

UNIVERSITY OF STIRLING

**Adoption of Project Appraisal Practice and Accessibility of Finance:
An Empirical Analysis on Selected Small and Medium-Sized
Manufacturing Companies in Malaysia**

(Volume 2)

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DOCTOR OF PHILOSOPHY
Department of Economics

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Adoption of Project Appraisal Practice and Accessibility of Finance:
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(Volume 2)

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Chapter 7

DESCRIPTIVE ANALYSES OF PROFILE OF COMPANIES, ADOPTION OF PROJECT APPRAISAL PRACTICE, COMPANY-BANK RELATIONSHIPS AND PROFILE OF THE ENTREPRENEURS

7.1 Introduction

This chapter provides detailed descriptive analyses of the variables related to the profile of the companies, their adoption of project appraisal practices, company-bank relationships and profile of the entrepreneur and how these variables affect the SMMCs' access to formal institutional finance¹. The chapter also includes a discussion on whether or not the lack of access to formal institutional finance have led to the high utilisation of informal sources of finance by the respondent companies. The *Pearson's chi-square* test of independence was used to identify the possible existence of significant relationships between pairs of the relevant key variables as well as their respective associative level of significance. If a relationship was found to exist and to be significant, further test was carried out in order to determine the differences in their means. Parametric tests as well as *non-parametric* tests were used to test the difference in the means, depending upon the size of the sample and the distribution of data for each of the variables. Among the parametric tests that were used are the independent samples *t-test* and *one-way analysis of variance* (ANOVA). *Scheffe* post-hoc multiple comparison test was applied in addition to the ANOVA in order to identify whether there are any significant differences among any two groups in the sample.

¹Formal institutional finance include finance from banks and other financial institutions as well as from government agencies. SMMCs mean small and medium-sized manufacturing companies.

Mann-Whitney test (for two independent samples) and *Kruskal-Wallis* one way anova (for more than two independent samples) were among the *non-parametric* tests used in the present study. The accepted level of significance chosen for the present study is at 0.05 level. All the statistical analyses in this study were done using the SPSS® for Windows™ (Statistical Package for Social Sciences) Release 6.1. Appendix 7.1 provides the basic descriptive statistics for the above key variables. All tables reported in this chapter can be found in Appendix 7.2.

7.2 Profile of the Companies

Profiling of the companies is done according to the following classifications:

- a) size of company by size of employment, ownership structure and annual sales turnover
- b) age of company by size of company, ownership structure, and annual sales turnover
- c) ownership structure by annual sales turnover
- d) business location by size of company, ownership structure and age of company
- e) type of entity by size of company, ownership structure and age of the company
- f) market classification by size of company, ownership structure and age of the company
- g) industry classification by size of company, ownership structure and age of the company

The above independent variables were statistically tested using *Pearson's chi-square* test for independence with the following dependent variables: (a) access to bank finances, and, (b) access to government agency finances, in order to examine whether

these variables are significantly related to each other. In addition to the above, the present study will also examine whether the above independent variables have any significant influence on the companies' adoption of project appraisal practice, company-bank relationship and utilisation of informal sources of finance.

7.2.1 Size of companies [F_SIZE]

Companies were categorised into small-sized and medium-sized companies according to the size of employment. As mentioned earlier in Chapter 6, this type of categorisation was chosen because it is most consistent with the definition of SMMCs in the majority of developing countries. If a company employs 50 employees or less, it is classified as small-sized manufacturing company and if a company employs more than 50 but less than 100 workers, it is classified as medium-sized manufacturing company. Out of 135 SMMCs who responded to the survey, 78 companies (57.8%) are classified as small-sized manufacturing companies and 57 companies (42.2%) are classified as medium-sized companies (Table 7.1). Out of 78 smaller-sized companies, 41 companies (52.6%) have less than 25 employees while the other 37 companies (47.4%) employ more than 25 but not more than 50 employees. For the 57 medium-sized companies, 27 companies (47.4%) have more than 50 but less than 75 employees while 30 companies (52.6%) employ more than 75 employees.

The size of companies was also classified by their ownership structure. This type of classification is important since it has always been the main concern of the Malaysian government to ensure a more balanced ownership structure of the SMMCs among the

two main ethnic groups; i.e. the *bumiputeras*² (majority the Malays and other indigenous groups) and the *non-bumiputeras*³ (majority the Chinese and other ethnic minorities). Out of 135 SMMCs surveyed, 54 companies (40.0%) are either fully owned by *bumiputeras* or they are the major shareholders while 81 companies (60.0%) are either fully owned by *non-bumiputeras* or they are the major shareholders (Table 7.2). SMMCs owned by foreigners were included in the *non-bumiputera* category. Looking at the composition of the ownership structure, it certainly reflects the fact that *non-bumiputeras*, generally the Chinese are more commercially involved than the *bumiputeras*.

The ownership of SMMCs by *bumiputeras* was largely concentrated in the small-sized companies while the *non-bumiputeras* owned majority of the medium-sized companies. For small-sized companies, the *bumiputeras* control 34 companies (43.6%) while the *non-bumiputeras* control 44 companies (56.4%); but for the medium-sized companies, *bumiputeras* control only 20 companies (35.1%) while the *non-bumiputeras* control over 37 companies (64.9%). Clearly, the ratio of ownership structure of the medium-sized manufacturing companies is in favour of the *non-bumiputeras*.

In terms of average annual sales turnover, 46 of the small-sized manufacturing companies (58.9%) have annual turnover of more than RM 1.5 million whereas the remainder 32 companies (41.1%) have annual sales turnover of RM 1.5 million or less (Table 7.3). This observation gives an early indication that labour productivity in smaller companies is higher than in medium-sized companies.

²*Bumiputeras* are majority the *Malays* and other indigenous groups.

³*Non-bumiputeras* are majority the *Chinese* and other minorities. Foreigners are also included in this category.

As for the medium-sized companies, 53 out of 57 companies (93.0%) have an annual sales turnover of more than RM 1.5 million. This observation was considered normal for companies with bigger workforce are expected to produce more output and therefore should have bigger sales turnover. However, there are 4 medium-sized manufacturing companies (7.0%) that were found to have a relatively low labour productivity.

7.2.2 Age of companies [AGEFIRM]

Age of a company is considered an important factor to gauge the company's experience and maturity level. SMMCs of 10 years of age or below were categorised as young (and less experienced) companies while SMMCs of 11 years of age or over were categorised as older companies (and more experienced). The sample *mean* for age of companies is 11.99 years. The smaller-sized companies were generally found to be younger than the medium-sized companies. It was also found that *non-bumiputera-owned* SMMCs were generally older than the *bumiputera-owned* SMMCs⁴. This finding confirmed our presumption that *non-bumiputeras* generally held ownership of older companies due to their early involvement in the industrial and commercial activities. In terms of annual sales turnover, older companies were found to have higher sales turnover than the younger companies, an observation which is also consistent with our earlier expectation.

Results from the survey showed that out of 78 small-sized companies, 38 companies (48.7%) fell under the age category of 10 years and below whereas from 57 medium-sized companies, 27 companies (47.3%) fell under the same age category (Table 7.4).

⁴The mean age for (i) small-sized companies = 10.98 years, (ii) medium-sized companies = 13.36 years, (iii) *bumiputera-owned* companies = 9.53 years, and (iv) *nonbumi-owned* companies = 13.62 years.

This observation seemed to suggest that there is no significant relationship between the age of company and size of company since the age distribution among both sizes is about the same. Using the *Pearson's chi-square* test for independence, it was confirmed that age of a company was not significantly related to the size of the company.

In terms of ownership structure, *bumiputera-controlled companies*⁵ appeared to be younger than *nonbumiputera-controlled companies*⁶. Out of 54 companies controlled by *bumiputeras*, 32 companies (59.3%) fell under the age category of 10 years and below while out of 81 *non-bumi* controlled companies, only 33 companies (40.7%) fell under the same age category (Table 7.5). From this observation, one might get the impression that age of company and ownership structure are significantly related; however, after applying the *Pearson's chi-square* test, it was found that there was no association between age of company and the ownership structure.

In terms of annual sales turnover, it was observed that age of a company did not appear to have significant bearing on the company's sales performance. Most of the companies, regardless of age, have annual sales turnover of more than RM2 million. Out of 65 companies (48.1%) under 10 years of age, 35 companies (25.9%) have annual sales turnover of more than RM 1 million and 27 of these companies (20.0%) have an annual sales turnover of more than RM 2 million (Table 7.6). Out of 70 companies (51.9%) of more than 10 years of age, 52 companies (38.5%) have an annual sales turnover of more than RM 1 million and 36 of these companies (26.7%) have an

⁵*Bumiputera-controlled companies* are companies owned fully by bumiputera as well as companies where *bumiputeras* are the major shareholders.

⁶*Nonbumiputera-controlled companies* are companies owned fully by *non-bumiputeras* as well as companies where *non-bumiputeras* are the major shareholders.

annual sales turnover of more than RM 2 million. After applying the *Kruskal-Wallis one-way anova* test, it was found that there were no significant difference in the means of the various age groups in terms of their annual sales turnover.

7.2.3 Ownership structure [OWNSTRUC]

Referring back to Table 7.2, out of 135 SMMCs surveyed, 54 companies (40.0%) were either fully owned by *bumiputeras* or they are the major shareholders, while 81 companies (60.0%) were either fully owned by *non-bumiputeras* or they are the major shareholders. The company's annual sales turnover was observed to be influenced by their ownership structure. Most of the *bumi-controlled* companies have annual sales turnover of RM 2 million and below whereas majority of the *nonbumi-controlled* companies have annual sales turnover of more than RM 2 million. Out of 54 companies controlled by *bumiputeras*, 29 companies (21.5%) have annual sales turnover of RM 2 million or less and only 25 companies (18.5%) have annual sales of more than RM 2 million (Table 7.7). For the *nonbumi-controlled* companies, only 19 companies (14.1%) have annual sales of RM 2 million or less while 62 companies (45.9%) have annual sales of more than RM 2 million. After applying the *Pearson's chi-square* test, it was confirmed that the company's average annual sales turnover was significantly influenced by their ownership structure.

7.2.4 Business location [BUSLOCA]

Another key variable in the companies' profile is their business location. Companies located in the urban industrial estates are expected to enjoy more in terms of access to infrastructure than companies located in the rural areas. However, companies operating in the rural areas have lower operating costs due to lower overheads than companies

operating in the urban areas. Companies operating in urban areas are subjected to stricter environmental control than companies in the rural areas. It was expected by the study that the size of companies, their ownership structure and their annual sales turnover do not have any significant bearing on the companies' business location.

Out of 135 SMMCs surveyed, 86 companies (63.7%) were found to be operating in the urban industrial estates while 35 companies (25.9%) operate in the rural industrial sites (Table 7.8). From the 86 companies operating in the urban industrial estates, 45 companies (52.3%) are small-sized companies and 41 companies (47.7%) are medium-sized companies. From the 35 companies that are located in the rural industrial sites, 21 companies (60.0%) are small-sized and 14 companies (40.0%) are medium-sized. From this particular observation, it can be seen that the distribution of small-sized as well as the medium-sized manufacturing companies operating in the urban industrial estates and rural industrial sites is about the same. However, none of the medium-sized companies were found to operate in the urban business centre, while only 2 medium-sized companies (3.5%) operate in the residential business areas. There are 7 small-sized companies (9.0%) located in the urban business centre while 5 others (6.4%) are located in the residential business area. From the survey, it is quite clear that urban business centres and residential business areas were not generally preferred by majority of the small and medium-sized manufacturing companies.

In terms of ownership structure, most of the *nonbumi-controlled* companies operate in the urban industrial estates. Out of 86 companies that are located in the urban industrial estates, 51 companies (59.3%) are the *nonbumi-controlled* companies while only 35 companies (40.7%) belong to the *bumiputeras* (Table 7.9). Similar patterns can be

observed for companies located in the rural industrial sites. Out of 35 companies located here, 23 companies (65.7%) are controlled by the *non-bumiputeras* while 12 companies (34.3%) are controlled by the *bumiputeras*.

The choice of business location may be affected by the age of the company. Older companies were earlier expected to be located in the rural industrial sites while younger companies in the urban industrial estates. However, from this survey, it was observed that age of a company does not significantly affects the company's choice of business location. Younger companies as well as older companies were found to be situated in the urban industrial estates as well as the rural industrial sites. Out of 86 companies located in the urban industrial estates, 42 companies (48.8%) are under the age category of 10 years and below while 44 (51.2%) companies are under the age category of more than 10 years (Table 7.10). Out of the 35 companies located in the rural industrial sites, 17 companies (48.6%) belong to the age category of 10 years and less while 18 companies (51.4%) belong to age category of more than 10 years.

Using *Pearson's chi-square* test, it was confirmed that choice of location by the respondent companies was not significantly influenced by the following three variables; size of company, ownership structure and age of company.

7.2.5 Type of entity registration [REGTYPE]

There are basically three types of entity registration in Malaysia; sole proprietorships, partnerships and private limited companies. A private limited company can be either owned by private individuals (minimum two and maximum 50 persons) or owned by another company (a subsidiary). Among the three types of entity registration,

registration as private limited companies was more preferred due to the separation of its 'legal entity'. In terms of statute, private limited companies are bound by the Company Act 1965 (Amended 1996) and are closely monitored by the Registrar of Companies.

From the survey, it was found that (as expected), majority of the small and medium-sized manufacturing companies in Malaysia are registered as private limited companies; they are either owned by private individuals or are a subsidiary of another company. Out of 135 companies, 75 companies (55.6%) are registered as private limited companies which are owned by individuals, 45 companies (33.3%) are registered as private limited companies which are subsidiaries, 7 companies (5.2%) as partnerships and 8 companies (5.2%) as sole proprietorships (Table 7.11). Out of 78 small-sized companies, 65 companies (85.3%) are registered as private limited companies while out of 57 medium-sized companies, 55 companies (96.5%) are registered in the same category. From this observation, it can be observed that medium-sized companies prefer registration as private limited companies more often than small-sized companies. After applying *Pearson's chi-square* test, it was confirmed that the choice of registration type was significantly influenced by the size of company.

In terms of ownership structure, 18.6 per cent of the *bumi-controlled* companies are registered as sole proprietorship and partnership, while for the *nonbumi-controlled* companies, only 6.1 per cent of them are registered as such. However, the percentage of *nonbumi-controlled* companies (93.9%) registered as private limited companies are greater than the *bumi-controlled*-companies (81.4%). From the *Pearson's chi-square* test, it was confirmed that type of entity registration was also significantly influenced by the company's ownership structure (Table 7.12).

In terms of age of company, the percentage of younger companies registered as sole proprietorship and partnership does not differ very much from the older companies. Out of 65 companies of age 10 years or below (i.e. younger companies), 4 companies (6.2%) are registered as sole proprietorships and 3 companies (4.6%) as partnerships; while the other 58 companies (89.2%) are registered as private limited companies (Table 7.13). Out of 70 companies of age more than 10 years (older companies), 4 companies (5.7%) are registered as sole proprietorships and also 4 companies (5.7%) registered as partnerships; while the remainder 62 companies (88.6%) are registered as private limited companies. From this observation, it is clear that young and old companies prefer registration as private limited companies. This observation may be due to the fact that many new companies (start-ups) prefer to be registered as private limited companies at their inception. For the older companies, it is believed that as the companies grew, they may have also changed their entity status from sole-proprietorships or partnerships into private limited companies. After applying, the *Pearson's chi-square* test, it was confirmed that the type of entity registration was also significantly influenced by the age of company.

7.2.6 Market classification [MKTCLASS]

Market classification is another important variable in the company's profile. Among the present government policies on SMMCs is to encourage them to manufacture products for international markets. At the same time, SMMCs should also produce sufficiently for the local markets so as to minimise imports that are detrimental to the country's foreign exchange reserve. The study expects to find out that the company's type of

market classification is significantly influenced by the size of company, ownership structure and age.

However, from the result of the survey, it was found that market classification was significantly influenced by the size of company and their ownership structure but not by age of company. Out of 135 SMMCs surveyed, 78 companies (57.8%) were found to produce for both local and export markets, while 48 companies (35.6%) produced exclusively for the local markets and 9 companies (6.7%) produced exclusively for the export markets (Table 7.14). The total number of companies which export their products is 87 [9 + 78] while the total number of companies which produce for the local markets is 126. By looking at Table 7.14, it is clear that, the majority of the medium-sized companies are involved in producing goods for the export markets (82.4%), while the majority of the small-sized companies are producing for the local markets (48.7%) as well as for the export markets (47.4%). From the result of the *Pearson's chi-square* test, it was found that the type of market classification is closely associated to the size of company.

The type of market classification was also found to be significantly dependent upon the companies' ownership structure. *Bumi-controlled* companies were observed to produce more for the local markets as compared to their *non-bumiputera* counterparts. Out of 48 companies producing only for local markets, 29 companies (60.4%) are owned by *bumiputeras* while the remaining 19 companies (39.6%) are owned by *non-bumiputeras* (Table 7.15). None of the *bumi-controlled* companies were found to be producing exclusively for the export markets. Out of 78 companies producing for both markets, 53 companies (67.9%) are controlled by *non-bumiputeras* while 25 companies (32.1%) are

controlled by *bumiputeras*. The above observation was confirmed by the *Pearson's chi-square* test.

