CHAPTER 2

LITERATURE REVIEW

Since the late 1980's, small and medium scale industries in Malaysia have made significant contribution to the growth and expansion of our industrial sector and to the economy as a whole. This was clearly stated in all the seven Malaysia plans that incorporate SMIs as an important component in the growth and development of the industrial sector. Recently, the launching of Second Industrial Master Plan (IMP) had been designed to assist SMIs to keep abreast with developments in product and technology markets. The performance and problems faced by SMIs will be discussed in the second part in this chapter.

2.1 DEFINITIONS OF ENTREPRENEURSHIP

Although there is an increase interest in the field of entrepreneurship, a concise, universally accepted definition has not yet emerged. The term entrepreneur literally means “enterprising undertaker”, a combination of definition, with “enterprising” from English merges with “undertaker” from French. This means entrepreneur is defined as owner and manager of a business.¹

In the Middle Ages, the term entrepreneur was used to describe both an actor and a person who managed large production projects. In such large production projects, this person did not take any risks, but merely managed the project using the resources provided.²

Richard Cantillion developed one of the early theories of the entrepreneur and is regarded by some as the founder of the term. He viewed entrepreneur as a risk taker, and defined entrepreneur as someone who purchases goods and services at a certain price level and sells them later at an uncertain price level.


In the 20th century, Schumpeter emphasised the importance of innovation for the development of both the enterprise and society as a whole. He is the first to define entrepreneur as someone who is innovative, but places less emphasis on risk since he believes that both entrepreneurs and managers are subject to the risk of failure. It is not clear, however, just what spawns creativity and innovation, and what role the entrepreneur plays in fostering these phenomena.³

The concept of entrepreneur is further refined when principles and terms from a business, managerial, and personal perspective are considered. In this century, the aspects of entrepreneurship from psychological and sociological perspective have been explored. Recent definition of an entrepreneur is someone who "participates, in a meaningful proportion, in the ownership of a firm and who takes part in the decision relative to the general orientation and the solution of the everyday problems of that firm."⁴

According to Robert Hisrich, entrepreneurship is the process of creating something different with value by devoting the necessary time and effort, assuming the accompanying financial, psychological, and social risks, and receiving the resulting rewards of monetary and personal satisfaction. Therefore, the definition of entrepreneur covers many functions. Entrepreneur can be defined as someone or a group of persons as risk-taker, as an innovative person or a group of innovative persons, who start-up, own(s), and manage(s) an enterprise.⁵

2.2 THEORIES OF ENTREPRENEURSHIP

2.2.1 The Psychology and Sociology of the Entrepreneur

Basically, theories of entrepreneurship are derived from either sociological or psychological elements. Writers such as McClelland, Schumpeter, Hagen and Kunkel used the psychological approach whereas Weber, Cochran and Young

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presented sociological approach. The psychologist holds that over the normal range of variability of pecuniary incentives, the prime mover for risk bearing and innovation are certain non-materialistic, inner, psychic concerns — the analysis of which falls in the domain of the psychologist. The sociologist sees economic incentives as but one part of a larger system of sanctions based on the society's value and status hierarchy, which in its entirety will determine the extent of entrepreneurial activity.⁶

Max Weber and Schumpeter's theories on entrepreneurship have much in common. In fact, Schumpeter's central vision of the process of economic development was very much influenced by Weber. According to Weber, the key to competitive success for an entrepreneur is his innovation in a thoroughgoing rationalisation of every aspects of his enterprise. Schumpeter also emphasised on innovation, but his innovation includes changing the basic technological and demand parameters of the economy.

Weber viewed the key role of the Protestant ethic in the development of capitalism and entrepreneurial drive is one that sufficiently explains the economic development of the North Atlantic Community.⁷ Weber argued that a rigid rationalisation of a person's own conduct explains some of the extra determination and vigour with which Protestants pursued capitalistic enterprise.⁸ He thus laid the groundwork for efforts to understand the social and psychological origins of such key economic forces as rapid technological advances, specialisation of labour, population growth and energetic entrepreneurship.⁹

However, Schumpeter's entrepreneur is contrary to Weber's and to all other theories of entrepreneurial supply, where he viewed entrepreneur as not a function of some social, cultural, or religion variable. Schumpeter viewed economic leaders

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as individuals motivated by the will to possess power, who occur randomly in any ethnically homogenous population. Their special characteristics are an intuitional capacity to see things in a way that prone correct, energy of will and mind to overcome fixed habits of thoughts, and the capacity to withstand social opposition.\footnote{Joseph A. Schumpeter (1934), \textit{The Theory of Economic Development}, Cambridge, Mass.: Harvard University Press, pp. 85-89, cited by Peter Kilby, "Hunting the Heffalump", in Peter Kilby (ed.) (1971), \textit{Entrepreneurship and Economic Development}, New York: The Free Press, p. 7.}

According to Schumpeter, the role of entrepreneur is the key figure in economic development. He felt that the economy did not grow "naturally" or inevitably, or even steadily, but rather was pushed forward in sudden leaps by the activities of key men who wanted to promote new goods and new methods of production, or to exploit a new source of materials or a new market. The motivation was not merely profit, but also the "desire to found a private dynasty, the will to conquer in a competitive battle, and the joy of creating." Therefore, Schumpeter's entrepreneur is not entirely a rational, profit-oriented human being, who invest only on the basis of rational calculations.\footnote{Howard Aldrich and Catherine Zimmer, "Entrepreneurship Through Social Networks", in Donald L. Sexton and Raymond W. Smilor (eds.) (1986), \textit{The Art and Science of Entrepreneurship}, Massachusetts: Ballinger Publishing Company, p. 5.} Ever since Schumpeter revived interest in entrepreneurship, many economists and sociologists who are interested in economic development insisted on the importance of entrepreneur.

