverage Industry (61.36%), the Wood and Wood Product Industry (61.25%) and the Plastic Products Industry (63.64%). The service-oriented industries experiencing the highest number of one-off demand are the Ship-Building and Repair, Transport Equipment Industry and the Structural and Metallic Products Industry. The demand pattern for the Rubber Products Industry, the Non-Metallic Mineral Products Industry, the Structural and Metallic Products Industry and the Ship-Building and Repair, Transport Equipment Industry experiences the highest percentages of fluctuation. In such industries, the demand pattern for their products is not consistent and it tends to fluctuate fairly widely.*

*It is discovered that most of the establishments have identified the market for their products but conceded that the market is too small to be profitable. Since the market is small and not profitable, only 40.81% of the establishments intend to appeal to the entire market in which they are operating. The majority of the establishments stated that they do not have a captive market. With the exception of Paper, Printing and Publishing Industry, all the other establishments cannot survive in a very much localised market like Sarawak.*

*This can be seen from the fact that the majority of the establishments do not wish to concentrate on a segment of their market as the segment is far too small. They also face stiff competition from the other larger establishments offering similar or related products. From this finding, therefore, most industries in Sarawak will need to export their products overseas or expand their market to other parts of the country if they want to maintain a certain degree of profitability and continued growth in the face of stiff domestic competition within the State. Market expansion either internally or overseas would be one of the ways to sustain their business in the long run.*

*The majority (68.39%) of the establishments either produce single product or service, or single products with variations. This implies that most manufacturing establishments in the state managed to survive for a long time solely by depending on a limited product range. This would expose them to extremely high risks of product changes and obsolescence. To overcome these short-comings, two strategies may be taken. Firstly, the product/service line should be extended by adding new products/services to reach new market segments and to replace the existing ones. This extension of product line is a key weapon in the fight for market share. Secondly, an attempt should be made to enhance the sales of the present lines through modification to improve quality, appearance and designs to meet changes in the needs of the customers.*

## 3.3 *PRODUCT LIFE CYCLE*

*The product life cycle is defined as the series of stages or phases through which a product moves from the time of its inception and development until its ultimate decline and disappearance from the market. The survey shows that 51.77% of the products are in the growth stage, 26.94% in the maturity stage and 15.97% in the saturation stage this being the prime target for the product obsolescence in time to come. The Introductory/Pioneer stage is far too low a figure at 3.55%. What can be inferred here is that most of the establishments are merely producing the same products over the past years. This is due to the fact that very little, if any, Research and Development (R&D) is undertaken during the years of operation and the slow entry of newer establishments with new technologies and products. The maturity/saturation stage accounts for 42.91% of the product life cycle of all establishments. As have been suggested earlier, there is a strong and urgent need to diversify or to extend the product life cycle if they want to remain competitive and continue to be profitable. To arrest product obsolescence, the establishments need to modify their products and identify new users and segment of the market through market research/survey and R&D. Another effort suggested is to adopt aggressive marketing strategies which include lowering prices to give a competitive edge over imports, organising product promotions and expanding distribution network.*

## 3.4 *PRICING POLICIES AND SYSTEMS*

*Price setting or any decision relating to prices is generally the sole domain of owner-managers. The survey, shows that most establishments (83.55%) adopt cost-plus pricing policy. This is easy to apply and also ensures that*

*profit covers more than the cost of production. Fixed pricing policy seems to be unpopular. Most establishments base their prices on their clients' purchasing power or ability to pay, the particular circumstances that prevail at the time of the deal or on quantity of purchase. Zone pricing is most commonly adopted among establishments such as Food and Beverage, Paper, Printing and Publishing, Plastic Products and Non-Metallic Mineral Products.*