From the survey results, it was found that type of market classification was not significantly influenced by the age of company. All types of market classification were fairly represented by both the young and old companies. Out of 48 companies producing for the local markets, 22 of them are companies (45.8%) below the age category of 10 years and below while 26 companies (55.2%) are in the age category of 10 years or more (Table 7.16). Out of 9 companies producing exclusively for the export markets, 5 companies (55.5%) are in the age category of 10 years and below while 4 companies (45.5%) are in the age category of 10 years or more. Out of 78 companies producing for both types of markets, 38 companies (48.7%) are younger companies while 40 companies (51.3%) are older companies.

7.2.7 Industry classification [INDCLASS]

The respondent companies were also classified by industry in order to identify the industry in which most of the SMMCs are involved. The four main industries identified are as follows:

- (i) chemicals, petrochemicals and plastic products,
- (ii) iron and steel and metal products,
- (iii) food products/manufacturing, and
- (iv) electrical, electronic products and machinery.

Out of 135 companies, 26 companies (19.3%) are involved in manufacturing chemicals, petrochemicals and plastic products, 20 companies (14.8%) are involved in iron and steel and the production of metal products, 18 companies (13.3%) are involved in food

products and food manufacturing while 17 companies (12.6%) are involved in the production of electrical, electronic products and machineries (Table 7.17). In addition, there are 24 companies which were identified as others because they are involved in an array of manufacturing activities which cannot be unambiguously classified under the SIC code.

Most of the small-sized companies are involved in manufacturing chemicals, petrochemical products and plastic products while majority of the medium-sized companies are involved in manufacturing iron and steel products as well as other metal products. Out of 78 small-sized companies, 16 companies (20.5%) are involved in the chemical, petrochemical and plastic industries and 11 companies (14.1%) are involved in the food industries. Out of 57 medium-sized companies, 13 companies (22.8%) are involved in iron and steel industry and 8 companies (14.0%) involved in the electrical and electronic industries.

From the survey results, it was found that size of a company, ownership structure and age of company did not exert any significant influence in determining SMMC's involvement in the various industries. These observations were confirmed after applying the *Pearson's chi square* test on each of the above variables.

7.3 Access to Formal Sector Finance by Profile of Company

In order to examine the relationship between variables related to profile of the companies and access of the small and medium-sized manufacturing companies within the sample, the following crosstabulation procedure was carried out:

- a) access to short and long-term finance from banks and financial institutions by variables related to profile of companies, and,
- b) access to long term finance from government agencies by variables related to profile of companies.

7.3.1 Access to banks and other financial institutions finance [ACCESS_B]

After applying the *Pearson's chi-square* test for independence, it was found that access to short and long-term finance from banks [ACCESS_B] are significantly dependent on the companies' annual sales turnover [ANNSALES], type of entity registration [REGTYPE], market classification [MKTCLASS] and size of company [F_SIZE]. Out of 112 SMMCs which were found to have access to finance from the banks, 81 companies (72.3%) have an annual sales turnover of more than RM 2 million (Table 7.18). This particular observation is quite obvious in the sense that banks are normally expected to extend credit to companies who are doing very well (usually judged by the company's average annual sales turnover). In other words, companies who annual sales turnover are high would have relatively easy access to finance from the commercial banks and other financial institutions.

In terms of type of entity registration, it was found that companies registered as private limited companies (whether as subsidiaries or not) have better access to finance and other financial institutions. Out of 112 companies who have access to bank finances, 105 companies are registered as private limited companies (65 companies registered as nonsubsidiary private limited companies and 40 companies are registered as private limited companies - subsidiary), while the other 6 companies (5.4%) are registered as partnerships and only one company (0.9%) registered as sole-proprietorship (Table

7.19). From the results of the *Pearson's chi-square* test, it was confirmed that SMMCs' access to banks and other financial institutions is significantly dependent on their type of entity registration.

In terms of market classification, it was observed that out of 112 companies that have access to bank finances, 36 companies (32.1%) are producing exclusively for local markets, 6 companies (5.4%) are producing exclusively for the exports markets while 70 companies (62.5%) are producing for both local and export markets (Table 7.20). From this observation, it can be seen that companies who are producing exclusively for the local markets as well as those producing for both local and export markets have better access to finance from the banking sector. In particular, for those companies dealing with international trade, greater access to bank finance may be due to the fact that dealing with international trade requires them to have credit facilities from their bankers. It was also confirmed by the *Pearson's chi-square* test, that SMMCs' access to banks and other financial institution finance is significantly dependent on the type of market classification.

In terms of company size, it was found that the medium-sized companies have better access to banks and other institutional finance as compared to the smaller-sized companies. Out of 57 medium-sized companies, 52 companies (91.2%) have received finance from banks as compared to only 60 companies (76.9%) out of 78 small-sized companies (Table 7.21). This observation led us to believe that banks and other financial institutions prefer to extend credit to bigger-sized companies than to smaller-sized companies because they perceived lesser risk in lending to bigger companies. After applying the *Pearson's chi-square* test, it was confirmed that SMMCs' access to

banks and other financial institutions finance is significantly dependent on the size of the company.

7.3.2 Access to government agency finance [ACCESS_G]

From the survey results, it was found that size of company, ownership structure, annual sales turnover and the company's market classification was significantly related to access to finance from government agencies by Malaysian SMMCs. These findings were confirmed after applying the *Pearson's chi-square* test. In terms of company size, it is observed that small-sized companies have better access to government financing than their medium-sized counterparts. Out of 21 companies that have had access to government agency finance, 18 companies (85.7%) are small-sized companies while only 3 companies (14.3%) are medium-sized (Table 7.22). The reason behind this observation could be that since small-sized companies' access to banks finance are relatively limited, their only formal source of external finance is from the government agencies. Another reason may be due to the size of loan given by government agencies which is relatively smaller than those offered by the banks. In other words, credits from government agencies are more tailored to the needs of the small-sized companies rather than larger-sized companies.

In terms of ownership structure, the *bumi-controlled* companies were found to have better access to government agency finance than the *nonbumi-controlled* companies. Out of 21 companies which have access to government agencies finance, 17 companies (81.0%) are controlled by *bumiputeras* while only 4 companies (19%) belong to the *non-bumiputeras* (Table 7.23). This observation reflects the government's policy (although perceived by many as discriminatory policy) to develop and help SMMCs

owned by *bumiputeras* by offering them with various financial assistance schemes. However, this does not mean that *non-bumiputera* companies are not allowed to apply for financial assistance from these agencies.

In terms of type of entity registration, companies that are registered as private limited companies and sole proprietorships were observed to have better access to governments agency finance than companies that are registered as partnerships. Out of 21 companies which have access to government agency finance, 16 companies (76.2%) are registered as private limited companies (either as subsidiary or *non*-subsidiary), while the other 4 companies (19.0%) are registered as sole proprietorships and only one company (4.8%) registered as partnership (Table 7.24). This observation revealed that sole proprietorship companies rely quite heavily on government agencies for their financial needs.

Another variable that is significantly related to accessibility of SMMCs to government financing is the company's annual sales turnover. It was found that companies having annual sales turnover of less than RM 2 million have greater access to government finance than companies that have their annual sales turnover of more than RM 2 million. Out of 21 companies that have had access to government finance, 15 companies (71.4%) have annual sales turnover of less than RM 2 million while only 6 companies (28.6%) have an annual sales turnover of more than RM 2 million (Table 7.25). This observation is quite interesting since it reflects that companies with lower sales turnover have greater access to government finance than companies with higher turnover. On the contrary, companies with higher sales turnover were found to have more access to banks finance (as previously explained) than companies with lower sales

turnover. The logical explanation could be, government finance is sought by companies that cannot have access to bank credit because of their low annual sales turnover.

7.4 Level of Awareness and Adoption of Project Appraisal Practice

One of the main objective of the present study is to examine whether the SMMCs in Malaysia are aware of and adopt a formal project appraisal practice. The present study is particularly interested to know the following issues concerning their project appraisal practices:

- a) the level of awareness on project appraisal practice
- b) the adoption of project appraisal practice
- c) purpose for doing the appraisal
- d) the level of sophistication of methods used
- e) documentation of project appraisal
- f) the types of information contained in the project appraisal document

The present study is also aimed to determine whether there is a significant relationship between the adoption of formal project appraisal practices [ADOPTPA] by SMMCs and their access to banks and other financial institutions finance [ACCESS_B] as well as to government agency finance [ACCESS_G]. Apart from that, the study is also interested in finding the reasons behind the *non*-adoption of formal project appraisal practices by few of the respondent companies. Furthermore, this study will examine whether the level of awareness [AWAREPA] and adoption of formal project appraisal practices [ADOPTPA] by respondent companies are affected in any way by variables related to the entrepreneurs' profile.

7.4.1 The level of awareness of project appraisal practice [AWAREPA]

Quite surprisingly, the level of awareness of project appraisal practices among the SMMCs is remarkably high. Out of 135 companies who responded to the survey, 106 companies (78.5%) were found to be aware of the project appraisal practices (Table 7.26). The high level of awareness could be attributed to the fact that SMMCs in Malaysia were already exposed to these practices through formal training or by learning from their colleagues' experiences.

However, the level of awareness was not found to be dependent on either the size of the company or by their ownership structure (Table 7.26 and Table 7.27). Instead, the level of awareness was found to be significantly influenced by the type of entity registration, market classification as well as the companies' average annual sales turnover. These findings were confirmed after applying the *Pearson's chi-square* test of independence.

In terms of type of entity registration [REGTYPE], the level of awareness was found to be high for SMMCs registered as private limited companies as compared to SMMCs registered as partnerships or sole-proprietorships. Out of 106 companies that were aware about project appraisal practices, 61 companies (57.5%) are registered as private limited companies - (non-subsiary), 38 companies (35.8%) are registered as private limited companies - (subsidiary), 4 companies (3.8%) are registered as sole proprietorships and 3 companies (2.8%) are registered as partnerships (Table 7.28). The high level of awareness about project appraisal among SMMCs registered as private limited companies may be attributable to the fact that the owners (entrepreneurs) of

these companies are more exposed to these practices as compared to SMMCs registered as sole-proprietorships or partnerships.

Similarly, in terms of market classification, it was observed that SMMCs who are producing for both local and export markets exhibit a higher level of awareness than SMMCs producing exclusively for the local markets. Out of 106 companies that are aware about project appraisal practices, 65 companies (61.3%) are producing for both local and export markets while 32 companies (30.2%) are producing exclusively for the local markets. All 9 companies (8.5%) who exclusively export their products reported that they are aware about project appraisal practices (Table 7.29).

However, in terms of annual sales turnover, SMMCs with sales below RM 2 million or less and SMMCs with annual sales exceeding RM 3 million are found to display a higher level of awareness than SMMCs with sales in the middle category of RM 2 million to RM 3 million (Table 7.30).

The results from applying the *Kruskal-Wallis* one-way anova on the dependent variable, awareness about project appraisal practices [AWAREPA] are summarised in Table 7.31. All of the three independent variables tested have shown significant differences in their means thus the null hypotheses that their means are not significantly different are rejected.

7.4.2 Awareness of project appraisal practice by profile of entrepreneur

The present research is also interested in determining which of the variables related to the entrepreneur's profile have contributed to the high level of awareness on project

appraisal among the SMMCs covered in the survey. Out of the ten variables tested, only two variables are found to have significant influence on the high level of awareness. The variables are the level of formal education received by the entrepreneur [EDUCATE] and the training on project appraisal attended by the entrepreneurs [PATRAIN]. It was observed that most of the entrepreneurs with secondary and college education and those with formal training in project appraisal have high level of awareness about project appraisal practices.

Other variables, such as age [AGE], sex of the entrepreneur [GENDER], ethnic background [ETHNIC], professional qualification [PROF_Q], business management training [TRAINED], training in project appraisal [PATRAIN], part-time business experience [PARTIME], previous working experience [WORKEXP] and the length of business experience [BUSEXP2] do not assert any influence on the level of awareness.

Table 7.32 revealed the distribution of companies who are aware about project appraisal practices by the levels of entrepreneurs' educational qualification. Most of the entrepreneurs who are aware of project appraisal practice have received tertiary education, i.e. at the college or university level. Out of 106 entrepreneurs who reported that they know about project appraisal, 75 or 70.8 per cent have received tertiary education at least at the diploma level. It is believed that these respondents were exposed to the subject of project appraisal through their course of study in the business management or accounting degrees.

One way analysis of variance (ANOVA) was performed to test whether there are any significant differences in the means between the groups of entrepreneurs (according to

their level of education) in terms of their awareness to project appraisal practice. The result from this test confirmed that there were statistically significant differences in the means between the groups [$F(5,135) = 4.5250; p \leq .001$]. Multiple range tests were then carried out to identify whether there are any two groups that are significantly different. The post-hoc *Scheffe* multiple range test with significance level less than 0.05 was chosen because this particular test is most conservative as compared to the other post-hoc multiple comparison tests (Norusis, 1993). The result from this particular test suggests that group 5 (entrepreneur's with master's degree) is significantly different from group 2 (entrepreneur's with secondary level of education) in terms of their level of awareness about project appraisal practices.

It was also found that entrepreneurs who have attended training in project appraisals [PATRAIN] have displayed a very significant and high level of awareness about project appraisal practices. Out of 29 entrepreneurs who reported to have attended training in project appraisal, 28 (96.6%) of them have indicated a high level of awareness while one of them reported negatively (Table 7.33). (This particular respondent might not be telling the truth or may be, he/she is confused!). The *Mann-Whitney* test was performed to test the difference between the means of those who have been trained and those who have not, in terms of their awareness about project appraisal practices. The test result demonstrates that significant difference exist, between those who have attended training in project appraisal practice and those who have not ($z\text{-score} = -2.6586; 2\text{-tailed } p = 0.0078$).

7.4.3 Adoption of formal project appraisal practice [ADOPTPA]

Despite the high level of awareness, it was found that out of 106 companies, only 88 companies (65.2%) have actually adopted a formal project appraisal practice. It was also discovered that size of company does not exert any significant influence on the adoption of project appraisal practice by respondent companies. This observation was confirmed after applying the *Pearson's chi-square* test. In term of size of company, out of 88 companies who have actually adopted project appraisal practices, 47 companies (53.4%) are small-sized, while 41 companies (46.6%) are medium-sized (Table 7.34). It is therefore, very clear that the adoption of a formal project appraisal practice is not dependent on the size of the company.

In terms of ownership structure, it was found that the distribution among the *bumi-controlled* and the *nonbumi-controlled* SMMCs in terms of their adoption of formal project appraisal practices is quite substantial . In other words, the percentage of *bumi-controlled* and the *nonbumi-controlled* companies are not equally balanced in terms of their adoption of formal project appraisal practices. Out of the 88 companies who reported to have adopted formal project appraisal practices, 36 companies (40.9%) are controlled by *bumiputeras* while 52 companies (59.1%) are controlled by the *non-bumiputeras*. (Table 7.35).

From the *Pearson's chi-square* test of independence, it was confirmed that the company's age [AGEFIRM], their business location [BUSLOCA], type of entity registration [REGTYPE] as well as the company's average annual sales turnover [ANNSALES] have exhibited significant relationships with the company's adoption of

project appraisal practices. The *Kruskal-Wallis* tests were carried out in order to determine whether there are any significant differences between the means of samples for each of the above independent variables. All of the four independent variables tested have shown statistically significant differences in their means thus the null hypotheses that their means are equal are rejected. The results from these tests are summarised in Table 7.36.

In terms of the company age [AGEFIRM], it was observed that younger companies have the tendency to adopt the project appraisal practices more often than the older companies. Out of 88 companies which have adopted formal project appraisal practices, 47 companies (53.4%) are below the age of 10 years while 41 companies (46.6%) are above the age of 10 years (Table 7.37). This observation may be attributed to the fact that older companies tend to rely more on its past experience or judgements. On the other hand, younger companies tend to be more sophisticated and more technology-oriented than traditional older companies. Moreover, managers (owners) of the new and younger companies may be exposed to the modern and sophisticated style of management. Therefore, their tendency to adopt formal project appraisal practices is expected to be greater than the older companies.

In terms of business location [BUSLOCA], SMMCs that are located in the urban industrial estates were observed to be more inclined to the adoption of formal project appraisal practices as compared to those located in rural industrial sites or other areas. Out of 88 companies who reported to have adopted formal project appraisal practices, 64 companies (72.7%) are located in the urban industrial estates, 17 companies (19.3%) are located in the rural industrial sites, 3 companies (3.4%) located in the urban

business centres and 4 companies (4.5%) are located in the residential business area (Table 7.38).