McClelland's theories can be seen as a development of Weber's Protestant ethic where psychological motive is used to derive the theory of entrepreneurial development. Much like Hagen, McClelland ascribed the inculcation of the achievement motive to child rearing practices that stress standards of excellence, material warmth, self-reliance training, and low father dominance. However, the background of Hagen's work was not of the European and American experiences but rather in the context of contemporary underdeveloped countries of Asia and Latin America. Hagen's theories on economic development did not stress on the spread of markets, capital accumulation, the perception of profitable opportunity, or willingness to save that were stressed by other economic theories. Hagen perceived economic development as a process of technological change that is brought about by the society as a whole. Entrepreneurs were perceived as creative problem solvers driven by a duty to achieve.
According to McClelland, a person with high need for achievement "is likely to be interested in and able to do well at business, for business requires that people take moderate risks, assume personal responsibility for their own performance, pay close attention to feedback in terms of costs and profits, and find new or innovative ways to make a new product or provide a new service."\textsuperscript{12}

Another study by McClelland using a large number of college alumni who had graduated fourteen years earlier, and scored high in n-Ach during their school days, that most of them are in business. Therefore, McClelland concluded that high n-Ach would influence a young man to select entrepreneurial occupations. Other research by McClelland and Winter also showed that an entrepreneurial training programme designed to increase the level of n-Ach in India had produced disproportionately large numbers of businessmen and almost certainly have shown higher levels of need for achievement.\textsuperscript{13}

All of McClelland's early studies used a rather general definition of entrepreneurial occupations. For instance, in the 1965 study McClelland considered occupations such as salesman (except clerical sales), management consultant, fundraiser, and officer of a large company as well as actual owners of a business as entrepreneurial.

Komives\textsuperscript{14}, however, measured the n-Ach values of 20 high-technology entrepreneurs who tended to be successful. Using Gordon's "Study of Personal Values," he found that these entrepreneurs were high in the achievement and decisiveness categories. However, in a study of 307 graduates of a university business school, Hull, Bosley, and Udell found that n-Ach was a weak predictor of an individual's tendency to start a business.


\textsuperscript{13} Ibid., p. 459.

However, the causal link between ownership of a small business and a high need for achievement has yet to be proven. There is still no research being undertaken to determine if there is a correlation between the decision to start a business and a high need for achievement.

Rotter believed that need for achievement is related to the belief in internal locus of control. He hypothesized that individuals with internal beliefs would more likely strive for achievements than would individuals with external beliefs. However, research had shown that internal beliefs do not differentiate entrepreneurs from managers, it could possibly help to distinguish between successful and unsuccessful entrepreneurs.

Howard Aldrich and Catherine Zimmer stated that the personality approach substantially underpredicts the extent of entrepreneurship in the United States as it overstates the extent to which entrepreneurs are different from others. Over their lifetimes, many people attempt, or at least strongly consider, setting up their own business. Hundreds of thousands try every year, and tens of thousands succeed in carrying through by establishing businesses that survive and prosper. All these people cannot be deviant, different, or special, possessing personality traits that the others lack. Therefore, they argued that if this approach considered both the proportion of adults expressing an interest in self-employment and the proportion that actually attempt it, then over half the population must possess "entrepreneur traits".

2.2.2 Entrepreneur and Innovation

Innovation is an important role of entrepreneur. Innovation will result in socioeconomic growth and diversification of an economy, thus meeting the changing

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needs of both the enterprise and society as a whole. According to Peter F. Drucker, innovation and entrepreneurship are not "root and branch" but "one step at a time," a product here, a policy there, a public service yonder; because they are not planned but focused on this opportunity and that need; because they are tentative and will disappear if they do not produce the expected and needed results; because, in other words, they are pragmatic rather than dogmatic and modest rather than grandiose—that they promise to keep any society, economy, industry, public service, or business flexible and self-renewing.\textsuperscript{17}

According to Schumpeter, innovation is defined as setting up of a new production function: this function describes the way in which quantity of product varies if quantities of factors vary. If, instead of quantities of factors, we vary the form of the function, we have an innovation.\textsuperscript{18} Schumpeter thus distinguished five types of innovation: (1) developing new products or services that is an improvement in the quality of an existing one, (2) introducing new methods of production that increase productivity, (3) identifying new markets, in particular penetration of new territories and foreign markets, (4) discovering new sources of supply of raw materials or intermediate manufactured goods, and (5) creating new forms of organisations, such as the creation or the breaking up of a monopoly position.

Innovation made by entrepreneurs usually occurs outside large corporations because entrepreneurs do not perform well in bureaucracies. According to Schumpeter, successful innovation requires an act of will and not intellect. Therefore, leadership is a heterogeneous characteristic of an entrepreneur, so that an entrepreneur has the power to make use his knowledge. Schumpeter noted that:

While differences in aptitude for the routine work of "static" management only results in differences of success in doing what everyone does, difference in [leadership] aptitude result in only some being able to [undertake] uncertainties incident to what has not been done before.... To overcome these difficulties incident to change of practice is the function of the entrepreneur.\textsuperscript{19}


Therefore, Schumpeterian entrepreneur is a special kind of creative person, where imagination is more important than knowledge. Entrepreneur is a person who brings about growth in both the enterprise and society as a whole through changes or the setting up of a new production functions.

According to Wayne G. Broehl\textsuperscript{20}, sometimes an innovation in the less developed world becomes an innovation in world-wide terms, because their innovations have occurred in the developed world. In rural areas of the less developed countries, there appears to be little or no true innovation; indeed, there seem to be no entrepreneurs. However, a closer look reveals a special form of innovation: the adaptation of a concept from the developed world to the special constraints and opportunities of the less developed world. This process can be known as "meta-innovation."