*They can afford to adopt this pricing system because they cater for very localised or specific market. The findings of the survey, show shocking evidence that only 37.42% of the establishments know the maximum price that the customers will pay for their products or services although most stated that they are influenced by the competitors price. This ignorance may be due to lack of market research. Most are operating on a substance or survival basis taking into account short term gains vis-a-vis long term growth and development. Only 20% of the establishments stated that there are conventions or trade associations which regulate prices. In the absence of such a body, the individual establishment have to set their price arbitrarily and such indiscriminate pricing will have adverse effects on the customers and sales. Prices generally are inconsistent across the industry.*

*Very few SMI establishments (36.29%) have brand names or trade marks for their products. With very limited products line and unbranded products the establishments do not intent to instil brand loyalty or even brand consciousness for their products. Consumers perceive a brand as an intrinsic part of a product and would ,most likely use this brand as a basis to discriminate other products with regards to value, quality, costs or other features vis-a-vis against close rival brands. Brand names or trade marks are sparingly used because of the difficulty as well as the length of time taken to register them. Sarawak manufacturers have to register these trade marks/brand names in Kuala Lumpur. It is a daunting task for a small establishment especially with all the hassles involved.*

*The factors that greatly influence the pricing decisions taken by most manufacturing establishments are based on:*

3.4.1 *Capacity utilisation of the plants and machinery*

3.4.2 *Objectives of market shares*

3.4.3 *Objectives of future stability of business*

### 3.4.4 *Objectives of obtaining favourable profits*

*These policies are generally thought to be prudent as they appear to be the hallmarks for a business to survive on a long term basis. The establishments usually adopt a short term pricing policy and charge prices which include their profits. This must be viewed in the face of small markets, over concentration and stiff competition from within the industry itself and also from imports.*

## 3.5 *PRODUCTS/SERVICE PROMOTIONS*

*Promotions refer to all activities which communicate the merits of the products or services, so as to persuade the potential or target consumers to buy them. From the survey, the most popular media for promotion are newspapers (36.94%) because they are widely read and also cheaper, followed by trade journals (36.29%) and package display (24.68%). The lack of promotional efforts among establishments in Sarawak can clearly be seen from the above data. Most of establishments do not seem to emphasise regular/frequent promotions. They only advertise their product when the situation demands it. There is very little effort towards promoting their products. There are however, several reasons for this - they are operating in a very localised market, in the immediate vicinity; advertising/promotion campaigns are too costly for the smaller establishments and may not even produce the desired results. They cannot afford heavy expenses on promotion or advertisements since such efforts seem a total waste of money to them. The impact is minimal since they cater largely for local markets - more often within their immediate vicinity.*

## 3.6 *CHANNELS OF DISTRIBUTION*

*Most SMIs prefer to market their products themselves rather than through intermediaries. About 80% of the establishments perform their own selling and distribution function. This may be due to the small nature of the business which does not necessitate complex distribution networks. However, the larger establishments do have some systematic distribution and thus they are able to have wider distribution coverage and to export overseas. This is the weak link in the marketing system of the smaller establishments. Other common distribution chains are through retailers (36.29%) and wholesalers - retailers (36.13%)*

## 3.7 *INTEGRATION*

*To determine the linkage between the producer and the related suppliers or the distributors (both backward and forward linkages) the extent of integration between the parties concerned in production and marketing is studied and evaluated. It is believed that the integration or linkages between the interested parties will improve the overall efficiency of the manufacturing establishments in procuring the raw materials and in assisting the final distribution of the products to the consumers. Problems such as unreliable delivery, poor quality or insufficient order processing and final distribution can be reduced if such links exist. The survey shows that only a small number of establishments have any link with their suppliers and distributors. Most prefer to do it on their own as what we have seen earlier. Only 31.61% of the establishments market their products through wholesalers. Few manufacturing establishments market their products through sole-distributor outlets (9.35%) and 26.95% through retailers.*