The subsequent variable that was found to display significant relationship with the adoption of a formal project appraisal practice was the type of entity registration [REGTYPE]. Quite similar to our earlier finding on the level of awareness, SMMCs that are registered as private limited companies were observed to adopt project appraisal practice more often than those SMMCs registered in other types of entity registration. In other words, we have found that private limited companies are more inclined to the adoption of formal project appraisal practices than non-private limited companies (Table 7.39).

Finally, in terms of annual sales turnover [ANNSALES], it was observed that a SMMCs with higher average sales turnover have adopted project appraisal practices more often as compared to those with lower sales turnover. Out of 88 SMMCs who reported have adopted formal project appraisal practices, more than 50 per cent of them are in the sales category of more than RM 3 million (Table 7.40). This observation may reflect the fact that SMMCs with higher sales turnover are more capable (in terms of human and monetary resources) of performing the appraisal than companies with lower sales turnover.

7.4.4 Purpose of appraisal [PURPOSE]

Based on the 88 companies who have adopted and carried out project appraisal in the past, detailed information on their project appraisal practices were gathered. Among others, information was gathered on the following: (a) the purpose of doing the

appraisal, (b) the level of sophistication of method used, (c) whether the project appraisal exercise was documented, and, (d) the types of information contained in the project appraisal document.

Results from the survey indicated that the top three reasons for appraisal are as follows; (i) to ascertain the viability of the project (85.2%), (ii) to help management make investment decisions (67.0%) and (iii) to ascertain the risk of the project (53.4%). However, a total of 45 companies (51.1%) confirmed that they did the appraisal because it was required by their external financiers (Table 7.41). The obvious reason for most of the SMMCs covered by the survey not performing appraisal in order to rank and select projects is that they have very limited alternative investment opportunities.

None of the purpose of appraisal listed in Table 7.41 has displayed any significant relationship with the size of company [F_SIZE]. However, [PURPOSE2] to ascertain the risk of the project, [PURPOSE3] to ascertain the viability of the project and [PURPOSE6] to guide the implementation process have displayed significant relationship with the firm's ownership structure [OWNSTRUC]. The *Mann-Whitney* test was applied in order to test whether there is any significant difference in the means between the *bumi-controlled* and the *nonbumi-controlled* SMMCs with regard to the purpose of appraisal. In terms of ascertaining project's viability [PURPOSE3], the *nonbumi-controlled* companies were observed to be more concerned about the project's viability than their *bumiputera* counterparts. However, in terms of ascertaining project risks [PURPOSE2], the *bumi-controlled* SMMCs were observed to be more concerned with the project's risks as compared to their *non-bumiputera* counterparts. Since viability of a project is significantly influenced by the perceived risks associated with

the proposed project, both groups were found to have placed major emphasis on these two reasons. With regard to [PURPOSE6] i.e. as a guide to the implementation process, the *bumi-controlled* SMMCs were found to be more concerned with project appraisal as a guide to the implementation process than the *nonbumi-controlled* SMMCs. Table 7.42 provides the results from the above *Mann-Whitney* test performed on the independent variables.

It was presumed that the SMMCs would undertake project appraisal by SMMCs to comply with the lenders' requirement for such appraisals. As we have indicated earlier, a total of 45 companies (51.1%) have done project appraisal because they were required by the potential lenders. This means that a total of 43 companies (49.1%) had done project appraisals on their own initiative, perhaps required by their own corporate policies. Companies were also asked whether or not they would still undertake project appraisal even if they do not plan to borrow from banks and other financial institutions. Out of 88 companies, 76 companies (86.4%) responded positively to the above question. The above observations suggest that complying with lenders' requirement may not be the primary reason for the performance of project appraisals by Malaysian SMMCs. Nevertheless, to a certain extent, these findings still portray the fact that project appraisals were performed by the majority of the companies simply because they have to comply with the lenders' requirement for such appraisals.

7.4.5 Level of sophistication of methods used [METHOD]

In the survey questionnaire, respondents who adopted project appraisal practice are asked to rank their preference for each method of appraisal according to a continuum scale as follows: *1 - always used, 2 - very often used, 3 - often used, 4 - used*

occasionally and 5 - never used at all. The methods of appraisal are listed according to their level of sophistication. From the survey result, it was evident that the use of *conventional methods*⁷ was found to be more popular than the *sophisticated methods*⁸ and *qualitative methods*⁹ among the small and medium-sized SMMCs in Malaysia. These findings are consistent with some of the previous studies (see for example, Coulthurst and McIntyre, 1986; Beng, Choudhury and Tee, 1986; Peel and Wilson, 1996). Table 7.43 portrays the ranking of methods according to the percentage of responses while Table 7.44 displays their means and standard deviation. Most of the companies were found to be using more than one methods in various combinations (i.e. combinations of the following: conventional, sophisticated and qualitative methods). However, the *payback period* method [METHOD1] (76.1%) was observed to be the most popular conventional method which were always and often used by the companies, followed by the *accounting rate of return* [METHOD2] (65.5%). In terms of the more sophisticated methods, the *net present value* [METHOD3] (56.8%) was found to be most frequently used, followed by the *internal rate of return* [METHOD4] (53.4%), and the *sensitivity analysis* [METHOD5] (39.8%). Finally, the *qualitative methods* [METHOD6] were observed to be used by 32.9 per cent of the companies.

The adoption of a more *sophisticated method* of project appraisal was found to be generally low (less than 60 per cent) for the small and medium-sized manufacturing companies in Malaysia. In addition, it was observed that the choice of level of sophistication of methods used was not dependent on size of company, and their

⁷Conventional methods may include calculation of the payback period, the accounting rate of return, ratio analysis etc. which do not make use of the concept of time value of money.

⁸Sophisticated methods may include the calculation of the net present values, internal rate of return, sensitivity analysis, linear/goal programming etc. which make use of the concept of time value of money.

⁹Qualitative methods may include the entrepreneur's gut-feeling, experience and personal judgement.

ownership structure. Small-sized companies as well as medium-sized companies were found to be indifferent in terms of their choice of appraisal methods ($z = -0.8588$; 2 tailed $p = 0.3904$). Similarly, there was no significant difference in the level of sophistication methods used between the *bumi-controlled* SMMCs and the *nonbumi-controlled* SMMCs ($z = -1.4354$; 2 tailed $p = 0.1512$). However, significant difference was observed between the means of the age of company cohorts in terms of adopting an appraisal method ($\chi^2 = 11.7482$; $df = 4$; $p = 0.0193$) All of the above findings were confirmed after applying the *Mann-Whitney* and the *Kruskal-Wallis* tests.

The SMMCs' choice of project appraisal methods are also found to be significantly related to a few variables related to the profile of the entrepreneur. For example, the entrepreneur's level of education [EDUCATE], their professional qualifications [PROF_Q] as well as the length of business experience [BUSEXP2] they possess were found to exert significant influence on the choice of the payback period method [METHOD1] by the companies. The level of education [EDUCATE] was also found to be significantly related to all other methods except for [METHOD5] - sensitivity analysis. The length of business experience was also found to display significant relationship with [METHOD6] - the use of qualitative methods. It was quite interesting to note that the choice of sensitivity analysis methods [METHOD5] was significantly influenced by the gender of the entrepreneur. Female entrepreneurs were observed to have used sensitivity analysis more often than their male counterparts. This may prove the case that female entrepreneurs are more meticulous in making the investment decisions since the method involves the use of very complicated risk assessment techniques. This finding also supports the notion that female entrepreneurs are more

prudent in terms of managing and making decisions than their male counterparts (Bigoness, 1988; Kallberg and Leicht, 1991).

Independent samples *t-test* and the *analysis of variance* (ANOVA) were used to determine whether there are any significant differences in the means of the groups in the above variables that have been observed to exert significant influence on the firm's choice of those particular methods. The results testified that there are no two groups in the grouping variables that have displayed any remarkable difference in their means. Thus, the hypothesis which state that there is no significant difference between the means cannot be rejected.

To determine further whether or not SMMCs in Malaysia prefer the more sophisticated methods to conventional ones, respondents were questioned about the use of computerised software packages in performing their appraisals. Out of 88 companies who reported to have adopted project appraisal practices, only 32 companies (36.4%) have actually used computer software packages in performing their appraisals. This observation is consistent with the above finding which supported our contention that sophisticated techniques were less preferred by the majority of the SMMCs covered in the survey.

7.4.6 Documentation of project appraisal exercise [DOCPA]

Project appraisal documents are very important in terms of providing vital information concerning the proposed investment project to be assessed by potential lenders and investors. By considering these documents, potential lenders can evaluate the prospects related to the project and to decide whether the proposed project is worth financing or

not. The companies themselves can use similar documents as guidelines in the project's implementation programme. From the survey, it was found that the majority of companies who have adopted project appraisal in the past, have their appraisal documented. Out of 88 companies, 75 companies (85.2%) have had their project appraisals properly documented (Table 7.45).

After applying the *Pearson's chi-square* test of independence, it was verified that documentation of project appraisal exercise by the SMMCs is not significantly dependent on the size of company [F_SIZE] and their ownership structure [OWNSTRUC].

7.4.7 Types of information contained in project appraisal document [INFOTYPE]

Those SMMCs who responded that they have documented their appraisal were subsequently requested to furnish the types of information incorporated in their appraisal documents. Table 7.46 provides the ranking of types of information contained in the project appraisal documents. Information on financial analysis [INFO7], marketing analysis [INFO4] as well as technical and operational analyses [INFO5] represent the top three types of information included in the appraisal documents.

Financial analysis [INFO7] provides vital information about future cashflows and provides an early indication about profitability of the project. Bankers normally evaluate every aspect of the pro-forma financial statements before they make the decision whether or not the loan can be extended in order to finance the proposed project. Marketing analysis [INFO4] provides assessment on the product's

marketability by assessing the product's sales potential. The key component in marketing analysis is to assess the market potential as well as proposing the overall marketing strategies. This kind of information is normally required by the lender in order to determine whether the sales volume is large enough and sufficient to cover the future repayments of loan. Technical or operational analysis [INFO5] provides information about the technical requirements such as the types of technology needed to be used as well as the development of the proposed production systems. The key outcome of the technical analysis is to recommend the most efficient methods of production that will minimise the cost of production.

In addition to the above-mentioned categories of information, there is also a wide spectrum of information that is normally incorporated in the project appraisal documents. Fundamental facts such as the companies' history and background, the management/organisational structure as well as the background of the key-owners or shareholders are equally important to be considered by potential lenders.

7.4.8 Adoption of project appraisal practice by profile of entrepreneur

The survey reveals significant relationships between adoption of project appraisal practice [ADOPTPA] and the following two variables: level of education [EDUCATE] and training in project appraisal [PATRAIN]. Most of the entrepreneurs who have adopted formal project appraisal practices for their companies have received tertiary education. Sixty-four out of eighty-eight entrepreneurs (73.6%) who have adopted project appraisal practices have received college education at least up to the diploma level (Table 7.47). The business management training attended by the entrepreneurs was observed not to have any significant impact on the adoption of project appraisal

practices. This finding was confirmed by the *Pearson's chi-square* test. The explanation to this observation could be that the business management training attended by the entrepreneurs might not relate to the specific topic of project appraisal methods and procedures.

One-way analysis of variance was performed to test the difference in the means between the groups (according to their levels of education received by the entrepreneurs) in terms of their adoption of project appraisal practices for their respective companies. The result from this test verified that there was significant difference in the means between the groups [$F(5,135) = 3.9998; p \leq .01$]. The *Scheffe* post-hoc multiple comparison test was applied and the result confirmed that group 5 (*entrepreneur's with master's degree*) is significantly different from group 2 (*entrepreneur's with secondary level of education*) in terms of their level of adoption of project appraisal practices.

In terms of adoption of project appraisal practice and the trainings in project appraisal attended by the entrepreneurs, the survey found that out of twenty-nine entrepreneurs who reported to have attended training in project appraisal, twenty-eight of them have actually adopted formal project appraisal practices for their respective companies (Table 7.48). Once more, the *Mann-Whitney* test was performed to test the difference in the mean between those who are trained and those who are not trained in terms of the adoption of project appraisal practices by their companies. The test result demonstrates that significant difference exists between the groups, that is between those who have attended training in project appraisal and those who have not ($z\text{-score} = -3.9867; 2\text{-tailed } p = 0.0001$).

7.4.9 Adoption of project appraisal practice and access to banks finance

It was anticipated that by adopting formal project appraisal practices, SMMCs can significantly improve their access to bank finance [ACCESS_B]. From the results of the survey, it was observed that SMMCs' access to finance from commercial banks and other financial institutions is significantly dependent upon their adoption of a formal project appraisal practice.

It was observed that out of 88 companies who reported that they have adopted formal project appraisal practices, 80 companies (90.9%) have had access to short and long-term bank finance (Table 7.49). In terms of size, out of the 80 companies, 43 companies (53.7%) are small-sized while 37 others (46.3%) are medium-sized. This finding indicates that adoption of project appraisal by smaller companies is vital in determining access to bank finance as compared to their medium-sized counterparts ($\chi^2 = 7.425$, $p \leq 0.001$ for small sized companies; not significant for medium-sized companies). In terms of ownership structure, out of the 80 companies, 33 companies (41.2%) are controlled by *bumiputeras* while 47 companies (58.8%) are controlled by the *non-bumiputeras*. At a glance, this finding seems to indicate that adoption of project appraisal practice by the *nonbumi-controlled* companies are important in determining their access to banks finance. However, after applying the *chi-square* test, it was found that adoption of project appraisal by both groups of companies are equally important in determining their accessibility ($\chi^2 = 7.425$, $p \leq 0.01$ for *bumi-controlled* companies; $\chi^2 = 4.462$, $p \leq 0.05$ for *nonbumi-controlled* companies).

The *Mann-Whitney* test was performed to test the difference between the means of those companies who have adopted project appraisal practices and those who have not adopted in terms of their access to banks and other financial institutions for investment finance. The result demonstrates that significant difference exists between the two groups of companies in terms of their accessibility to banks and other financial institutions finance (*z-score* = -3.3478; 2-tailed *p* = 0.0008). Companies who have adopted project appraisal practices were found to have greater access than companies who have not adopted similar practices.

The significant relationship between adoption of project appraisal practice and access to bank finance was postulated to be influenced by the requirements of such appraisals to be performed by formal sector lenders before they could extend any credit to these companies. Companies were asked whether their lenders required them to carry out project appraisal before credit is granted. Out of 80 companies, 41 companies (51.3%) reported affirmatively while 39 companies (48.7%) reported otherwise (Table 7.50). The *chi-square* test confirmed that the adoption of project appraisal by SMMCs is significantly related to the requirement of such appraisal by the banks ($\chi^2=8.053$, $p\leq 0.01$).

From the survey, it was also found that the requirement to carry out project appraisal practice [NEEDPA_B] is significantly influenced by the ownership structure, [OWNSTRUC] ($\chi^2=4.04$, $p\leq 0.05$) and on long-term credits¹⁰, in particular, term loan [CRTYPE3] ($\chi^2=13.08$, $p\leq 0.01$). In terms of ownership structure, out of 44 *bumi-*

¹⁰Long term credits are defined as liabilities that require more than a year to pay-off such as term loan and hire-purchase.

controlled companies that have access to bank finance, 24 companies (54.5%) are required to submit project appraisal whereas out of 68 *nonbumi-controlled* companies, only 24 companies (35.3%) are required to do the same (Table 7.51). This observation led us to believe that commercial banks in Malaysia are more cautious about the *bumi-controlled* companies than the *nonbumi-controlled* companies, thus putting on the former a more stringent requirement for project appraisal. Using the *Mann-Whitney* test, it was confirmed that there was significant difference between the means of the *bumi-controlled* and *nonbumi-controlled* companies, in terms of requirement for project appraisal [NEEDPA_B] ($z\text{-score} = -2.0017$; $2\text{-tailed } p = 0.0453$).

Requirement for project appraisal was also found to be significantly related to only one type of credit; i.e. the term loans [CRTYPE3] granted by banks and other financial institutions to the respondent companies. Out of 67 companies that are getting term loans, 38 companies (56.7%) are required by the banks to carry out project appraisal while 29 companies (43.3%) are not required to do so (Table 7.52). Only 10 companies (22.2%) out of 45 companies that have received credit other than term loans are also required to do project appraisal.

The above finding clearly signifies that the requirement for project appraisal is more inclined towards longer term credits such as term loans where the size of loans are usually larger. Hire-purchase credits [CRTYPE4] were not found to be significantly related to the requirement for project appraisal. This observation could be due to the fact that assets financed by hire-purchase credits themselves become the collaterals, thus covering for the lender's risk. After the *Mann-Whitney* test was applied, it was confirmed that there was a very significant difference between the means of those

companies who have acquired term loans and those who did not, in terms of project appraisal requirement by banks and other financial institutions (*z-score* = -3.6003; 2-tailed *p* = 0.0003).