2.2.3 Entrepreneurship in Economic Development

Economists have seen the importance of entrepreneur as the key to investment in expanding production capacity for economic development since the days of Schumpeter. Economic theory on entrepreneurship touches on both the supply and demand sides of the market. From Adam Smith to J. M. Keynes, supply side considerations have dominated economic theory on development. The role of the entrepreneur on the supply side of the economy is seen as one who brings about the technological change, who lowers costs by adopting mass production techniques, thus obtaining a competitive advantage over his rivals.\textsuperscript{21}

The focus has switched in the past few decades where early economists felt that insufficient total spending is the inhibiting factor in the development process. The economists who operates in the main stream of this discipline assumes that the supply of entrepreneurial services is highly elastic and that failures in entrepreneurship are attributed to maladjustment in the external environment. Thus,

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the determinants of entrepreneurial performance lie on the demand side and not the supply side, where entrepreneurs will only invest when there exist profitable opportunities.

The Harrod-Domar models stated that entrepreneur invests because of changes in income. A given level of investment is maintained as long as income is sufficient to purchase the products generated by new investment. However, if the capacity created by new investment grows faster than the income induced, investment in the next period will collapse. These models were criticised by the neo-classical school as too inflexible because the theory assumes a rigid relationship between labour and capital, and that economic growth has proceeded at a faster rate than can be explained by the expansion of capital. Moreover, the theory also fails to explain the role of entrepreneur and the impact of technological advances.

The neo-classical school has improved on the Harrod-Domar models by allowing for variance of the capital-to-labour ration and the substitution of one factor for the other, and indicates that imbalances in factor prices will lead to entrepreneurial opportunity. Neo-classical economic theories view entrepreneur as rational, isolated decision makers. It is the entrepreneur's foresight and ability to invest in profitable activities after having all the required and relevant information. Therefore, without profit motive, entrepreneurship will not exist in sufficient quantity to stimulate socio-economic growth. Modern macroeconomics assumes that if total demand is high enough, entrepreneurial innovation will be an automatic response.

However, Howard Aldrich and Catherine Zimmer argued that economic approaches fail to recognise the embedded nature of economic behaviour. They gave examples on American farmers on how decision makers behave in a true competitive market, automated and confined to taking individual actions that are futile in the face of unintended collective outcomes. These farmers are influenced by their relations with others such as bankers and commercial credit lenders, agricultural extension agents, and the farm oriented business process. Therefore, Aldrich and Zimmer suspect that those forgers who are best off today are precisely those who

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22 Howard Aldrich and Catherine Zimmer, "Entrepreneurship Through Social Networks", in Donald L. Sexton and Raymond W. Smilor (eds.) (1986), op. cit., p. 6-7.
were most uninformed and socially isolated over the past decade, thus avoiding the influence of expansionist-oriented influentials.

2.2.4 Characteristics of Entrepreneurs

John A. Welsh and Jerry F. White\textsuperscript{23} come out with various characteristics that describe entrepreneurs.

1. Basic Need to Control and Direct

Entrepreneurs do not function well in traditional structured organisation and do not want authority over them. They need maximum responsibility and accountability and are responsible for success or failure. Goals achieved are abandoned for greater goals. This need is not for power over people but for freedom. They are action oriented, independent and self-reliant.

2. Self-Confidence

Entrepreneurs believe that they have the ability to achieve the goals they set. So long they are in control they are persistent in their pursuit of objectives. Conversely, their self-confidence fades exponentially with loss of control.

3. Drive

Entrepreneurs have high amounts of personal energy and drive. They exhibit a never-ending sense of urgency to do something. Inactivity makes them tense and impatient. When things are going well they will often start something new or change what they have done. They possess the capacity to work long hours.

4. Challenge Taker, Not Risk Taker

Entrepreneurs prefer to take moderate, calculated risks rather than high risks (gambles) or no risks (sure things). They are highly motivated by a challenge in which the outcome is influenced at least as much by their ability and effort as by chance.

5. Superior Conceptual Ability

Entrepreneurs possess the intellectual ability to quickly identify relationships among functions and things in the midst of complex and confused situations. They perceive order and are not troubled by ambiguity and uncertainty. They are able to identify and solve a problem faster than other people around them.

6. Perspective of a Generalist

Entrepreneurs seem to have a general overview of the entire situation while they plan, make decisions and work in specific areas. They are aware of important specific immediate detail, aware to find further information if it is needed and aware of any possible alternatives.

7. Realistic

Entrepreneurs accept and deal with things the way they are. They just want to know how it works and do not concern much about the regulations. News and information must be timely and accurate for them. They want to measure and be measured especially on their performance.

8. Sufficient Emotional Stability

Entrepreneurs have considerable self-control and are able to handle anxieties and pressures of business and other problems. They are challenged rather than discouraged by setbacks or failure. They have the ability to use failure as a way of learning.

9. Low Need for Status

Entrepreneur status needs are satisfied by their achievement rather than their physical appearance. They do not hesitate to request especially in areas outside their expertise where they are not expected to know.

10. Objective Interpersonal Relationships

Entrepreneurs are more concerned with people’s accomplishments than with people’s feelings. They generally avoid becoming interpersonally involved in depth. During the period of building the business, when resources are scarce, they do not
devote time or assets to satisfying people’s feelings beyond what is essential to achieving operational effectiveness and efficiency.

2.3 SMALL AND MEDIUM SCALE INDUSTRIES IN MALAYSIA
2.3.1 Definition of Small and Medium Scale Industries

The definition for small and medium scale industries (SMIs) changes from time to time, and also vary by country. There is no single accepted definition. Various definitions have been used by government agencies and researchers in this field, based on particular purposes. Some definitions are based upon the amount of paid-up capital, the number of employees, the nature of the business, equity, and so on.

Majlis Amanah Rakyat (MARA) and Ministry of Finance defined small scale industries as having net assets or shareholders’ fund of up to RM500,000. The New Principal Guarantee Scheme (NPGS) of the Credit Guarantee Corporation (CGC) categorised SMIs as manufacturing establishments with shareholders’ funds or net assets of up to RM2.5 million.