*Only 5.16% of the establishments have investments in establishments that purchase/market their products. Likewise the suppliers of raw materials or components do not have any interest or involvement in the manufacturing establishments that purchase raw materials from them. This reflects the state or extent of independence of operations which prevails in all the industries in Sarawak. Late delivery, shortage of raw materials and negligence on marketing could lead to undesirable outcomes. It is important that the manufacturers; suppliers, distributors should forge a strong link in an effort to increase efficiency, overcome shortages, reduce costs of operations and improve market coverage.*

*Transportation cost seems to be a major problem affecting the manufacturing sector. Therefore, the distribution of goods and services can only be effectively carried out in the immediate vicinity or round the region/areas near the manufacturing establishments themselves as Sarawak is vast. The other major cost item in distribution is financing of the distribution itself. It costs quite a sum to transport goods even within the state and it entails heavy expenditure. These two costs are in fact related.*

## 3.8 *RAW MATERIALS PROCUREMENTS POLICIES*

*It is important that the establishments adopt a certain policy(ies) with regards to the procurement of their raw materials or components required for their production. The findings of the survey indicate that most*

*establishments (52.90%) purchase their raw materials based on their projected sales for the season. The majority of them (63.06%) consolidated their purchases from two or three principal suppliers. This makes them overly dependent on them. The comparison of the linkages between the suppliers and manufacturers show that the link is only minimal and the purchasing arrangements are more often based on relationship between the establishments or at the most merely transistional in nature. Most establishments have some performance of their evaluation system to assess the performance of their suppliers. Proper standard of assessment should be developed by the industry and trade associations so as to comply with the generally accepted standards such as SIRIM or ANSI or ISO specifications.*

*The manufacturing establishments have to adapt to the requirements of the market for survival. To do this the establishments must be consumer-creating and consumer satisfying which demand a lot more than merely production and selling. The entrepreneurs must possess visions of their business concerns and their roles in the industry. Since Sarawak has a small population, it would certainly make it more difficult to create big internal demand without thinking of exporting abroad. However, to do that product quality needs to be greatly improved to meet overseas standards and specifications.*

## 4. *CONCLUDING REMARKS*

*The survey shows that only 34% of the establishments are operating in industrial estates. Hence there is a need for the government to assess the overall suitability of the existing industrial estates instead of using legislation to force the so-called illegal establishments to be relocated in the designated industrial estates. If such a move is taken by the government, it might adversely affect the ability of the manufacturing establishments to continue their operations. The findings also show that the existing management of the industrial estates is more concerned with disposing of the industrial lots without much follow-up activities and extension work. These we feel are necessary to ensure that the industrial lots are utilised properly as originally planned. A more integrated approach on industrial estate management should be adopted to ensure continued growth and resilience and the estate management must be sensitive to the changing trends of the manufacturing establishments.*

*Gross inequality exists in terms of gross sales and value added between the SMIs and the large industries (LI) mainly because of the lack of production planning and old and inefficient production machinery among other reasons.*

*Extension services should be offered to the industries in order to give advice on production techniques and technology. On their own, SMIs would not be able to grow and update the level of technology unless there is an operational linkage among the industries at various levels. In most advanced countries like Japan, for instance, both the LIs and the MNCs are the main buyers from SMIs and thus they are the ones who set exacting standards. SMIs should follow their footsteps to improve their own quality and technology over time.*

*In marketing, various points have been raised. The main problem seems to be the escalating costs of raw materials and production together with increased transportation charges. Certain industries like the Plastic Product Industry which import 80% of the raw materials face the most problems. However, more resource-based industries (REIS) indigeneous to Sarawak like the Wood and Wood Products Industry and the Non-Metallic Mineral Products Industry could help to promote more down-stream activities, enhancing the value added. The study reveals that the market for SMIs are more localised as only about 20% export their products overseas. The majority of these are large industries such as sawn timber and ceramic titles. Most of the exports of SMIs have not reached "export quality" as yet. Thus, there is a need to upgrade the level of technology and the quality of output so that the entrepreneurs are able to meet the stringent international standards.*

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