7.4.10 Adoption of project appraisal practice and access to government agency finance

From the survey results, it was found that access to government agency finance was not affected by the companies' adoption of formal project appraisal practices. However, this particular observation should be interpreted with caution since only 21 companies (15.6%) out of the total sample of 135, have been observed to have access to government agency finance. Due to the small representation, the effect of adopting formal project appraisal practices on SMMCs' access to government agency finance was found to be minimal and insignificant. The result also suggests that government agency financing was not relied upon by majority of the small and medium-sized industries in this particular sample (Table 7.53).

The survey results also indicated that project appraisal was not really required by the respective government agencies. Out of 21 companies who have had access to government agency finance, only 9 companies (42.9%) said that they were required to carry out project appraisal (Table 7.54). This observation may be due to the fact that government agency financing schemes are usually smaller in terms of size of the loan, therefore project appraisal was not essentially required in the credit appraisals.

7.4.11 Reasons for not adopting project appraisal practice [NONEPA]

In the survey questionnaire, small and medium-sized manufacturing companies who did not adopt formal project appraisal practices (47 companies) were requested to give reasons for not doing so. The five major reasons given (in order of importance - see Table 7.55), are:

- (i) borrowing or external finance is not required [NONEPA1] (51.1%),
- (ii) lack of knowledge and expertise [NONEPA4] (51.1%),
- (iii) amount of investment is considered too small [NONEPA7] (42.6%),
- (iv) project appraisal is not required by lender [NONEPA2] (29.8%), and,
- (v) too expensive and time consuming [NONEPA6] (25.5%).

The first reason seems to support the general belief that the high level of awareness on project appraisal practice among these SMMCs, are due to the demand or requirement to perform such appraisal by potential lenders. It also underlines that, more often than not, these SMMCs will have to perform project appraisal in the event they need financial assistance from formal sector lenders such as banks and other financial institutions.

The second reason seems to be more alarming since majority of SMMCs in Malaysia do not have the appropriate knowledge and skills in order to carry out the project appraisal exercise. This finding suggest that SMMCs will generally 'contract' out the performance of project appraisal to outside or 'free lance' consultants, particularly in the event when they need to obtain loans from financial institutions. Even though the performance of project appraisal can be contracted out to 'consultants', we still believe

that the entrepreneurs themselves should be able to understand and evaluate the appraisal documents prepared by these consultants. It is suggested that government agencies who are responsible for the training and development of SMMCs in the country should take note of these setbacks so that appropriate actions can be undertaken to rectify the problem in the future.

7.5 Company-Bank Relationships

The state of a company-bank relationship is considered as one of the fundamental determinant of a company's access to external finance via commercial banks and other financial institutions (Clay and Cowling, 1996; Holland, 1988 and 1994; Petersen and Rajan, 1994; Haines et al., 1991; Dunkelberg et.al., 1984). The three main aspects of relationship that are covered by the present study include: (a) the account/deposit relationship, (b) the credit relationship, and, (c) the *non-financial* relationship. The account relationships are described in terms of whether the companies have single or multiple accounts and if the companies have more than one account, whether these accounts are kept within a single bank or with more than one bank (multiple banks). In addition, information on the duration of the account relationship was also requested in order to gauge the extent of the relationship.

The discussion on credit relationships was focused on whether or not SMMCs in the sample have access to commercial banks and other financial institutions' credit. Various indicators were used to assess the degree of access such as the types of credit

granted, whether or not credit was given by the *house bank*¹¹, the frequency of application before credit is approved and the duration of credit relationship.

The non-financial aspects of relationship covered by the present study include the individual or personalised relationship between the entrepreneurs and the banks' officials as well as the utilisation of auxiliary fee and non-fee services such as financial advisory and counselling services. Ratings on their current banks services were also requested from the companies in order to assess the status of relationship.

7.5.1 Account relationship

From the survey results, it was evident that almost all the SMMCs covered by the survey have established at least one type of account with the commercial banks and other financial institutions. This observation clearly indicates that the SMMCs' level of awareness about formal bank services are very high. It also characterised that the formal banking system in the country has developed quite substantially. Most of the major banks already have their branches spread out to the district levels.

7.5.1.1 Single or multiple accounts [S_MACC] with single or multiple banks [S_MBANK]

As far as the SMMCs in the sample are concerned, majority of them have multiple accounts which are kept within a single bank. Only one company reported not having even a single account opened with a bank. Therefore, out of 134 SMMCs who reported to have account relationship, 109 companies (81.3%) have more than one account

¹¹House bank as referred by this study refers to the bank with which the company has an account/deposit relationship.

(multiple accounts) while 25 companies (18.7%) only have single account (Table 7.56). Out of 109 companies that have multiple accounts, 85 companies kept their accounts within a single bank while the other 24 companies (22.7%) have opened additional accounts with a different bank (multiple banks). These observations indicate that the majority of the SMMCs are very loyal to their house banks and are probably satisfied with the services provided. It may be also due to the fact that they perceive there is no difference between the quality of services provided by other banks (Fama, 1985). Those companies who have opened-up accounts with other banks may have seen better opportunities in terms of services provided by those banks or perhaps they are trying to widen-up their credit opportunities.

From the result of the survey, it was found that there are no significant relationships between number of accounts established with the size of company, ownership structure as well as the age of company. The *Pearson's chi-square* test of independence was used to confirm the above observation. However, a significant relationship was found between companies having accounts with multiple banks with the size of company [F_SIZE] ($\chi^2=4.95; p\leq 0.05$). The ratio between small-sized companies having accounts with a single bank is larger as compared to their medium-sized counterparts. Out of 24 companies who have multiple accounts relationship with multiple banks, 18 companies (75.0%) are small-sized companies while the other 6 companies (25.0%) are medium-sized (Table 7.57). A possible explanation as to why small-sized companies established accounts with more than a single bank could be as a strategy to widen-up their credit base. With regard to companies having multiple accounts with a single bank, it was observed that companies of both sizes (i.e. small and medium) are loyal to their house banks.

7.5.1.2 Duration (length) of account relationship [AGEACC2]

From the survey results, it was observed that the length of account relationship of the sample companies correlates strongly with the companies' age [AGEFIRM]. From Table 7.58, it can be observed that respondent companies are uniformly distributed across age of the company as well as the age of account relationship. The *mean* length of account relationship is approximately 11.48 years which is slightly lower than the mean age of the total sample (The *mean* age of company is 11.99 years). This finding implies that SMMCs normally open-up account(s) with the banks almost simultaneously with the establishment of the companies. This observation also suggests that SMMCs in Malaysia are very much aware of the importance of establishing account(s) with formal banks in order to facilitate their business operations as well as for savings and investment purposes.

The length of account relationship was also found to be significantly related to the firm's ownership structure [OWNSTRUC]. For the *bumi-controlled* companies, the length of account relationship was observed to cluster around the lower age group whereas for the *nonbumi-controlled* companies, they are more or less evenly distributed across the age group. The above observation confirms our earlier assertion that majority of the *bumi-controlled* companies are younger than their nonbumiputera counterparts since involvement in the commercial activities by the latter have started much earlier than those of the *bumiputeras*. Out of 53 companies controlled by *bumiputeras*, more than 60 per cent of the companies have account relationship of ten years or less (Table 7.59).

Finally, it was also found that the length of account relationship has no significant relationship with the size of company [F_SIZE]. This finding was confirmed after applying the *Pearson's chi-square* test.

7.5.2 Credit Relationship

Another aspect of company-bank relationships covered in our survey is related to the credit-relationship. Credit relationship involves companies that have received credit in the past or those currently enjoying short-term or long-term credit facilities. Short-term credit facilities include revolving or *non*-revolving credits for a duration of less than one year such as working capital loans, import-export financing and overdraft facilities. Long-term credit facilities are credits payable over a longer period than short-term credits such as hire-purchase financing and term loans. Out of 135 companies who responded to the survey questionnaire, 112 companies (83.0%) reported to have received banks credit. Out of 23 companies that were not getting credit from the banks, 13 companies (56.5%) were found to be using finance exclusively from the informal source, while 1 company (4.3%) had received finance from government agency. In addition, there are 5 companies (21.7%) who have received finance from government agencies as well as from informal sources. Unfortunately, we are unable to determine the exact source of financing for the remaining 4 companies (17.4%).

7.5.2.1 Types of banks' credits [CRTYPE]

Among the short-term credits, overdraft facilities [CRTYPE5] were found to be the most popular credit sought by 88.4 per cent of the SMMCs in the sample. Most overdraft facilities were used by the companies to ensure payments is met for every

cheques issued by the companies. To obtain an overdraft facility, the company has to make a formal request from the house bank in terms of value of the overdraft needed. The bank will then determine whether the full amount requested can be granted and whether or not the facility should be secured against some kind of collaterals.

The second type of credit commonly sought by SMMCs in the sample are the working capital loans [CRTYPE1]. This type of loans usually involve establishing a revolving or *non*-revolving line of credit with the banks. This type of facility is normally used to finance working capital needed for peak periods of production or to finance the increase in working capital due to permanent increase in demand for products. Out of 112 companies, 56 companies (50.0%) have used or were currently using this kind of short-term credit.

Import-export financing [CRTYPE2] were used by 33 per cent of SMMCs in the sample. This type of financing is normally requested when the companies need to finance imports of raw materials or to finance their exports. Other types of credits [CRTYPE6] are used by only 11.6 per cent of the sample companies.

With regards to long-term credits, term loan [CRTYPE3] was by far the most common type of credit used by 59.8 per cent of SMMCs in the sample followed by hire-purchase financing [CRTYPE4] which were used by 43.8 per cent of the companies. Term loans are normally requested by companies to finance capital expenditure projects such as investing in new plants and buying new machineries. This type of loan is usually quite difficult to obtain since the loans normally involved large sums of money. As such, banks are particularly concerned with the viability of the project to ensure the firms'

ability to repay the loan within the specified time periods. Banks would normally request the project or investment proposal to be appraised by the loan applicants so that they can make objective evaluation about the proposed investment project based on the information contained in the appraisal documents. Term loans are usually secured against some tangible assets of the companies.

Hire purchase financing are commonly used to finance machineries as well as commercial vehicles. This type of financing are offered mostly by finance and leasing companies and it is normally secured against the purchased assets themselves. The types of credit obtained by the companies are summarised in Table 7.60.

From the analysis, it was found that age of company [AGEFIRM] has no significant influence on the types of credits [CRTYPE] used by sample companies. It was observed that companies are evenly distributed across the types of credit as well as the age groupings. In terms of firms' size [F_SIZE], small-sized companies were observed to be more inclined to using overdraft and hire-purchase credits as compared to medium-sized companies. Out of 60 small-sized companies, 53 companies (53.5%) have been using overdrafts and 25 companies (51.0%) have been using hire purchase financing. Out of 52 medium-sized companies, 46 companies (46.5%) have been using overdrafts and only 24 companies (49.0%) have been using hire purchase financing (Table 7.61). Medium-sized companies are found to be using more of the working capital loans, import and export financing as well as term loans.

In terms of ownership structure [OWNSTRUC], it was observed that *nonbumi-controlled* companies have more access to almost every type of credit as compared to

the *bumi-controlled* companies. For example, out of 56 companies that are receiving working capital loan, 38 companies (67.9%) are *nonbumi-controlled* companies and only 18 companies (32.1%) are controlled by *bumiputeras*. Likewise, out of 99 companies that have overdraft facilities, 61 companies (61.2%) are *nonbumi-controlled* companies while only 38 companies (38.4%) are controlled by *bumiputeras* (Table 7.62).

However, in terms of access to term loans, the distribution between the two groups (*bumi* and *nonbumi-controlled*) is relatively the same. Out of 67 companies who have access to term loans, 36 companies (53.7%) are controlled by the *non-bumiputeras* while 31 companies (46.3%) are controlled by *bumiputeras*. This finding gives us an early indication that at least in terms of access to banks' long-term credits, there were no substantial differences between the two groups of companies. In other words, both groups have almost equal access to long-term bank finance. Therefore, on the basis of this finding, allegations made by a few of the *bumi-controlled* companies that commercial banks are more in favour of the *non-bumi-controlled* companies cannot be justified any further.

7.5.2.2 Main source of bank finance [CRSAME_B]

From the survey result, it was found that the main source of bank finance is the bank where the companies have account(s) relationship referred to earlier as the *house bank*. This shows that access to bank credits is somehow related to the 'activeness' of the account relationship. Out of 112 companies that have been getting credit from banks, 100 companies (89.3%) have received it from their house banks while only 12 companies, have received credits from sources other than the house bank. This

observation indicates that bankers are more confident and keen to extend credit to their existing customers since they have already built-up considerable amount of information about them over the years of relationship.

7.5.2.3 Frequency of credit applications [FREAPP1]

Another factor to measure the strength of company-bank relationships is by examining the frequency of applications made before the credit application is finally approved by the banks. Focusing on the most recent successful applications, respondents were asked to report the actual frequency in submitting their credit application before it was finally approved. A lower frequency indicates high degree of access while a higher frequency indicates low degree of access. From the survey result, it was found that, out of 112 companies who have had successful credit application, 82 companies (73.2%) have their credit application approved after one application while 24 companies (21.4%) have their credit application approved after two applications (Table 7.63).

However, there are three companies (2.7%) who have their credit applications approved after the third submission. This preliminary findings indicate that SMMCs in the sample have quite a high *ratio of access*¹² to banks finance - an overall access ratio of 71.33 per cent.

Using the *Pearson's chi-square* test of independence, it was found that frequency of application [FREAPP1] does not depend on size of company [F_SIZE], ownership

¹²Access ratio is calculated by adding the total number of applications minus the number of prior unsuccessful applications and then divided again by the total number of applications.
Access ratio = $[(157 - 45)/157] \times 100 = 71.33$ per cent.

structure [OWNSTRUC] as well as the age of company [AGEFIRM]. To confirm further whether there is any significant difference in the means, the *Mann Whitney test* (a *non-parametric test*) was performed on the size of company and ownership structure. Since the observed significance level is high for both variables (*for size of company, $p=0.731$ and for ownership structure, $p=0.273$*), the test failed to reject the hypothesis that frequency of application has the same distribution for both small and medium-sized companies as well as *bumi* and *nonbumi-controlled* companies.

For the independent variable, age of company [AGEFIRM], the *Kruskal-Wallis one-way analysis of variance test* was used to examine any differences between the groups. The large observed significance level ($p=0.504$) suggests that the variation in frequency of application is about the same for all age groups. Hence, all of the above tests confirmed that there were no significant differences between size of company, ownership structure and the firms' age-groups in terms of their frequency of application.

7.5.2.4 Duration (length) of credit relationship [AGECR2_B]

Another variable that was used to gauge the strength of a company-bank relationship is the length of credit relationship. The length of credit relationship is measured in number of years and is counted from the year the company first received bank credit. It is expected that length of credit relationship would be significantly related to age of company but not on size of company, and ownership structure. By using *Pearson's chi-square test of independence*, it was observed that length of credit relationship [AGECR2_B] is significantly related to age of company [AGEFIRM] but not to size of company [F_SIZE] and ownership structure [OWNSTRUC]. Using *Pearson's r*

correlation, it was confirmed that age of credit relationship is strongly positively correlated with age of company with a coefficient of 0.835. Table 7.64 exhibits the significant relationship between age of company and length of credit relationship. The overall *mean* for the samples in terms of age of credit relationship is 9.52 years, *median* of 8 years and *standard deviation* of 6.475.

Using similar tests as above, it was determined that no other types of credit [CRTYPE] given are related to the length of credit relationship [AGECR2_B], except for import and export financing [CRTYPE2]. The observed significance level for import-export financing is small ($\chi^2 = 12.64367$; $p \leq 0.05$) suggesting that this particular variable is significantly related to the length of credit relationship. Hence, the assumptions that types of credit is independent on the length of credit relationship cannot be rejected. Likewise, it was determined that frequency of application [FREAPP1] is not dependent on the length of credit relationship [AGECR2_B]. Consequently, the assumption that frequency of application is independent of length of credit relationship cannot be rejected. However, there is a very strong positive correlation (*Pearson's* $r = 0.85$, $p \leq 0.01$) between length of account relationship [AGEACC2] and length of credit relationship [AGECR2_B]. The above result indicates that majority of companies that have earlier established account relationship with the banks could possibly establish a credit relationship quite easily.

7.5.2.5 Interest rate charged [INRATE_B]

It was earlier assumed by the present study that the interest charged on short-term and long-term credits vary according to size of company, ownership structure, age of company, length of account relationship, length of credit relationship as well as the

types of credit (Greenbaum et.al., 1989). Generally, the annual rate of interest charged on credits given by banks and other financial institutions is within the range of less than or equal to 20 per cent. Out of 112 companies that have been receiving credit, 66 companies (58.9%) reported that they are charged interest of less than or equal to 10 per cent per annum while 46 companies (41.1%) reported that they have to pay interest of more than 10 per cent per annum (Table 7.65). Applying the *Pearson's chi-square* test, it was found that the rate of interest charged [INRATE_B] is significantly related to age of credit relationship [AGECR2_B] ($\chi^2=9.89, p \leq 0.05$) and only on one type of credit i.e. overdraft [CRTYPE5] ($\chi^2=6.77, p \leq 0.01$).