The Industrial Technical Assistance Fund (ITAF) also defined SMIs as having shareholders’ fund or capital of similar amount. The SMI Census and Study 1993/1994 conducted by Ministry of International Trade and Industry (MITI), defined SMIs as manufacturing establishments with a paid up capital below RM2.5 million and employing five or more full time workers. The Small Enterprise Division of MITI defined a small scale industry as one with paid up capital of below RM500,000 or having less than or equals to 20 full-time employees, while a medium scale industries as one with paid up capital between RM500,000 to RM2.5 million or having 21 to 100 full-time employees.

Researcher also have their definitions for SMIs based on particular purpose. Research on SMIs carried out by Prof. Fong Chan Onn in 1986 defined SMIs as manufacturing establishments with fixed assets of less than RM2.5 million and/or have less than 75 full-time workers. Pazim @ Fadzim Othman and Mohd. Rosli Mohamad in their study defined small scale industry as one having less than 20 full-time employees, while medium scale industry as one having 20 to 99 full-time employees.
Ismail Muhd. Salleh\textsuperscript{24} categorised industrial enterprises into four main categories, namely tiny, small, medium and large scale industries. He based the definition upon number of employees. Tiny scale industries are firms employing less than five people while small scale industries have between five and 49 employees. Medium scale industries are firms that employ between 50 to 199 employees, while large scale industries are those employing more than 200 people. In this study, the definition by Small Enterprise Division of MITI is adopted, which was already discussed in Research Framework in Chapter 1.

2.3.2 Performance of SMIs

The SMI Census and Study 1993/1994 conducted by MITI had identified a total of 12,108 SMIs in the country. The census covered a total of 11,545 SMIs, where 83 percent are small scale industries while 14 percent are medium scale industries. Among the 13 states covered in the study, SMIs have the highest numbers in Johor (18 percent), Selangor (18 percent), Perak (13 percent), Pulau Pinang (11 percent) and Kuala Lumpur (10 percent). Majority of the SMIs were found to engage in four main sectors, namely food, beverage and tobacco (20 percent), fabricated metal products, machinery and equipment (18 percent), wood and wood products (16 percent), and textile, wearing apparel and leather (12 percent).

Table 2.1 shows the percentage share of small, medium and large scale industries for 1981, 1984, 1987 and 1991. Small scale establishments showed a significant decrease in number from 77.01 percent in 1981 to only 24.33 percent in 1991. Gross value of output, value added, total number of employees and fixed assets of small scale establishments also showed a continuous decrease in percentage share. This decrease was quite significant during the second half of 1980's, probably due to foreign investor's response towards the favourable fiscal incentives offered under the Industrial Master Plan (IMP) launched during the Fifth Malaysia Plan period, 1986-1990.\textsuperscript{25}

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Table 2.1: Percentage Share in Total by Size of Industries*, 1981-1991.

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<tr>
<td><strong>Number of establishments</strong></td>
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<tr>
<td>Small</td>
<td>77.01</td>
<td>34.38</td>
<td>33.18</td>
<td>24.33</td>
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<tr>
<td>Medium</td>
<td>17.71</td>
<td>47.38</td>
<td>45.81</td>
<td>45.84</td>
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<td>Large</td>
<td>5.28</td>
<td>18.24</td>
<td>21.01</td>
<td>29.83</td>
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<tr>
<td><strong>Gross value of output</strong></td>
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<tr>
<td>Small</td>
<td>6.44</td>
<td>1.95</td>
<td>1.76</td>
<td>1.08</td>
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<tr>
<td>Medium</td>
<td>22.49</td>
<td>19.88</td>
<td>20.26</td>
<td>13.81</td>
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<tr>
<td>Large</td>
<td>71.07</td>
<td>78.17</td>
<td>77.98</td>
<td>85.11</td>
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<tr>
<td><strong>Value added</strong></td>
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<td></td>
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<tr>
<td>Small</td>
<td>7.65</td>
<td>2.18</td>
<td>2.03</td>
<td>1.14</td>
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<tr>
<td>Medium</td>
<td>17.03</td>
<td>17.92</td>
<td>17.57</td>
<td>12.59</td>
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<td>Large</td>
<td>75.32</td>
<td>79.90</td>
<td>80.40</td>
<td>86.27</td>
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<td><strong>Total number of employees</strong></td>
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<tr>
<td>Small</td>
<td>14.84</td>
<td>4.58</td>
<td>3.92</td>
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<tr>
<td>Medium</td>
<td>26.37</td>
<td>26.10</td>
<td>23.27</td>
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<td>Large</td>
<td>58.79</td>
<td>69.32</td>
<td>72.81</td>
<td>86.27</td>
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<td><strong>Fixed assets</strong></td>
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<tr>
<td>Small</td>
<td>6.03</td>
<td>2.03</td>
<td>1.82</td>
<td>0.97</td>
</tr>
<tr>
<td>Medium</td>
<td>23.66</td>
<td>15.75</td>
<td>14.62</td>
<td>11.62</td>
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<tr>
<td>Large</td>
<td>70.31</td>
<td>82.22</td>
<td>83.56</td>
<td>87.41</td>
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</tbody>
</table>


Note: *Small scale industries refer to enterprises employing less than 20 full-time employees, while medium scale industries refer to enterprises employing between 20-99 full-time employees.