Focusing on the length of credit relationship, it was observed that companies with shorter length of credit relationship, were charged a higher interest rate than companies that have established longer credit relationship. This observation can be anticipated since banks are normally more sceptical towards their new customers (due to lack of information) as compared to their long established clients. Using the *Kruskal-Wallis* one-way anova, it was confirmed that significant difference exists between the age groups in terms of the interest charged by the banks ($\chi^2=9.80, p \leq 0.05$). However, the above findings should not be interpreted in isolation because there are cases where companies that already have a very long credit relationship were also charged a higher rate of interest. Other factors should also be considered such as the types of credit given by the banks. Short-term credits such as overdraft facilities and factoring usually bear a higher interest than ordinary term loans. It also depends on whether or not the credit facilities are secured by collaterals.

Form the survey results, it is noticeable that interest charged on overdraft is higher than the other types of credit. Out of 46 companies who reported that they are charged an interest rate between 10 to 20 per cent, 45 companies (97.8%) have been enjoying overdraft facilities from their bankers (Table 7.66).

It was also confirmed by the *Mann-Whitney* test that there is a significant difference between those companies which have overdraft facilities and those do not have, in terms of rate of interest charged by the banks and other financial institutions (*z-score* = -2.5903; 2-tailed *p*=0.0096). Hence the assumption that the rate of interest charged is the same for all types of credit is rejected.

7.5.3 Non-financial aspect of company-bank relationships

In order to achieve a more complete assessment of the company-bank relationships, another dimension of company-bank relationship is examined. This dimension includes the assessment on the companies' utilisation of auxiliary fee and *non-fee* based services as well as the individual relationship between the owners of the company and the bank officials.

7.5.3.1 Utilisation of auxiliary bank services [OTHER_B]

Utilisation of bank services other than as depository and source of credit facility can be used as a barometer to gauge the intensity of company-bank relationships. These auxiliary services include inter-alia, counselling and advisory services, credit card bills processing, on-line payroll services, night depository facility etc. Some of these services are free while others may be charged a nominal service fee. It is assumed by the study

that companies using majority of these services have a stronger relationship with their bankers and hence, they should have better access to bank credits.

Most of the companies surveyed reported that they have used a certain kind of bank services other than for safekeeping of deposit and credit-sourcing. Out of 135 companies who responded to the survey, 78 companies (57.8%) indicated that they are utilising other types of bank services. In terms of company's size, no significant difference in their means was found between the small and medium-sized companies as far as utilisation of other bank services is concerned. However, in terms of ownership structure, the *nonbumi-controlled* companies utilisation of these services were observed to be more intense than the *bumi-controlled* companies. This finding also suggests that majority of the *bumi-controlled* companies are still unfamiliar with some of the specialised services provided by their bankers. All of the above findings were confirmed by the *Mann-Whitney* test.

Age of company [AGEFIRM] as well as business location [BUSLOCA] also did not appear to have any significant association with companies' utilisation of other types of bank services. However, market classification [MKTCLASS] and the companies' annual sales turnover [ANNSALES] are found to affect the utilisation of these services quite significantly. The observed significance level for the independent variables [MKTCLASS] and [ANNSALES] are very small ($\chi^2 = 15.31547$; $p \leq 0.001$ for market classification and $\chi^2 = 28.66505$; $p \leq 0.0001$ for annual sales turnover), hence the assumptions that the company's utilisation of other services are independent from the two variables are rejected. Companies producing exclusively for the local markets were observed to be using more of the auxiliary services than companies producing

exclusively for export markets. Similarly, companies with lower annual sales turnover were found to rely more on the auxiliary services provided by their bankers. Results from the *Kruskal-Wallis* one-way anova test indicate that there were statistically significant differences between the means of the types of markets and the categories of annual sales turnover ($\chi^2 = 15.2020$; $p=0.005$ for market classification and $\chi^2 = 28.4527$; $p=0.000$ for annual sales turnover). Hence, earlier assumption by the study that utilisation of other bank services is the same for every type of market classification as well as for every category of annual sales turnover is therefore rejected.

7.5.3.2 Individual (personalised) relationship [KNOW_B]

A favourable relationship between owners of companies and bank officials is believed by the study to be one of the key indicator in determining the strength of company-bank relationships. More often than not, financial matters are resolved more speedily if owners of companies maintain favourable relationships with their bankers on a personal basis. From the result of the survey, it was found that the majority of the SMMCs reported that they have good relationship with their bankers, know their bank managers personally. It was observed that this kind of relationship was significantly related to the company's business location [BUSLOCA] as well as the firm's annual sales turnover [ANNSALES]. However, the relationship was not found to be significantly dependent on the size of company [F_SIZE], ownership structure [OWNSTRUC], age of company [AGEFIRM] and the owners' ethnic composition [ETHNIC]. All of the above observations were confirmed by the *Pearson's chi-square* test.

In terms of business location [BUSLOCA], those SMMCs which are located in the urban industrial estates were observed to have better individual relationship with their

bankers. Out of 87 SMMCs who reported to have a close relationship with their bankers, 62 companies (71.3%) are located in the urban industrial estates (Table 7.67). SMMCs located in rural industrial areas were also observed to have a close relationship with their bankers. The above observations were confirmed by the *Pearson's chi-square* test. It was quite surprising to find out that companies located in the urban business centres do not exert this kind of relationship with their bankers (at least at a statistically significant level).

In terms of annual sales [ANNSALES], SMMCs with higher sales turnover were observed to have a closer relationships with their bankers than SMMCs with lower sales turnover. Out of 87 SMMCs, 46 companies (52.9%) which reported to have a close relationship with their bankers, their annual sales turnover were more than RM 3 million (Table 7.68). This particular observation was expected earlier by the study since banks would obviously be more concerned with their clients which have substantial accounts with them. Companies with lower annual sales turnover were observed not to emphasize this kind of relationship probably because they felt that it would not make any difference to their access to bank credits.

7.5.4 Rating of bank services

In the survey questionnaire, respondents were asked to rate the services provided by their banks according to the following ranking ; '*excellent*', '*good*', '*satisfactory*', '*poor*' and '*very poor*'. The individual firm's rating of their bank services were also used to gauge the strength of company-bank relationship. The present study has assumed earlier that companies that have a better relationship with their bankers would rate them higher than those companies who do not perceive such relationship. In other

words, companies who are satisfied with the services provided by their bankers are expected to give a higher rating than dissatisfied companies.

Generally, most SMMCs rated their banks' services as good and satisfactory. Out of 135 SMMCs which have responded to this question, 13 (9.6%) rated their banks as 'excellent', 55 (40.7%) rated as 'good', 58 (43.0%) rated their bank services as satisfactory, 7 (5.2%) rated 'poor' services and 2 (1.5%) have rated their bank services as 'very poor'. These rankings, however, were found not to be affected by size of company, ownership structure as well as age of company.

7.5.5 Company-bank relationships and access to bank finance

Another main objective of this research is to examine whether variables in the company-bank relationships have any significant bearing on the access of SMMCs in the sample to external sources of finance, i.e. from commercial banks as well as from other financial institutions. The variables included in the company-bank relationship are categorised into three components as follows:

A. Account (deposit) relationships

[ACCSHIP] - companies have deposit relationship

[S_MACC] - companies have single or multiple accounts

[S_MBANK] - companies have account with single or multiple banks

[AGEACC2] - length of account relationship

B. Credit relationships

[CRTYPE] - types of credit granted

[CRSAME_B]- credit received from house bank

[FREQAPP1] - frequency of credit application

[AGECR2_B] - length of credit relationship

[NEEDPA_B] - requirement for project appraisal

[INRATE_B] - interest rate charged on credits

C. Non-financial relationships

[OTHER_B] - utilisation of auxiliary services

[KNOW_B] - individual relationship between entrepreneurs and bank officers

7.5.5.1 Account (deposit) relationships and access to bank finance

Out of the four variables in the deposit relationship component, only two variables were found to exert significant influence on the dependent variable [ACCESS_B]. The two variables are the existence of an account relationship [ACCSHIP] and whether a company has single or multiple account relationship [S_MACC]. Multiple-bank relationships [S_MBANK] as well as length of account relationship [AGEACC] were not found to have any significant effect on SMMCs' access to bank credits. The above observations were confirmed after applying *Pearson's chi-square* test of independence.

The establishment of an account relationship with a bank is normally the first step towards procuring a range of bank services relevant to the companies. In the present study, it was observed that out of 134 SMMCs which have established at least one account relationship with a bank, 112 of them (83.0%) were also found to have access to bank credits (Table 7.69). Those SMMCs who reported not to have access to bank credits may either have been denied access to credits for various reasons or they are self-sufficient (they do not need to borrow money). However, access to bank credits was found to be closely related to the existence of a deposit relationship ($\chi^2 = 4.905$; $p \leq 0.05$). In other words, companies who do not have a deposit relationship will find it very difficult to secure credits from the banks.

The *Mann-Whitney* test was used to test for the difference in means between those companies who have account relationships and those who do not in terms of accessibility to bank credits. It was confirmed by the test that significant difference in their means exist between the two groups of companies (*z-score* = -2.206, *2-tailed p* = .0273).

SMMCs with multiple account relationships were found to have a far better access to banks credit ($\chi^2 = 12.455$; $p = .000$). From the survey results, it was observed that out of 112 companies who have had access to bank credits, 97 companies (86.6%) have multiple account relationship, as compared to only 15 companies (13.4%) with single account relationship (Table 7.70). Via this multiple accounts relationship, it is expected that banks can easily accumulate information on these SMMCs' financial position by simply monitoring the status of their accounts.

The *Mann-Whitney* test was applied in order to examine the differences in the means between companies which have only one account and companies which have multiple accounts in terms of accessibility to bank credits. The test result clearly indicates that there is a significant difference in their means between the two groups (*z-score* = -3.516, *2-tailed p* = .0004). Both variables, [ACCSHIP] and [S_MACC] were also found to be positively correlated to the dependent variable [ACCESS_B], but companies having multiple accounts relationship correlate more strongly in terms of accessibility to bank credits (*Pearson's correlation for [S_MACC]* = 0.305, $p \leq 0.001$ and for [ACCSHIP] = 0.200, $p \leq 0.05$).

It was found that by having account(s) with multiple banks do not really help in improving SMMCs' access to bank credits. Out of 85 companies who have multiple accounts with a single bank, 77 companies (90.6%) reported to have access to banks credit whereas, out of 25 companies who have multiple accounts with multiple banks, only 20 companies (80.0%) reported to have access to bank credits. Therefore, percentage wise, the SMMC's access is not significantly dependent on whether the companies have more than a single relationship. This observation implies that as far as the SMMCs are concerned, their access to banks credit are not enhanced by having a multiple bank relationship. Although, having a multiple-bank relationship could lessen their dependence on a single bank, it does not indicate any substantial advantage in terms of improving their access to external finance. According to Holland (1988), single company-bank relationship is more common to the small and middle-sized companies thus implying the ultimate dependency of small and medium-sized companies on their bankers. In a more recent study, Petersen and Rajan (1994)¹³, found that smaller-sized companies concentrate on one source only while larger-sized companies have multiple lenders.

It was also found that length of account relationship [AGEACC2], does not relate significantly to SMMCs' access to banks credits. Age of account relationship was included as a variable in the study because it was thought to be the best proxy to gauge the amount of information that banks can have about their customers (SMMCs). This is based on the expectation that the longer the relationship, the more information would

have been gathered by the banks. However, the above finding nullifies our assumption. It seemed that bankers do not focus so much on the length of account relationship unless those companies also have credit relationship with them (Hodgman, 1963).

7.5.5.2 Credit relationships and accessibility to bank finance

It is quite obvious that each of the variable in the credit relationship component has displayed significant relationship with SMMCs' access to bank credits since companies would not have established a credit relationship unless they already had access to bank credits. Nevertheless, it would be interesting to find out which of the variables has greater influence on the company's accessibility. First, each of the variables was matched with the dependent variable [ACCESS_B] using the *Wilcoxon Signed-Rank Test*. This test was adopted because it is a more powerful one-sample, *non-parametric* test than the ordinary *Sign* test (Norusis, 1993). The *z-score* as well as the observed significance level associated with each variable are given in Table 7.71.

In order to determine the order of variables as a group, their means are ranked using the *Friedman Two-Way Anova*. The results are shown in Table 7.72. Since the observed significance level is small, the hypothesis that these variables have no significant effect on company's accessibility to bank credits is therefore rejected.

It is also noted that, credit is far more accessible from the house bank rather than from bank which is alien to the company. This finding is quite logical since house banks have more information about their clients as compared to their competitors. Banks,

¹³Petersen and Rajan (1994) have used the data from the National Survey of Small Business Finances to study the benefits of lending relationship. The sample size is 3,404 companies stratified across region, business location and size of employment.

generally will not be willing to extend credit to a company which does not have an account relationship with them. By extending credit to their own existing customers, bankers can make attractive for their clients to remain with them. Moreover, bankers can examine their clients financial position almost instantaneously by monitoring their accounts. In a broader sense, it also reduces lender's risk in extending credit to their existing clients.

In terms of frequency of application, companies whose credit applications were approved after one application only (assuming that there is no technical error in the application process) were considered to have better access than those which have to make additional applications. It was evident from the survey, that the majority of the SMMCs (73.2%) who have enjoyed credit from the banks reported that their application was approved after a single application.

Most of SMMCs covered by the survey have access to almost all types of credit mentioned in the questionnaire (Table 7.60). However, in terms of working capital loan, size of company was found to exert statistically significant influence. It was found that a major proportion of the medium-sized companies have received this type of credit as compared to the smaller-sized companies. Although no significant difference in the means was found between the bumi and *nonbumi-controlled* companies in terms of access to long term credits, the *bumi-controlled* companies were observed to be subjected to the project appraisal requirement more often than their non-bumi counterparts. This particular observation shows that local banks are more sceptical to *bumi-controlled* companies than *nonbumi-controlled* companies.

The requirement for project appraisal was found to be closely related to longer-term loan applications. As discussed earlier, long-term loans usually involve relatively large sum of money, therefore, banks would normally require the SMMCs to carry out project appraisal before application for credit from the latter can be considered. From the appraisal documents, banks can then evaluate and decide whether the proposed project is worth financing or not. These are done as a matter of policy and quite importantly, to protect the interest of their depositors and shareholders of the banks.

Length of credit relationship was also found to have significant influence in determining the company's access to bank credits. According to Diamond (1991), a company which has been servicing its loan for a very long time is expected to be more viable and their owner is more trustworthy. Although the access of SMMCs to bank finance is significantly related to the length of credit relationship, similar observation was not found for age of company. This observation can be made by comparing the means between the two variables; age of company [AGEFIRM] and length of credit relationship [AGECR2_B]. The *mean* for age of company is 11.99 years while the *mean* for length of credit relationship is 9.52 years. This indicate that majority of SMMCs in our sample has established a credit relationship approximately a year later from the year of establishment.

The interest rate charged on bank credits extended to SMMCs was observed to relate significantly on types of credit as well as length of credit relationship. In terms of types of credit, overdraft facilities were found to carry a higher interest rate followed by interest charged on term-loans. The above findings were quite consistent with the

banks' normal practice whereby overdrafts and term loans are usually charged at a higher interest rate as compared to the other types of financial instruments. Similarly, it was found that companies with shorter length of credit relationship were charged a higher interest than companies with a longer credit relationship. This particular observation strengthens our belief that banks tend to compensate the risk (*due to lack of information*) by charging a higher interest to companies who are new to them.

7.5.5.3 Non-financial relationships and access to bank finance

From the survey results, it was found that both variables, (i.e. utilisation of auxiliary services [OTHER_B] and individual relationship with bank officials [KNOW_B]) in the *non-financial* relationships component are significantly related to the accessibility of bank credits to SMMCs covered in the survey. Most of the SMMCs, who reported to have access to bank credits also declared that they have utilised auxiliary services provided by their bankers and they also declared that the entrepreneurs have established a strong individual relationship with the bank officials.

Out of 112 SMMCs who have access to bank credits, 73 companies (65.2%) reported to have utilised other services provided by their banks (Table 7.73). This observation clearly supports the general belief that utilisation of auxiliary services does have significant impact on the SMMCs' access to bank credits. This finding was confirmed by *Pearson's chi-square* test. The utilisation of auxiliary services can be used to gauge the dependency of companies on their banks. It can also be used to indicate the status of the company-bank relationship. As companies are encouraged to utilise many of the auxiliary services offered, the banks can accumulate more information about their customers. Results from the *Mann-Whitney* test also confirmed that there is a

significant difference in the means between companies which have utilised auxiliary services from those which have not utilised them ($z\text{-score} = -3.827$, 2-tailed $p = .0001$).

A strong individual relationship between the entrepreneurs and the bank officials [KNOW_B] was found to have significant influence on the SMMCs' access to bank credits. Out of 112 SMMCs who have access to bank credits, 80 companies (71.4%) reported to have a strong personal relationship with their bankers (Table 7.74) ($\chi^2 = 13.994$; $p = .000$). This observation verifies the fact that companies that have closer ties with their banks have more access to credits than companies that operate at arm's length with their bankers (Petersen and Rajan, 1994; Donaldson, 1969).

In order to test whether there is a significant difference in the means between companies which have close and individualised relationship with their bankers and those who do not have such relationship in terms of determining their access, the *Mann-Whitney* test was applied. It was found that there is a statistically significant difference in the means between the two group of companies ($z\text{-score} = -3.727$, 2-tailed $p = .0002$). Hence, it is believed that by fostering a close relationship with the banks, SMMCs can have a better chance in securing financial assistance.

7.6 Utilisation of Informal Sources of Finance

One of the objectives of the present study is to determine whether or not SMMCs in the sample have utilised informal sources of finance [INFORM_S]. From the result of the survey, it was observed that out of 135 SMMCs, 112 companies (83.0%) are using some form of informal sources of finance while the remainder 23 companies (17.0%) did not resort to any form of informal finance. The present study also attempts to

identify the most common types of informal finance used by those companies and the reasons for using them. Discussion on the utilisation of informal sources of finance is focused on the following issues:

- a) whether or not utilisation of informal sources of finance is significantly dependent on the profile of companies
- b) whether or not the utilisation of informal sources of finance is significantly affected by lack of access to formal institutional finance

7.6.1 Utilisation of informal sources of finance by profile of company

From the survey result, it was found that the use of informal sources of finance are not significantly related to the size of company and their ownership structure. In terms of size of company, out of the 112 companies that reported using informal sources of finance, 66 companies (58.9%) are small-sized companies and 46 companies (41.1%) are medium-sized companies; whereas in terms of ownership structure, 47 companies (42.0%) are owned by *bumiputeras* while 65 companies (58.0%) are controlled by the *non-bumiputeras* (Table 7.75). The above findings seem to suggest that the highly significant usage of informal sources of finance by SMMCs was not influenced by the size of company as well as their ownership structures.

7.6.2 Utilisation of informal sources of finance and access of SMMCs to formal sector finance

It was observed by the present study that the use of informal sources of finance by the respondent companies is not significantly dependent upon whether or not those companies have access to formal sources of finance. Out of 112 companies who reported using informal sources of finance, 94 companies (83.9%) already have access

to banks finance [ACCESS_B] and 20 companies (95.2%) already have access to government agencies finance [ACCESS_G] (Table 7.76). These observations led the researcher to believe that informal sources of finance are utilised by the respondent companies not because they lacked access to formal sources of finance (as conjectured earlier) but, rather to complement/supplement the latter. These findings, therefore, nullify the earlier assumption that the use of informal sources of finance by the SMMCs was due to their lack of access to formal institutional finance.

The above findings are also supported by reasons for utilising the informal source of finance given by the respondents. Failure to secure finance from the formal sector was not given as the most important cause for them to utilise informal sources of finance. As a matter of fact, the top five reasons for using informal sources of finance are as follows: i) easy access and general availability (73.2%), ii) less emphasis on collateral (62.5%), iii) urgency in financial needs (60.7%), iv) no bureaucratic procedures (46.4%) and, v) flexible repayment scheme (29.5%).

7.6.3 Types of informal sources of finance used

It is evident from the survey that the most common source of informal finance came from the companies' own internal fund (retained profits) as well as trade credit from their suppliers. Out of 112 companies, past retained profits are used by 73.2 per cent (82 companies) of the respondent companies while 65.2 per cent (73 companies) of them have used trade or suppliers' credit. The use of retained profit was found to be significantly related to size of company as well as their ownership structure (Table 7.77). In terms of size, smaller-sized companies tend to rely more on retained profits (47 companies or 57.3%), whereas, in terms of ownership structure, the *nonbumi-*

controlled companies are found to be using this particular source more often than their *bumi-controlled* counterparts (48 companies or 58.5%). However, the use of trade/suppliers' credit was found not to be significantly dependent upon the size and ownership structure of the SMMCs. These observations led us to believe that smaller companies generally have less access to formal sources of finance, therefore, they have to rely more on their retained earnings. Since, accessibility to formal finance (especially banks finance) was not influenced by ownership structure (as mentioned above), the significant usage of this source by the *nonbumi-controlled* companies does not necessarily reflect the fact that these companies have less access to formal sources of finance.

The use of personal savings as a source of informal finance was found to be evident in the smaller-sized SMMCs as compared to the medium-sized companies. Out of 41 companies that reported to have used personal savings as a source of informal finance, 35 (85.4%) of them are categorised as small-sized while 6 others (14.6%) are medium-sized companies (Table 7.78). It was also evident from the survey that the *bumi-controlled* SMMCs (28 companies or 68.3%) tend to rely more on personal savings as source of finance than their *non-bumi* counterparts (13 companies or 31.7%). However, the high usage of personal savings by small-sized companies as well as by *bumiputera* companies (as evident from the survey results) does not necessarily indicate that these companies have restricted access to formal sources of finance.

It was also evident from the survey that in terms of borrowing from relatives and friends, smaller-sized companies tend to use this particular source more often than the larger-sized companies. Similarly, *bumiputera-owned* companies are found to be

significantly dependent on this source of finance more often than the *non-bumiputera* companies (Table 7.79). Out of 25 companies reported using this source of informal finance, 19 companies (76.0%) are small sized and 18 companies are owned by *bumiputeras*. The above observation, once again does not support the belief that lack of access to formal finance, could be one of the reasons that small-sized SMMCs have to rely more on informal sources of finance.

In addition to the above sources of informal finance, the survey has also found other sources of informal finance which have evidently been used by the respondent companies which include advances from company officers (39.3%), customers' advances (26.8%), borrowing from money lenders (9.8%) and others (5.4%).

7.7 Summary

This chapter has provided detailed descriptive analysis of the profile of companies, their project appraisal practices, company-bank relationships as well as the profile of the entrepreneurs based on the results of the survey. It sought to examine the relationships between the independent variables related to the above components and the dependent variables, including adoption of project appraisal practice [ADOPTPA], access to banks finance [ACCESS_B], access to government agencies finance [ACCESS_G] and utilisation of informal sources of finance [INFORM_S]. Figure 7.1 summarises the relationships between the independent and dependent variables described in this chapter.

A. Profile of the companies

The first section of the chapter provides the descriptive analysis on profile of the respondent companies. The eight key variables included in the profile are size of company [F_SIZE], age of company [AGEFIRM], ownership structure [OWNSTRUC], business location [BUSLOCA], type of entity registration [REGTYPE], market classification [MKTCLASS], industry classification [INDCLASS] and average annual sales turnover [ANNSALES].

Initially, all these variables are tested for their interdependence by using the *Pearson's chi-square* test of independence. *Pearson's chi-square* test of independence was chosen because it is one of the most recommended statistical measures for nominal variables (Norusis, 1993). The chosen level of significance is at 0.05 or less. From the analysis, the results showed that several variables in this same group are significantly dependent on each other. For example, the companies' average annual sales turnover is significantly dependent on the companies' size as well as the companies' ownership structure. The type of entity registration was also found to be significantly affected by size of company, ownership structure and age of company. Furthermore, market classification was found to be significantly dependent on the size of company and its ownership structure.

Relationship with the dependent variables [ADOPTPA], [ACCESS_B], [ACCESS_G] and [INFORM_S]

Each of the above independent variables was tested against the following dependent variables; a) adoption of project appraisal practice [ADOPTPA], b) accessibility to banks and other financial institutions credit [ACCESS_B], c) accessibility to

government agencies credit [ACCESS_G], and d) utilisation of informal sources [INFORM_S] by sample companies. From the results, it was found that adoption of project appraisal practice by respondent companies was significantly related to the age of company, their business location, type of entity registration and the company's average annual sales turnover. It was also found that accessibility to banks' credit was significantly dependent upon size of company, type of entity registration, market classification as well as the average annual sales turnover. The results also indicated that accessibility to government agencies' credit was significantly dependent on the size of company, ownership structure, type of entity registration as well as average annual sales turnover.

However, the utilisation of informal sources of finance by the sample companies was not found to be dependent upon the variables in the group profile except for market classification.

B. Adoption of project appraisal practice

Out of the 135 SMMCs responded to the survey, 106 companies (78.5%) reported to be aware of project appraisal practice, but only 88 companies (65.2%) actually adopted the practice. In the study, it was revealed that the high level of awareness has significantly contributed to the adoption of project appraisal practice by the respondent companies. It was also found that the main purpose of performing project appraisal is to ascertain the proposed project's viability as well as to determine the level of risks associated with a particular project. The performance project appraisal would help the companies to make an informed and rational decision on whether or not to invest in the proposed project. From the survey, it was discovered that the most common type of appraisal is the

combination of three types of appraisals comprising of commercial, technical and financial appraisals. In terms of the methods or techniques used, it was found that the conventional methods (payback and accounting rate of return) are still more popular than the more sophisticated methods (net present value, internal rate of return and sensitivity analysis). Qualitative methods (such as personal intuition and gut-feeling) are also found to be used quite extensively by the respondent companies.

The lack of use of appropriate computer software has contributed to the lower degree of sophistication in the methods adopted for performing the appraisal. Nevertheless, majority of the companies have their project appraisal exercise documented. The most common type of information contained in the project appraisal documents are financial analysis, marketing analysis, technical/operational analysis, the company's history/background as well as the company's management structure.

For companies who have not adopted project appraisal practice, the following reasons are given; (i) borrowing was not required, (ii) lack of knowledge and expertise, (iii) the amount of investment is too small to justify for an appraisal, (iv) too expensive and time consuming, (v) not practical for small and medium-sized companies and (vi) project appraisal methods are too complicated.

Relationship between adoption of project practice and [ACCESS_B], [ACCESS_G] and [INFORM_S]

From the survey results, it was found that access to bank finance was very significantly related to the company's adoption of project appraisal practice. It was also found that the purpose of appraisal, type of appraisal as well as the documentation of the project

appraisal exercise are particularly important in determining the companies' access to bank finance. There is also a strong relationship between the requirement of such appraisal by banks with the adoption of such practice by the respondent companies, particularly when longer-term credits are sought. However, access to government agency finance was not found to be significantly related to whether or not the company adopts project appraisal practice. These observations suggest that project appraisal exercise is an important determinant for having access to banks finance but not so important for gaining access to government agency finance. This, however, does not explicate the fact that project appraisal is not at all required by the government agencies. None of the variables associated to the adoption of project appraisal practice have any significant relationship with the utilisation of informal sources of finance by the respondent companies.

C. Company-bank relationships

From the survey it was found that almost all companies have at least one account relationship with a commercial bank. Out of the 135 companies, 134 companies reported to have account relationships while 112 companies reported to have credit relationship with a bank. The mean for account relationship is 11.48 years while the mean for credit relationship is 9.53 years. The length of account relationship was found to be significantly related to the company's ownership structure as well as the age of the companies. However, the length of credit relationship was found to be significantly related to the age of company as well as to the type of credit sought. Out of 112 companies who reported to have credit relationship, 100 companies (89.3%) have obtained credit from the banks that they have deposit relationships. This observation

reflects the fact that banks prefer to extend credit to their existing clients rather than to *non*-customers because they have better information about their clients.

In terms of using other *non*-financial services from the banks, the survey found that almost half of the respondent (78 companies or 57.8%) have used these services while 87 companies (64.4%) reported to have good working relationship with bank officers. When respondent are asked to rate their banks services, 93.3 per cent have rated satisfactory or higher, 6.7 per cent have rated poorly. It was revealed that those who reported low rating of their banks have some time in the past been denied credit.

Relationship between company-bank relationships and [ADOPTPA], [ACCESS-B], [ACCESS_G] and [INFORM_S]

Adoption of project appraisal practice was found to be significantly related to the existence of multiple account relationship, the length of credit relationship, the extent of use of other non-financial services as well as good working relationship with bank officers. The survey have found that access to banks finance is significantly related to almost all of the variables related to company-bank relationship, except for single or multiple bank relationship and the age of account relationship. However, the utilisation of informal sources of finance was found to be insignificant in relation to the company-bank relationship variables.

D. Profile of the entrepreneurs

The average age of entrepreneurs who responded to the survey was within the age group of 30 to 49 years old (68.9%) which reflects their level of maturity. Seventy three per cent of them are male entrepreneurs which reflects the male dominance in the field of

entrepreneurship. It also reflects the culture of the people which perceived man should be the bread-winner of the family. In terms of ethnic composition, 73 of them are Chinese, 47 are Malays, 9 are Indians and 4 are of other ethnicities. This observation reflects the Chinese dominance over the commercial and industrial activities in Malaysia. Majority of them have received at least tertiary level of education while 36.3 per cent also have some kind of professional qualifications (such as in engineering and accounting). Sixty-three per cent have attended the general business management training course but only 21.5 per cent have attended special training on project appraisal.

In terms of experience, 82 of the entrepreneurs have worked with other organisations before while 29 of them have even started part-time business before going full-time with present operations. On average, the entrepreneurs have had at least 10 to 15 years' experience in their current business. This observation shows that majority of the entrepreneurs covered in the survey have relatively high level of business experience.

Relationship between entrepreneur's profile and [ADOPTPA], [ACCESS_B], [ACCESS_G] and [INFORM_S]

From the survey results, it was found that adoption of project appraisal practice by respondent companies are significantly dependent upon the level of education as well as the training on project appraisal attended by the entrepreneurs. The results suggest that education and specialised training plays an important role in encouraging companies to adopt project appraisal practice. However, in terms of accessibility to banks finance, none of the variables related to entrepreneurs' profile have any significant effect on it whereas in terms of accessibility to government agencies finance, the ethnic

composition of the entrepreneur as well as the level of business experience are found to be significantly dependent. None of these variables have any influence on whether or not the companies utilise informal sources of finance.

In the next chapter, the research hypotheses of the study will be empirically tested and the results of the findings discussed.

Figure 7.1: SUMMARY OF RELATIONSHIPS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES

Dependent variables/ Independent variables	Description of variables	Adopt project appraisal (n=88)	Access to bank finance (n=112)	Access to govt. finance (n=21)	Use of informal sources (n=112)
F_SIZE	Size of company	X	√*	√**	X
OWNSTRUC	Ownership Structure	X	X	√****	X
AGEFIRM	Age of company	√*	X	X	X
BUSLOCA	Business location	√**	X	X	X
REGTYPE	Entity registration	√**	√****	√*	X
MKTCLASS	Market classification	X	√*	X	√*
INDCLASS	Industry classification	X	X	X	X
ANNSALES	Annual sales turnover	√**	√****	√**	X
AWAREPA	Awareness of project appraisal practice	√****	√**	X	X
PURPOSE	Purpose of appraisal	√****	√*	X	X
TYPEPA	Types of appraisal	√****	√*	X	X
METHOD	Methods of appraisal	√****	X	X	X
DOCPA	Project appraisal documented	√****	√**	X	X
INFOTYPE	Type of info. documented	√****	X	X	X
NEEDPA_B	PA required by banks	√**	√**	n.a.	n.a.
NEEDPA_G	PA required by governments agency	X	n.a.	X	n.a.
ACCSHIP	Existence of account relationship	X	√*	√*	X
S_MACC	Single or multiple accounts	√**	√****	X	X
S_MBANK	Single or multiple banks	X	X	X	X
AGEACC2	Length of account relationship	X	X	X	X
CRTYPE	Types of credit	X	√****	X	X
CRSAME_B	Credit from house bank	X	√****	√*	X
FREAPP1	Frequency of application	X	√****	√*	X
AGECR2_B	Length of credit relationship	√**	√****	X	X
OTHER_B	Non-financial relationships	√*	√****	√*	X
KNOW_B	Personalised relationship	√**	√****	X	X
AGE_R	Age of entrepreneur	X	X	X	X
GENDER	Gender	X	X	X	X
ETHNIC	Ethnic groups	X	X	√****	X
EDUCATE	Level of education	√**	X	X	X
PROF_Q	Professional qualifications	X	X	X	X
TRAINED	Business management training	X	X	X	X
TRAINPA	Project appraisal training	√****	X	X	X
WORKEXP	Previous working experience	X	X	X	X
BUSEXP2	Business experience	X	X	√*	X
ADOPTPA	Adopt project appraisal	n.a.	√****	X	X
ACCESS_B	Access to banks finance	√****	n.a.	X	X
ACCESS_G	Access to govt. finance	X	X	n.a.	X
INFORM_S	Use of informal sources	X	X	X	n.a.