Table 2.2 shows the performance of manufacturing sector by size of industries in 1981, 1984, 1987 and 1991. There is a significant increase in labour productivity from 1981 to 1991 (843 percent). Medium scale industries show the highest growth rate (988 percent), followed by small scale industries (941 percent) and large scale industries (683 percent) in labour productivity for the same period. Capital productivity and total factor productivity also show relatively high growth rate. However, the small and medium scale industries performed better as compared to the large scale industries for labour productivity, capital productivity and total factor productivity for the same period. As for large scale industries, their total unit cost are lower as compared to the small and medium scale industries. Large scale industries are also more capital intensive than SMIs.
Table 2.2: Performance of Manufacturing Sector by Size of Industries, 1981-1991

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<tr>
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<tbody>
<tr>
<td>Labour productivity (RM'000)</td>
<td>3.38</td>
<td>24.65</td>
<td>25.72</td>
<td>31.88</td>
</tr>
<tr>
<td>Small</td>
<td>1.74</td>
<td>11.74</td>
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<td>2.18</td>
<td>16.92</td>
<td>19.41</td>
<td>23.71</td>
</tr>
<tr>
<td>Large</td>
<td>4.33</td>
<td>28.42</td>
<td>28.41</td>
<td>33.92</td>
</tr>
<tr>
<td>Capital productivity (RM'000)</td>
<td>5.51</td>
<td>19.88</td>
<td>17.01</td>
<td>19.93</td>
</tr>
<tr>
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<td>18.97</td>
<td>23.62</td>
</tr>
<tr>
<td>Medium</td>
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<td>22.62</td>
<td>20.43</td>
<td>21.59</td>
</tr>
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<td>Large</td>
<td>5.91</td>
<td>19.32</td>
<td>16.36</td>
<td>19.67</td>
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<td>Total factor productivity (RM'000)</td>
<td>0.62</td>
<td>2.98</td>
<td>2.79</td>
<td>3.12</td>
</tr>
<tr>
<td>Small</td>
<td>0.54</td>
<td>2.15</td>
<td>2.22</td>
<td>2.60</td>
</tr>
<tr>
<td>Medium</td>
<td>0.43</td>
<td>2.43</td>
<td>2.38</td>
<td>2.59</td>
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<tr>
<td>Large</td>
<td>0.69</td>
<td>3.19</td>
<td>2.93</td>
<td>3.23</td>
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<tr>
<td>Capital-labour ratio (RM'000)</td>
<td>18.04</td>
<td>36.48</td>
<td>44.48</td>
<td>41.03</td>
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<tr>
<td>Small</td>
<td>7.33</td>
<td>16.17</td>
<td>20.62</td>
<td>22.55</td>
</tr>
<tr>
<td>Medium</td>
<td>16.18</td>
<td>22.00</td>
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<td>Large</td>
<td>21.57</td>
<td>43.27</td>
<td>51.05</td>
<td>50.71</td>
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<tr>
<td>Total unit cost (RM'000)</td>
<td>1.02</td>
<td>0.81</td>
<td>0.81</td>
<td>0.81</td>
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<tr>
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<td>1.04</td>
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<td>0.82</td>
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<tr>
<td>Large</td>
<td>1.01</td>
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</tbody>
</table>


SMIs is also a main supplier of parts and components to large-scale industries or multinational corporations. Therefore, this sector plays a crucial role in the process of widening and deepening of the nation’s industrial base. Furthermore, SMIs also creates entrepreneurs who are one of the key force in providing socio-economic growth. Widespread socio-economic growth thus generates a more equitable distribution of wealth that has been emphasised by the government since the launching of New Economic Policy. Moreover, the creation of entrepreneurs will further create more employment opportunity and at the same time provide supplementary income to rural citizens. However, its contribution to value-added and employment is still low (about 15 percent and 20 percent respectively in 1989) as compared to SMIs in other countries such as Singapore (22 percent and 40 percent), Taiwan (55 percent and 70 percent), Hong Kong (57 percent and 70 percent) and South Korea (38 percent and 66 percent).

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2.4 PROBLEMS FACED BY SMI s

There are various problems confronting SMI s in Malaysia. Some of the problems are also similar to those faced by their large scale counterparts. However, there are some problems that appear to be peculiar to small and medium scale enterprises, especially due to their small size. Broadly, the problems of SMI s can be grouped accordingly: narrow industrial base, shortage of labour, inadequate technical and managerial know-how, difficulties in getting raw materials, inadequate linkages with large scale enterprises, inadequate financial support, excess capacity, limited market and lack of export penetration.

2.4.1 Narrow Industrial Base

One of the problems is that SMI s are still characterised by a narrow industrial based and still concentrated on food manufacturing, wood-based products and light engineering. This eventually lead towards weak inter-industry linkages. This attitude is the result of the emphasis by government on certain industries such as food processing, wood-based products, and light engineering. In order to achieve the objective of widening and deepening the industrial base, government should emphasise on capital intensive production process, encourage on high value-added and high technology industries.

2.4.2 Inadequate Linkages with Large Scale Enterprises

There is lack of linkages and complementarity in both the resource-based and non resource-based industries. The resource-based industries have low forward-based linkages, thus resulted in low value-added activities. In Japan, 60 percent of the SMI s are involved in subcontracting whereas there is only a small numbers of SMI s in Malaysia (13.8 percent) produce intermediate goods for the large enterprises and MNCs. Generally, Malaysian SMI s are less competitive compared to SMI s in the newly industrialised countries.

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29 Ismail Muhd. Salleh (1990), op. cit., p. 17.
Lack of inter-industry linkages between large companies and SMIs was due to the quality of products manufactured by SMIs, where some MNCs indicated that the reluctance in sourcing component parts from local SMIs were due to their concern for quality. Some MNCs and large companies indicated that some SMIs are more concerned over short term profit and benefit and lack of long term planning especially based on forecasted changes in market and technology. SMIs often perceived quality as additional costs, thus made them unaware of quality, which is a major concern for many MNCs and large enterprises. Furthermore, SMIs have insufficient quality control, improper storage of semi-finished and finished products, and insufficient machinery and equipment have resulted in poor quality of their products. All these had contributed to the lack of intra-industry linkages.

Lack of inter-industrial linkages between MNCs and domestic industries, particularly SMIs, is a major reason for the high import content of manufacturing activities in Malaysia. The government had observed that strong intra-industry linkages are necessary for accelerating the process of technology transfers, development of R&D, development of a large pool of dynamic entrepreneurs who can provide socio-economic growth and also to reduce the dependence of imported parts and machinery.\textsuperscript{30} Therefore, the Sixth and Seventh Malaysia Plan focus greater on enhancing intra-industry linkages and improving the capability of SMIs particularly on supportive industries to supply the required production inputs for LSIs and MNCs, and at the same time to penetrate foreign markets.