√* Significant at 0.05 level

√** Significant at 0.01 level

√*** Significant at 0.001 level

√**** Significant at 0.0001 level X - Not significant

n.a. - not applicable

EMPIRICAL TESTING OF RESEARCH HYPOTHESES

8.1 Introduction

In this chapter, the main hypotheses of the present study are tested for their statistical significance using parametric and non-parametric statistical tests. The classification of sample (SMMCs) used in the analysis is based on the following:

1. Size of company [F_SIZE]
 - a. *Small-sized SMMCs*
 - b. *Medium-sized SMMCs*
2. Ownership structure [OWNSTRUC]
 - a. *Bumi-controlled SMMCs*
 - b. *Nonbumi-controlled SMMCs*

As mentioned earlier, this form of classification is preferred by the study since most of the government's policies on small and medium-sized industries in the country are related to the above elements. Small-sized SMMCs are defined as manufacturing companies employing less than 50 while medium-sized SMMCs are defined as manufacturing companies employing 100 workers or less. *Bumi-controlled* SMMCs are manufacturing companies controlled by *bumiputeras* while *nonbumi-controlled* SMMCs are companies controlled by the *non-bumiputeras*. Companies owned by foreigners are included in the non-bumiputera category. Figure 8.1 depicts the composition of companies under each category.

Figure 8.1
Classification of sample for analysis (Total sample, $N = 135$ companies)

Size of company	Small-sized ($n = 78$)	Medium-sized ($n = 57$)
Ownership structure	<i>Bumi-controlled</i> ($n = 54$)	<i>Nonbumi-controlled</i> ($n = 81$)

8.2 The Main Statistical Tests Used for Testing the Hypotheses

The research hypotheses are tested for statistical significance or validity by using either the parametric or the non-parametric tests depending on the sample size and whether or not the data is normally distributed. The distribution of data is known after applying the *Kolmogorov-Smirnov's (Lilliefors)* test of normality on each of the variables listed in the hypotheses (Norusis, 1993). Among the parametric tests used are the independent samples *T-test* and *analysis of variance (ANOVA)*. The non-parametric measures used in the analysis include the *Pearson's chi-square* independent test, the *Spearman's* correlation, the *eta* coefficient, the *Mann-Whitney* test and the *Kruskal-Wallis* one-way anova.

Pearson's chi-square is a non-parametric test commonly applied to determine the existence of a relationship between two variables but this particular test is not appropriate enough to measure the strength of the relationship (Norusis, 1993). For chi-square test to be effective, the data must be random samples from multinomial distributions and the expected values must not be too small¹. Although, it has been

¹The expected values or expected number of observations for each cell are calculated based on the following formula:

$$E_{ij} (\text{expected frequency in cell } ij) = \frac{(\text{count in row } i) (\text{count in column } j)}{N}$$

recommended that all expected frequencies be at least 5 (Bailey, 1978), studies indicate that this requirement is probably too stringent and can be relaxed (Everitt, 1977). The *eta coefficient* is used to measure the strength of association between two variables when these are not linearly related, while the *Spearman's* correlation coefficient is used to measure the strength and direction of relationship between variables when these are linearly related. The maximum observed significance level chosen in order to reject the null hypotheses is when p is smaller than or equal to 0.05 (*i.e. at least with 95 percent level of confidence*).

8.3 Structure of Hypotheses Testing

Each of the research hypotheses are tested independently and structured according to the following sections:

- A. *Statement of the hypothesis* - where the description of the hypothesis is reiterated.
- B. *Test results* - where the test results are reported and whether the null hypotheses are rejected or otherwise.
- C. *Discussion of test results* - where the test results are elaborated upon.
- D. *Conclusion* - where specific summary on each hypothesis is presented.

8.4 Testing of Hypotheses 1

A. Statement of the hypotheses

There are no significant differences between the small and the medium-sized SMMCs [F_SIZE] in terms of the following:

1.1 *level of awareness about project appraisal practices [AWAREPA]*

- 1.2 adoption of formal project appraisal practices [ADOPTPA]
 1.3 types of project appraisal used [TYPEPA]
 1.4 level of sophistication of project appraisal methods used [METHOD]
 1.5 access to bank and other financial institution finance [ACCESS_B]
 1.6 access to government agencies' finance [ACCESS_G]
 1.7 utilisation of informal sources of finance [INFORM_S]

B. Test results

Results from the statistical tests are summarised in Table 8.1 below. The grouping of variables is based on size of the companies. As can be observed from the table, hypothesis 1.1 and hypothesis 1.6 were successfully rejected by the test while hypotheses 1.2, 1.3, 1.4, 1.5, and 1.7 failed to be rejected.

Table 8.1: Testing Hypotheses 1 - Summary of tests results

<i>Hypo no.</i>	<i>Test Variables</i>	<i>N</i>	<i>Z - score</i>	<i>2-Tailed P</i>	<i>Result</i>
1.1	AWAREPA	106	-.9488	.3427	(X)
1.2	ADOPTPA	88	-1.4010	.1612	(X)
1.3	TYPEPA	88	-1.5806	.1140	(X)
1.4	METHOD	88	-.8588	.3904	(X)
1.5	ACCESS_B	112	-2.1755	.0296*	(√)
1.6	ACCESS_G	21	-2.8102	.0050**	(√)
1.7	INFORM_S	112	-.5952	.5517	(X)

(√) *Reject null hypothesis* (X) *Do not reject null hypothesis*

* *Significant at $p \leq 0.05$* ** *Significant at $p \leq 0.01$.*

C. Discussion of test results

From the above findings, it was confirmed that statistically significant differences in means exist between the small and medium-sized SMMCs in terms of their access to

bank and other financial institution finance [ACCESS_B] as well as access to government agencies' finance [ACCESS_G]. In terms of access to bank and other financial institution finance, medium-sized SMMCs were observed to have more access than small-sized SMMCs. On the contrary, small-sized SMMCs were observed to have more access than medium-sized companies to government agencies' finance.

These findings reflect the concentration of lending by the two main sources of external credits in Malaysia. Banks and other formal sector financial institutions concentrate their lending more towards the larger companies. Larger companies are considered to be more stable and more established than the smaller companies, therefore lending to them is perceived to be less risky. In addition, larger companies generally have stronger asset-base, and therefore, are able to provide lenders with adequate cushion against lendings risk than smaller companies. Government agencies, on the other hand, tend to concentrate their lending more towards the smaller SMMCs. Since smaller companies generally have less access to banks and other financial institutions, the only alternative source of formal external finance for them are the government agencies. The above findings provide the evidence that the respective government agencies (particularly, those involved in providing financial assistance to SMMCs) in the country are carrying out their mandate of helping viable smaller companies who are unable to secure financing from the commercial banks. Smaller companies are actively encouraged to seek for loans from the respective government agencies.

D. Conclusion

1. In terms of access to bank and other financial institutions finance, medium-sized companies have better access than small-sized companies.

2. In terms of access to government agencies' finance, small-sized companies have better access than medium-sized SMMCs.
3. In terms of project appraisal practices and utilisation of informal sources of finance, there are no differences between the small and medium-sized SMMCs.

8.5 Testing of Hypotheses 2

A. Statement of the hypotheses

There are no significant differences between the bumi-controlled SMMCs and the nonbumi-controlled SMMCs [OWNSTRUC] in terms of the following:

- 2.1 *level of awareness about project appraisal practices [AWAREPA]*
- 2.2 *adoption of formal project appraisal practices [ADOPTPA]*
- 2.3 *types of project appraisal used [TYPEPA]*
- 2.4 *level of sophistication of project appraisal methods used [METHOD]*
- 2.5 *accessibility to bank and other financial institution finance [ACCESS_B]*
- 2.6 *accessibility to government agencies' finance [ACCESS_G]*
- 2.7 *utilisation of informal sources of finance [INFORM_S]*

B. Tests results

Results from the statistical tests are summarised in Table 8.2 below. The grouping of variables is based on the ownership structure of the companies. As can be observed from the table, hypothesis 2.6 was successfully rejected by the test while the other six hypotheses failed to be rejected.

Table 8.2: Testing Hypotheses 2 - Summary of tests results

<i>Hypo no.</i>	<i>Tested Variables</i>	<i>N</i>	<i>Z - score</i>	<i>2-Tailed P</i>	<i>Result</i>
2.1	AWAREPA	106	-.2557	.7982	(X)
2.2	ADOPTPA	88	-.2939	.7688	(X)
2.3	TYPEPA	88	-.2991	.7649	(X)
2.4	METHOD	88	-1.4354	.1512	(X)
2.5	ACCESS_B	112	-.3724	.7096	(X)
2.6	ACCESS_G	21	-4.1532	.0000****	(√)
2.7	INFORM_S	112	-1.0242	.3057	(X)

(√) *Reject null hypothesis* (X) *Do not reject null hypothesis*

**** *Significant at $p \leq 0.0001$*

C. Discussion of test results.

From the above findings, it was found that there were no significant differences between the means of the two groups of companies; i.e. *bumi-controlled* SMMCs and *nonbumi-controlled* SMMCs, in terms of their awareness and adoption of project appraisal practices, the type of appraisal used and the level of sophistication of appraisal methods. It was also found that in terms of access to bank and other financial institution finance, there was no significant difference between the two groups of companies. In other words, both, the *bumi* and *nonbumi-controlled* companies have equal access to banks and other financial institutions finance. This finding thus nullifies the claims made by some SMMCs that banks and other financial institutions in the country were more in favour of the *nonbumi-controlled* SMMCs in terms of extending financial assistance. Although there was no significant difference statistically, the perception on the above discrepancy cannot be entirely ignored, given the fact that medium-sized companies have better access to bank finance, and, majority of these companies are owned by the non-bumiputeras whereas majority of the *bumi-controlled*

companies are relatively young and smaller in size. This could be one of the possible explanation for the above perception.

In terms of utilisation of the informal sources of finance, it was found that there was no significant difference between the two groups of SMMCs. However, in terms of government agency finance, the *bumi-controlled* SMMCs were found to have more access than the *nonbumi-controlled* SMMCs. This particular finding indicates government agencies tend to be more in favour of the *bumi-controlled* SMMCs, which are considered by many as a form of positive discrimination. The proclivity of these agencies towards the *bumi-controlled* companies may be influenced by the political leadership in those agencies, majority of which are held by the *bumiputeras*. This finding however, should not be exaggerated, rather should be interpreted with caution since the number of companies in our survey who reported to have had access to government agency finance is relatively small.

D. Conclusion

1. In terms of access to banks and other financial institution finance, both the *bumi* and *nonbumi-controlled* companies have equal access.
2. In terms of access to government agency finance, the *bumi-controlled* SMMCs have better access than the *nonbumi-controlled* SMMCs.
3. In terms of project appraisal practices and utilisation of informal sources of finance, there are no differences between the *bumi* and *nonbumi-controlled* SMMCs.

8.6 Testing of Hypotheses 3A through 3E

8.6.1 Testing Hypotheses 3A

A. Statement of the hypotheses

There are no significant relationships between access to bank and other financial institutions finance [ACCESS_B] with the following variables:

3A.1 size of company [F_SIZE]

3A.2 ownership structure [OWNSTRUC]

3A.3 age of company [AGEFIRM]

3A.4 business location [BUSLOCA]

3A.5 type of entity registration [REGTYPE]

3A.6 market classification [MKTCLASS]

3A.7 industry classification [INDCLASS]

3A.8 annual sales turnover [ANNSALES]

B. Tests results

Table 8.3 summarises the results after applying the appropriate statistical tests. Out of eight variables related to the profile of companies, four of them were found to have significant relationship with the dependent variable [ACCESS_B], at the significance level of $p \leq 0.05$. The four variables are the size of company [F_SIZE], type of entity registration [REGTYPE], market classification [MKTCLASS] and the firm's annual sales turnover [ANNSALES]. In terms of strength of relationship, the firm's annual sales turnover has the strongest relationship followed by type of entity registration, market classification and the size of company.

Table 8.3: Testing Hypotheses 3A - Summary of tests results (n=135)

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i>	<i>Spearman's (S) Eta coefficient (E)</i>	<i>Results</i>
3A.1	F_SIZE	4.76796 (d.f.= 1)	.02899*	.18793 (S) .18793 (E)	(√)
3A.2	OWNSTRUC	.13975 (d.f.= 1)	.70853	.03217 (S) .03217 (E)	(X)
3A.3	AGEFIRM	1.15946 (d.f.= 4)	.88473	.09037 (S) .09267 (E)	(X)
3A.4	BUSLOCA	6.57958 (d.f.= 3)	.08658	-.20324 (S) .22077 (E)	(X)
3A.5	REGTYPE	29.98513 (d.f.= 3)	.0000****	.19922 (S) .47129 (E)	(√)
3A.6	MKTCLASS	6.38154 (d.f.= 2)	.04114*	.19635 (S) .21742 (E)	(√)
3A.7	INDCLASS	9.85096 (d.f.= 8)	.27564	.02223 (S) .27013 (E)	(X)
3A.8	ANNSALES	33.64893 (d.f.= 5)	.0000****	.37749 (S) .49925 (E)	(√)

(√) *Reject null hypothesis* (X) *Do not reject null hypothesis*

* *Significant at $p \leq 0.05$*

**** *Significant at $p \leq 0.0001$*

C. Discussion of test results.

Size of company [F_SIZE] was found to have significant and positive relationship with access to banks and other financial institutions finance [ACCESS_B]. This finding is highly consistent with our earlier finding that significant differences exist between the small and medium-sized SMMCs in terms of their accessibility to banks and other financial institutions finance (*please refer to table 8.1 above*).

Small and medium-sized industries in Malaysia until late 1989 were considered as among the 'priority sectors' where commercial banks were directed to provide loans according to special guidelines issued by the central bank (Haron, 1990). Even though currently, SMMCs were no longer considered as one of the priority sectors, the lending guidelines for loans extended under the CGC schemes are still in effect. Although,

medium-sized SMMCs were found to have better access to banks and other financial institutions credits than small-sized SMMCs, the strength of that relationship was found to be rather weak. Nevertheless, this finding confirms the fact that commercial banks and other private financial institutions in Malaysia are more inclined towards the larger companies in terms of their lending preference. Hence, the null hypothesis which states that there is no significant relationship between size of company and access to bank and other financial institutions finances is therefore rejected.

Another variable that was found to have a significant and positive relationship with SMMCs' access to banks and other financial institutions finance is market classification [MKTCLASS]. Data from the survey reveals that majority of the SMMCs was producing for both local and export markets (57.8%) while a number of them were producing exclusively for the local markets (35.6%). These observations bear testimony to the complementary role of SMMCs as 'feeders' to the large corporations in the country as envisaged by the government. Recently, SMMCs in Malaysia were encouraged to penetrate the export markets (Seventh Malaysia Plan, 1996-2000).

From the survey, only a handful of companies were found to be producing exclusively for the export markets (6.7%). The relationship between market classification and access to bank finance was also found to be only marginally strong. In order to determine the differences in the means between types of market classification in terms of access to banks finance, the *Kruskal-Wallis* one-way anova test was performed. From the test result, it was found that companies producing for both types of markets as well as those who were producing exclusively for local markets were found to have better access to bank credits than companies producing exclusively for the export markets.

However, the result should be treated with caution since there are only nine SMMCs in the sample who are producing exclusively for the export markets.

The next variable that displays a very significant and positive relationship with SMMCs access to banks and financial institutions finances is the type of entity registration [REGTYPE]. SMMCs registered as private limited companies (*'Sendirian Berhad'* - in the Malay language) were found to have better access to the banks and other financial institutions. This particular type of registration is the most common type of registration preferred by Malaysian SMMCs due to its 'separation of entity' between the companies and its owners. Moreover, companies registered as private limited companies are bound by the Company's Act 1965 (Amendment 1996) and are closely observed by the Registrar of Companies (ROC). On the other hand, companies registered as sole proprietorships or partnerships have no such legal 'separation of entity' and their operations are overseen by the Registrar of Businesses (ROB).

The relationship between entity registration [REGTYPE] and access to banks and other financial institutions [ACCESS_B] was found to be positively strong. It implies that banks and other financial institutions are more comfortable in extending credits to SMMCs who are registered as private limited companies as opposed to SMMCs registered as partnerships or sole proprietorships. The difference may be attributed to the fact that the yearly financial statements of the private limited companies have to be audited and certified by registered accountants and submitted to the Registrar of Company's office. Companies registered as sole proprietorships and partnerships were not compelled to observe any such requirements by the Registrar of Businesses. In other words, the financial information provided by the private limited companies are

perceived by the bankers to be more reliable than those of the sole proprietorships and partnerships.

Finally, the firms' average annual sales turnover [ANNSALES] was found to have a very significant, strong and positive relationship with the SMMCs' access to banks and other financial institutions finance. SMMCs with higher sales turnover were found to have greater access than companies with lower sales turnover. This finding reflects that banks and other financial institutions, being profit-oriented organisations, prefer to extend loans to companies who they think are profitable and able to repay the loan without any difficulties. By assessing the sales performance, bankers can reasonably evaluate the financial strength of a particular company. In other words, this finding supports the assumption that companies with higher sales turnover are more likely to have better access to banks and other financial institution credits than companies with lower sales turnover.

D. Conclusion

1. Medium-sized SMMCs have better access to bank and other financial institutions finance than small-sized SMMCs.
2. SMMCs producing for both type of markets (local and exports) and SMMCs producing exclusively for local markets have better access to banks and other financial institutions finance than SMMCs producing exclusively for exports.
3. SMMCs registered as private limited companies (subsidiary or non-subsidiary) have better access to banks and other financial institutions finance than SMMCs registered as sole proprietorships and partnerships.