2.4.3 Dependence on Imports of Raw Materials, Intermediate Products and Capital

SMIs also heavily dependence on imports of raw materials, intermediate products and capital. SMIs also face problems such as non-availability of raw materials, poor quality of raw materials supplied and the rising cost of raw materials. Imports of intermediate goods as a percentage of manufactured exports stands at about 85 percent, while about half of the value of investment is in the form imported capital goods.\textsuperscript{31} Furthermore, shortage of raw materials also causing high and uneconomical input costs. Many of the non-resource-based industries, such as ship building and ship repairing, the electrical and electronics industry, the textile and


\textsuperscript{31} Ibid.
apparel industry and the transport equipment industry are heavily dependent on imports. In 1991, imports of parts and components of electrical and electronics industry registered at RM29.7 billion, increase to RM39.6 billion in 1993. In 1995, raw materials was the major component, accounting for 81.1 percent of total production cost. Of the total raw materials purchased, 56 percent were imported from abroad and the remaining 44 percent were sourced locally.

2.4.4 Shortage of Labour

Labour shortages and high labour turnover is also a major problem confronting the SMIs. The decline of unemployment rate from 2.9 percent in 1994 to 2.8 percent in 1995 further contribute towards high turnover and upward pressure on wages. Hence, SMIs are unable to retain and attract skilled labour. Furthermore, the persistent shortage of both skilled and unskilled labour have caused an upward pressure on wages. This problem often arises in the operation of SMIs because such enterprises generally offer relatively low wages and fringe benefits as compared to other large scale enterprises. Survey of Companies 1995 conducted by Bank Negara Malaysia also shows that the average nominal wage increased by 10.4 percent in 1995 (13.1 percent in 1994) and is forecasted to increase further. Shinichi Saito in The National SMI Conference 1996 stated that 68.9 percent of the respondents agreed that labour shortages was their major problem, followed by rise in wages which accounted for 54.7 percent of the respondents.

In 1993, the country requires 41,088 skilled manpower, where major requirement are from CAD-CAM operators (8,966), mechanical electronic and production technician (7,913), mechanical electronic and production engineers (5,517), general machinists (4,519), plant maintenance mechanics (3,688) and

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electricians (2,452), but the supply of such skilled manpower is less than the demand.\(^3\) This situation was also admitted by to International Trade and Industry Minister Datuk Seri Rafidah Aziz, that we still need skilled foreign labour because they still play a role in Malaysia’s stride to achieve the objectives of the Second Industrial Master Plan. Foreigners will still be recruited until the country’s training institutions churn out adequate supply of its own skilled workforce.\(^3\) The demand-supply gap of engineers, engineering assistants and craftsmen, and unskilled workers are depicted in Table 2.3.

**Table 2.3: Demand and Supply of Engineers, Engineering Assistants and Craftsmen, and Unskilled Workers, 1990-2000**

<table>
<thead>
<tr>
<th>Types of Manpower Required</th>
<th>Demand(^1)</th>
<th>Supply(^3)</th>
<th>Demand-Supply Gap/shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineers</td>
<td>30,100</td>
<td>21,000</td>
<td>9,100 (30%)</td>
</tr>
<tr>
<td>Engineering</td>
<td>122,900</td>
<td>84,070</td>
<td>38,830 (31%)</td>
</tr>
<tr>
<td>Asst./technicians craft Skills</td>
<td>394,000(^2)</td>
<td>230,000(^4)</td>
<td>164,000 (24%)</td>
</tr>
<tr>
<td>Unskilled workers (production)</td>
<td>515,000(^2)</td>
<td>462,600</td>
<td>53,200 (10%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,062,800</td>
<td>797,670</td>
<td>265,130 (25%)</td>
</tr>
</tbody>
</table>


Notes: \(^1\) Second Outline Perspective Plan Estimates (OPP2).

\(^2\) Estimated based on total production workers in OPP2.

\(^3\) Estimated on the assumption level of output in midterm Review of 6MP is maintained until year 2000.

\(^4\) Includes output of trainees from private training institutions.

This problem has caused SMIs to resort to employing foreign labour, which required lower costs. In 1993, it was estimated that there were about one million foreign labour in Malaysia. Manufacturing sector employed about 177,000 (18 percent), which was about 10 percent of the total workforce.\(^3\) According to Deputy Home Affairs Minister Ong Ka Ting, as of August 1, 1996, there were 449,565 legal foreign workers that the manufacturing sector employed the most, accounting for 204,614 (46 percent).\(^4\) However, other source stated that there were about 1.75


\(^2\) *New Straits Times*, November 26, 1996, p. 25.


million of foreign workers in Malaysia, of which about one million of them were illegal.41

2.4.5 Inadequate Technical and Managerial Know-how

SMIs in Malaysia has also been associated with low level of technology and limited access to appropriate technology. A study undertaken by Universiti Pertanian, Institut Teknologi Mara and the University of Saskatchewan Research Centre on Malaysian SMIs in four subsectors (food, wood, light engineering and construction materials) revealed that majority of SMIs (72 to 82 percent) were still at a lower state of technology. Only 14 to 19 percent used higher-end technology and these tended to be the medium-scale industries.42 Furthermore, high-technology was generally foreign-owned and this hindered the development of domestic capabilities in technologies.

According to the National Survey of Research and Development 1994 conducted by the Malaysian Science and Technology Information Centre (Mastic), Malaysia has one of the lowest numbers of researchers involved in R&D among the newly industrialised countries (NICs) of Taiwan, Singapore and South Korea. Malaysia had a ratio of 2.3 researchers for every 10,000 people compared to 26:10,000 for Taiwan, 22:10,000 in South Korea and Singapore’s 38:10,000. In addition, Malaysia invested only RM611.2 million, or 0.56 percent of the country’s GDP to R&D compared to South Korea’s 2.33 percent, Taiwan’s 1.82 percent and Singapore’s 1.12 percent. Moreover, the survey also showed R&D activities were concentrated in Selangor, Kuala Lumpur and Penang.43

The are some factors constraining R&D activities in the manufacturing sector. The FMM’s 1996 chief executive officers (CEOs) survey that majority of the respondents (55 percent) still do not conduct their own R&D. The main reasons being R&D activities were conducted by parent companies (49.2 percent); customers provided specifications for production (36.1 percent); operation were too small to conduct R&D (21.3 percent); difficult to recruit local R&D expertise (16.4 percent);

42 Ismail Muhd. Salleh (1990), op. cit., p. 12.
43 The Star, October 17, 1996, p. 10.
and investment in R&D was expensive (14.8 percent). \(^{44}\) Hence, it could be concluded from the findings that constraints on industry R&D activities were as follows:

- Innovative activity is still comparatively low for those who manufacture according to customer specifications;
- Proprietary rights and confidentiality in R&D activities is further reinforced by the fact that parent companies continue to conduct these activities;
- limited resources available, whether in terms of financing or expertise, for R&D activities in the manufacturing sector. This does not only constrain manufacturing companies from engaging in R&D activities, but particularly in respect of skilled human resources, had encouraged job hopping and staff pinching resulting in inflationary pressures on remuneration as well as lack of depth in R&D experience and expertise among local researchers; and
- It is not economically feasible to conduct R&D activities, particularly among small scale industry operators.\(^{45}\)

Other external factors that prevent an increase in R&D activities were the quick pace of technological changes and labour cost increases, while the main internal factors were slow decision-making, shortage in new products and a lack of R&D strategies. Moreover, government R&D research institutes focused on agriculture, applied science, and biological science, compared with the private sector's focus on information, computer and communication technologies, engineering and applied science.\(^{46}\)

SMIs also highly dependent on the efforts of government organisations such as MARDI, RRIM, and SIRIM on industrial R&D. Hence, there is a need to upgrade technology and to develop local technological capabilities such as the development of R&D.\(^{47}\) Therefore, SMIs should increase investment in labour saving devices and automation to ensure its competitiveness. However, SMIs should not just import

\(^{44}\) The Star, October 21, 1996, p. 25.

\(^{45}\) Ibid.

\(^{46}\) The Star, October 17, 1996, p. 10.

parts and machinery from foreign countries but should focus on local R&D and at the same time upgrade the manpower skills to increase absorptive capacity for new technologies.

2.4.6 Inadequate Financial Support

SMIs also face problems in collecting debts and securing capital for their business. The effects of economic slowdown were felt by most of the SMIs due to their limited financial resources as compared to their large scale counterparts. This has resulted in the low level of stocks, thus the inability to meet customers' demand. Furthermore, inadequate capital also resulted in dissatisfactory nature of their operating premises.

SMIs also face problems in obtaining loans and other types of financial and credit facilities from commercial banks and other financial institutions due to lack of collateral and guarantors. Other problems encountered in gaining access to financial and credit facilities involved too much administrative procedures while the banks offered poor loans. Furthermore, most financial institutions consider small loans are unattractive because these small loans require almost the same amount of resources and time to process as the bigger loans. In addition, loans especially to tiny and small firms are perceived to be more risky. Survey of Companies 1995 conducted by Bank Negara Malaysia reported that only six percent of the SMIs sourced their paid-up capital through development bank. The remaining sourced their paid up capital from their own funds and other sources such as the pooling of funds from individuals or other companies.48

Figure 2.1 shows procedure in application for the New Principal Guarantee Scheme (NPGS). The duration for the approval is from two weeks to two months. However, the approval for this application normally takes more than one month. Moreover, banks and financial institutions perceive this scheme as non profitable. However, they have to fulfil a certain quota and once this quota is being fulfilled, they may reject excess applications for this facility.

48 The Star, December 16, 1996, p. 3.
Survey conducted by Pazim @ Fadzim Othman and Mohd. Rosli Mohamad also showed that SMIs, especially small scale industries have limited access to credit. This is due to their smallness coupled with the lack of technical know-how. Moreover, most of the loans provided to small scale industries have not been utilised, but most of the loans have instead benefited the medium scale industries which have relatively larger amount of self-financed funds to start and operate their industries. The results from their survey conducted on SMIs in Kelantan and Selangor show that 26.2 percent of the small scale entrepreneurs still depend on self-raised funds to start their businesses while 52.2 percent used self-raised funds to run their businesses. Only 40.3 percent of them have been granted loans under the CGC loan schemes to start their businesses while none have utilised loans to run their businesses. Most of the small scale entrepreneurs have relied upon past savings to start and run their businesses and borrowings are only made through agencies which require no collateral.49

2.4.7 Production Capacity

Excess or inadequate production capacity is another problem faced by SMIs. This can be seen in palm oil refinery and fractionation subsector, and wood-based industry, where the increase in processing capacity is not matched by the increase in the supply of raw materials. Shipbuilding and ship repairing industry also faced the
same problems, where numerous small shipyards exist but local ship owners preferred to seek services from overseas shipyards that offer more attractive terms and conditions.  

2.4.8 Limited Market and Lack of Export Penetration

Marketing is of crucial importance to SMIs in penetrating a market. However, SMIs faced problems in expanding both their domestic and foreign market shares. Furthermore, Malaysia's manufactured exports are heavily concentrated in electrical and electronics, and textile products, and are limited only to a few countries such as Japan, Singapore, United States, United Kingdom and Germany. Furthermore, trading blocs such as European Economic Community (EEC) and North America Free Trade Area (NAFTA) that imply protective measures can affect the SMIs exports. Other problems of marketing include lack of marketing personnel, lack of market information especially on international quality standards, lack of overseas market opportunities, export procedures, and inability to meet international standards.

The SMI Census and Study 1993/1994 revealed that only 20 percent of all the SMIs exported their products. For medium scale industries, 47 percent exported their products as compared to only 15 percent of the small scale industries. The major products exported were chemicals, petrol, rubber and plastics (34 percent), textile, wearing apparel and leather (25 percent), fabricated metal and machinery equipment (22 percent) and wood and wood products (21 percent).

Survey carried out by Sieh Mei Ling, Mohd. Nazari Ismail and Abdul Latif Hj. Salleh divided marketing problems into two broad categories: internal and external marketing problems. Internal marketing problems include identifying, contacting and

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getting customers, product-related decisions, pricing decisions, distribution and final selling method, as well as promoting products. External marketing problems include economic, political, government and legal problems, technological, financial, suppliers' and distributor's problems, social-cultural problems and problems of competition.

As a result of these problems, SMIs in Malaysia do not contribute significantly to the export earnings. Indirectly, SMIs may play an important role in the manufacture of parts and components that are incorporated into the finished product exported by large industries.

2.5 PROSPECTS FOR SMI DEVELOPMENT

In view of the transformation of the Malaysian economy from primary sector to industrial sector, the contribution of the industrial sector have seen a significant increase. Since SMIs accounted for 70 percent (refer to Table 2.1) of the manufacturing sector in 1991, the government's emphasis on the promotion of SMIs reflects the official recognition of the importance of SMIs in generating employment opportunities, providing training for future entrepreneurs, meeting socio-economic objectives of the nation, penetrating the market through a sub-contracting system and generating export earnings to the country.

Malaysia is encouraged by the ability to attract and retain foreign investment, the government is aware that the products of multinationals still have a high import content. Hence, various initiatives have been taken by the government to nurture SMIs into reliable and cost-effective suppliers of parts and components and related services to the larger industries, including multinationals. Therefore, enhancing inter-industry linkages among SMIs and MNCs is of crucial importance, and has been emphasised in both the Sixth and Seventh Malaysia Plan as well as in the Second Industrial Master Plan (IMP) (1996-2005). Recently, the establishment of Small and Medium Scale Industries Development Corporation (SMIDEC), a single agency to promote and accelerate the development of SMIs shows the important role SMIs can play in the socio-economic growth is recognised.

Sub-contracting provides a useful mechanism for developing linkages between SMIs and large scale enterprises. However, poor quality of products, lack of
necessity for sub-contracting because of sufficient self production capacity on the part of the large firms, delay in delivery, shortage of suitable qualified small firms, low technology and managerial skills as well as instability of the management of SMIs have been identified as the main factors for the lack of linkages among SMIs and large scale industries or MNCs. Hence, research and development plays a very significant role in solving the above problems.

As a first boost to intensify research and development efforts of SMIs under the Second IMP, several agreements were signed on December 16, 1996 between three companies in the automotive industry (Perusahaan Otomobil Kedua Sdn Bhd, Wagon Engineering Sdn Bhd, and Autoparts Manufacturers Sdn Bhd), three banks (Malayan Banking Bhd, Arab-Malaysian Finance, and Bank of Commerce), University Technology Malaysia and SMIDEC. The agreement will see collaborative efforts between SMIDEC and UTM’s business advanced technology centre in developing and strengthening the technical and technological foundation of SMIs. The plan will be carried out through joint technical training and services of SMIs as part of the industrial linkage programme initiated under the Second IMP. Hence, under the Second IMP, SMIs must be developed into key-suppliers of components/inputs, and service producers for the lead industries as well as for activities at both ends of the value chain.54 Recently, privatisation of SIRIM is perceived as needy and timely as this can increase its effectiveness, at the same time help to reduced financial burdens of the government.

The government also realised that SMIs, especially small scale industries, have great potential for improvement if they are provided with adequate financing. Hence, various financial and credit facilities have been launched recently to enable SMIs, especially small scale industries, to secure larger loans for expanding their industrial and business activities. Recently, the Entrepreneur Development Ministry has launched the Small Entrepreneur Financing Fund with funds totalling RM240 million to help businessmen to develop and expand their business. A pioneer batch of 61 entrepreneurs also received the loan approval letters from six banks and four financial institutions for loans totalling RM2.2 million.55

54 New Straits Times, December 18, 1996, p. 31.
The provision of adequate infrastructure facilities are equally important to further develop SMIs. Various initiatives have been taken by the government such as construction of ready-built factories, Free Zones, and industrial estates are aimed at providing SMIs to utilise facilities available to improve their competitiveness. The government have also emphasised on industrial dispersion where special incentives are granted to companies located in Sabah, Sarawak, and “Eastern Corridor” of Peninsular Malaysia. This could help to reduce the regional disparity, at the same time strengthening inter-industry linkages among urban and rural industries.

Although Malaysia have an elaborate and diverse system to promote SMIs, there are still room for improvement as compared to other newly industrialised or developed countries. For example, according to Guenther Fitchner, human factor counts most and has to be given due consideration in devising a development policy. In Germany, most of the apprenticeships are being carried out in small and medium scale enterprises (SMEs) to enable them to have many highly qualified skilled workers, providing quality machinery, plants and equipment. However, this aspect is not given much consideration in Malaysia.56 Japan has a well-planned and executed strategy to develop SMEs. A white paper on SMEs is published every year that acts as a common data base to help build a consensus. It also has a large and extensive national R&D infrastructure, funded by the federal government, the prefecture government and the industry, which acts as a major supplier of technology to SMEs. There are also about 60 percent of the SMEs engaged in subcontracting, which is a major source of development and growth of SMEs in Japan, as compared to only 20 percent in Malaysia.57

Various programmes and facilities have been set up by both the government and private sector to further promote SMIs. These policies, programmes and facilities will be further discussed in the following chapter.