4. The companies average annual sales turnover has a very significant and positive relationship with SMMCs' access to banks and other financial institutions finance.
5. There are no significant relationships between ownership structure, age of company, types of business location and types of industry classification with SMMCs' access to banks and other financial institutions finance.

8.6.2 Testing Hypotheses 3B

A. Statement of the hypotheses

There are no significant relationships between access to bank and other financial institutions finance [ACCESS_B] with the following variables related to the adoption of formal project appraisal practices:

3B.1 adoption of formal project appraisal practices [ADOPTPA]

3B.2 type of appraisal used [TYPEPA]

3B.3 level of sophistication of methods used [METHOD]

3B.4 documentation of project appraisal [DOCPA]

3B.5 types of information contained in the PA document [INFOTYPE]

B. Tests results

After performing the appropriate tests, hypothesis 3B.1 and hypothesis 3B.2 were successfully rejected while hypothesis 3B.3, hypothesis 3B.4 and hypothesis 3B.5 could not be rejected. The results show that SMMCs' access to banks and other financial institutions finance is significantly related to the adoption of project appraisal practices [ADOPTPA] and also to the types of appraisal used [TYPEPA]. The level of sophistication in methods used [METHOD], whether the project appraisal exercise is

documented or not [DOCPA] as well as the types of information provided in the project appraisal document [INFOTYPE] were not seen to exhibit significant relationships with the dependent variable. From the *t-test*, it was found that none of the methods used in the project appraisal have produced significant difference in terms of SMMCs' accessibility to banks and other financial institutions finance. Table 8.4 summarises the test results while Table 8.5 displays the results from the independent sample *t-test*.

Table 8.4: Testing Hypotheses 3B - Summary of tests results (n=88)

Hypo no.	Independent variables	χ^2 -value	p-value	Spearman's (S) Eta coefficient (E)	Results
3B.1	ADOPTPA	11.29149 (d.f.= 1)	.00078***	.28921 (S) .28921 (E)	(√)
3B.2	TYPEPA	12.15166 (d.f.= 4)	.01626*	.24456 (S) .30002 (E)	(√)
3B.3	METHOD	24.89464 (d.f.= 21)	.25176	-.27844 (S) .42942 (E)	(X)
3B.4	DOCPA	0.03610 (d.f.= 1)	.84930	.02025 (S) .02025 (E)	(X)
3B.5	INFOTYPE	15.99904 (d.f.= 11)	.14117	-.22408 (S) .34425 (E)	(X)

(√) *Reject null hypothesis*
* *Significant at $p \leq 0.05$*

(X) *Do not reject null hypothesis*
*** *Significant at $p \leq 0.001$*

Table 8.5: T-test for independent samples of ACCESS_B (Accessibility to bank finance)

Method of appraisal (n=88)	Have access		No access		t-value
	mean ^a	s.d ^a	mean ^a	s.d ^a	
Payback period	1.95	1.29	2.62	1.50	1.39
Accounting rate of return	2.44	1.34	2.87	1.24	0.88
Net present value	2.56	1.39	2.87	1.45	0.60
Internal rate of return	2.70	1.41	2.62	1.30	-0.14
Sensitivity analysis	2.82	1.32	3.75	1.28	1.88
Qualitative methods	3.27	1.27	2.50	1.06	-1.66

^a *The scores on each type of appraisal are on a Likert scale of 1- always used, 2 - often used, 3- not sure, 4 - occasionally used, and, 5 - not used at all.*

C. Discussion of test results.

From the test results, it was determined that the adoption of project appraisal practices [ADOPTPA] has had a highly significant and positive relationship with SMMCs'

access to banks and other financial institutions' credits [ACCESS_B]. The *Mann-Whitney test* confirmed the fact that there is a very significant difference in terms of access between SMMCs who have adopted formal project appraisal practices as compared to those who did not adopt formal project appraisal practices ($z\text{-score} = -3.3478$; $2\text{-tailed } p = .0008$). In other words, SMMCs who have adopted formal project appraisal practices were found to have better access to banks and other financial institutions finance as compared to those SMMCs who did not adopt similar practices.

This finding provides an evidence behind the perception that commercial banks and other financial institutions in Malaysia are putting emphasis on the performance of project appraisal when dealing with credit applications from the SMMCs. Presently, the small and medium-sized industries themselves have realised the importance of performing project appraisal not only as a tool for making capital expenditure decisions but also as an important document to complement their loan applications. Out of 112 SMMCs who reported to have access to banks and other financial institutions, 80 companies (71.4%) have also adopted formal project appraisal practices.

The other variable that was found to display a significant relationship with access to bank and other financial institutions credits is the type of appraisal [TYPEPA] that was adopted. The types of appraisal that were asked in the questionnaire include the technical appraisal [TYPE1], marketing appraisal [TYPE2], financial appraisal [TYPE3] and the combination of these three types [TYPE4]. When treated independently, each of appraisal types appeared not to be significantly related to access to external finance but when the variables were combined as one, it had produced a very significant relationship. This observation could be attributed to the fact that majority of

the SMMCs have incorporated all three types of appraisals (commercial, technical and financial appraisals) in their project appraisal practices. In terms of strength of their relationship, it was found to be significant, strong and positive.

Quite surprisingly, the level of sophistication of methods [METHOD] used in the appraisal was not found to have significant relationship with the dependent variable. Most of the SMMCs who have access to banks and other financial institution credits still prefer the conventional methods over the more sophisticated methods of appraisal (Table 8.5). The finding underlines the fact that the level of sophistication used in the project appraisal methods among the small and medium-sized industries covered in the survey is still very basic. Moreover, this finding also points to the fact that formal banks in the country do not put much concern on the level of sophistication of the methods used by the companies when evaluating a loan proposal from these companies.

D. Conclusion

1. There is a very significant and positive relationship between the adoption of formal project appraisal practices with the access of SMMCs to banks and other financial institutions finance.
2. There is a very significant and positive relationship between the types of appraisal adopted in carrying out the project appraisal exercise with the accessibility of SMMCs to banks and other financial institutions finance.
3. The methods of appraisal, documentation of project appraisal and the types of information contained in the appraisal documents do not have any significance on the accessibility of SMMCs to banks and other financial institutions finance.

8.6.3 Testing Hypotheses 3C

A. Statement of the hypotheses

There are no significant relationships between access to bank and other financial institutions finance [ACCESS_B] with the following variables related to company-bank relationship:

3C.1 existence of a deposit relationship [ACCSHIP]

3C.2 single or multiple account relationship [S_MACC]

3C.3 single or multiple bank relationship [S_MBANK]

3C.4 length of deposit relationship [AGEACC2]

3C.5 utilisation of auxiliary bank services [OTHER_B]

3C.6 personal relationship between company officials and bank officials [KNOW_B]

B. Tests results

After applying the appropriate tests, it was found that three out of six variables related to company-bank relationship have shown a very significant relationship with the dependent variable [ACCESS_B]. The three variables are [S_MACC] - single or multiple account relationship, [OTHER_B] - utilisation of auxiliary bank services and [KNOW_B] - the individual relationship between company officials with bank officials. Hence, hypotheses 3C.2, 3C.5 and 3C.6 were rejected. The above tests failed to reject hypotheses 3C.1, 3C.3, 3C.4. The summary of the *chi-square* tests is given in Table 8.6 below.

C. Discussion of test results

From the above findings, SMMCs that have one or more account relationships were observed to have better access to credit from banks and other financial institutions.

From the survey sample, there was only one SMMC that reported not to have even a single account with a bank. However, after contacting the owner (a sole proprietor), it was confirmed that the company is using the owner's personal accounts. The test results, however, suggest that the existence of an account relationship alone, as well as having accounts with multiple banks and the length of deposit relationship do not guarantee easy access to banks and other financial institution credits. Although it had been found that the existence of an account relationship [ACCSHIP] had some significance on access to external finance, this relationship was found to be rather weak (*eta coefficient* = 0.196). Instead, it was the existence of multiple accounts relationship [S_MACC] that had contributed to the highly significant relationship. SMMCs having multiple accounts were found to have better access to banks' finance than SMMCs having only one account. The *Mann-Whitney* test was used to confirm the above observation (*z-score* = -3.5160; 2-tailed *p* = .0004).

Table 8.6: Testing Hypotheses 3C - Summary of tests results

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i> (<i>Fisher's test</i>)	<i>Spearman's (S)</i> <i>Eta coefficient (E)</i>	<i>Results</i>
3C.1	ACCSHIP (n=135)	4.90591 (d.f.= 1)	.02677* (.17037)	-.19063 (S) .19603 (E)	(X)
3C.2	S_MACC (n=134)	12.45523 (d.f.= 1)	.00042*** (.00136)	-.30488 (S) .30488 (E)	(√)
3C.3	S_MBANK (n=134)	1.00546 (d.f.= 1)	.31599 (.29505)	-.09604 (S) .09604 (E)	(X)
3C.4	AGEACC2 (n=109)	1.02057 (d.f.= 4)	.90666	.06728 (S) .08727 (E)	(X)
3C.5	OTHER_B (n=135)	14.75974 (d.f.= 1)	.00012***	.33065 (S) .33065 (E)	(√)
3C.6	KNOW_B (n=135)	13.99443 (d.f.= 1)	.00018***	.32197 (S) .32197 (E)	(√)

(√) *Reject null hypothesis* (X) *Do not reject null hypothesis*

* *Significant at $p \leq 0.05$*

*** *Significant at $p \leq 0.001$*

Another variable that was found to exhibit a very significant and positive relationship with access to external finance is the utilisation of auxiliary bank services [OTHER_B] by the respondent companies. SMMCs that are using auxiliary bank services were found to have better access to bank credits. This observation was also confirmed by the *Mann-Whitney* test ($z\text{-score} = -3.8276$; $2\text{-tailed } p = .0001$). This particular finding signifies the importance of focusing on the house bank for other related bank services because it could enhance the companies' access to future credits. On the banker's part, they can accumulate information on the companies' activities through the firm's utilisation of these services. In addition, the banks can also gauge the performance of the companies by looking at the companies' intensity in using these auxiliary services.

The final variable related to company-bank relationship that has shown a very significant and positive relationship to the SMMCs access to banks and other financial institutions finance is the individual relationship between the company officials with the bank officials [KNOW_B]. This finding is consistent with the findings of previous studies carried out in industrialised countries (see for example; Petersen and Rajan, 1994; Donaldson, 1969) which show that companies with closer relationship tend to have better access than companies operating at a distance with their bankers. By fostering a healthy relationship with their bankers, SMMCs could gain significant advantages and benefits especially at times when they needed urgent financial assistance.

It was quite surprising to find that the multiple bank relationship [S_MBANK] and the length of deposit relationship [AGEACC2] of the SMMCs covered in the survey did not assert any significant influence on the companies' access to banks and other

financial institutions finance. In the survey, it was found that companies having multiple-bank relationship did not enhance their access to bank and other financial institution credits. In fact, companies having a relationship with only one bank were found to have better access. This finding indicates that bankers, in most respect, are more willing to provide financial assistance to their own clients than to companies that have not become their clientele. By doing this, the banks and other financial institutions are able to retain most of their customers from switching accounts to their competitors. Another possible explanation could be that a firm's dissatisfaction to get loan from its current banker (for whatever reasons), inevitably, forces it to establish relationship with more than one bank. But this new relationship does not guarantee the firm will get better access to bank finance.

The length (duration) of account relationship does not display significant relationship with the SMMCs' access to banks and other financial institution finance. Logically, companies with longer period of relationship would have closer ties with their banks, and thus should have better access than companies having shorter period of relationship. In addition, companies with longer period of relationship would enjoy lower interest charges than companies with shorter length of relationship. Studies done in the industrialised countries have shown that companies having close ties with their bankers improve the company's availability of financing but with smaller effects on the price of credit (Petersen and Rajan, 1994). In another study, it was found that companies with longer period of relationship tend to affect the companies' decisions whether or not to switch banks (Thornton, 1981). However, in our study, the length of account relationship did not significantly affect the SMMCs' access to bank credits as well as the price of credit. This finding suggests that bankers in Malaysia put less

emphasis on the length of the account relationship while evaluating a credit proposal although normal banking practices requires a company should have been with the bank for a period of not less than six months before any credit facilities could be extended.

D. Conclusion

1. There is a very significant and strong relationship between single or multiple account relationship [S_MACC] with SMMCs' access to banks and other financial institutions finance [ACCESS_B]. SMMCs having multiple account relationship with a single bank have better access than those who have single account only.
2. There is a very significant, strong and positive relationship between utilisation of auxiliary bank services [OTHER_B] with SMMCs' access to banks and other financial institutions finance [ACCESS_B].
3. There is a very significant, strong and positive relationship between the personalised relationship [KNOW_B] of the company officials with bank officials to SMMCs' access to banks and other financial institutions finance [ACCESS_B].
4. There is no significant relationship between existence of an account relationship [ACCSHIP], single or multiple bank relationship [S_MBANK] and length of deposit relationship [AGEACC2] to SMMCs' access to banks and other financial institutions' finances [ACCESS_B].

8.6.4 Testing Hypotheses 3D

A. Statement of the hypotheses

There are no significant relationships between access to bank and other financial institutions finance [ACCESS_B] and the following variables related to the entrepreneur's profile:

3D.1 age of entrepreneur [AGE_R]

3D.2 gender of entrepreneur [GENDER]

3D.3 ethnic groups [ETHNIC]

3D.4 educational level [EDUCATE]

3D.5 professional qualifications [PROF_Q]

3D.6 business management training attended [TRAINED]

3D.7 project appraisal training attended [PATRAIN]

3D.8 part-time business experience [PARTIME]

3D.9 past working experience [WORKEXP]

3D.10 experience in current business [BUSEXP]

B. Tests results

The results from the statistical tests indicate that none of the variables related to the entrepreneur's profile have had any significance on the access of SMMCs to banks and other financial institutions finance. The observed significance level for each variable is large ($p > 0.05$), thus, the tests had failed to reject almost every null hypothesis under the main hypothesis 3E (Table 8.7).

Table 8.7: Testing Hypotheses 3D - Summary of tests results (n=135)

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i> (d.f.=)	<i>p-value</i>	<i>Spearman's (S)</i> <i>Eta coefficient (E)</i>	<i>Results</i>
3D.1	AGE_R	1.05422 (d.f.= 4)	.90147	.06198 (S) .08837 (E)	(X)
3D.2	GENDER	.20129 (d.f.= 1)	.65358	-.03861 (S) .03861 (E)	(X)
3D.3	ETHNIC	2.50739 (d.f.= 3)	.47396	-.02015 (S) .13628 (E)	(X)
3D.4	EDUCATE	5.07703 (d.f.= 5)	.40655	.16135 (S) .19393 (E)	(X)
3D.5	PROF_Q	.09631 (d.f.= 1)	.75631	.02671 (S) .02671 (E)	(X)
3D.6	TRAINED	1.59389 (d.f.= 1)	.20677	-.10866 (S) .10866 (E)	(X)
3D.7	PATRAN	.27497 (d.f.= 1)	.60001	-.04513 (S) .04513 (E)	(X)
3D.8	PARTIME	.27497 (d.f.= 1)	.60001	-.04513 (S) .04513 (E)	(X)
3D.9	WORKEXP	.20694 (d.f.= 1)	.64918	-.03915 (S) .03915 (E)	(X)
3D.10	BUSEXP2	4.50978 (d.f.= 4)	.34139	.14514 (S) .12908 (E)	(X)

(X) Do not reject null hypothesis

However, while controlling for the size of company [F_SIZE], it was found that there exists a significant and positive relationship between entrepreneurs of the small-sized SMMCs who have attended business management training [TRAINED] with the accessibility to bank credits. Entrepreneurs of the medium-sized SMMCs who have attended business management training do not appear to portray a significant relationship with the firms' accessibility to bank credits (Table 8.8).

Table 8.8: Relationship between [ACCESS_B] and [TRAINED] controlling for [F_SIZE]

Hypo no.	[TRAINED]	χ^2 -value	p-value	Spearman's (S) Eta coefficient (E)	Results
3D.6	Small (n=78)	3.92971 (d.f.= 1)	.04744*	.22446 (S) .22446 (E)	(√)
	Medium (n=57)	.66813 (d.f.= 1)	.41370	-.10827 (S) .10827 (E)	(X)

(√) Reject null hypothesis (X) Do not reject null hypothesis

* Significant at $p \leq 0.05$

Similarly, while controlling for ownership structure [OWNSTRUC], it was found that a significant positive relationship exists between entrepreneurs of the *nonbumi-controlled* SMMCs who have attended business management training with the firms' access to bank credits. Entrepreneurs of the *bumi-controlled* companies who have also attended business management training did not display any significance on the firms' accessibility to bank credits (Table 8.9).

Table 8.9: Relationship between [ACCESS_B] and [TRAINED] controlling for [OWNSTRUC]

Hypo no.	[TRAINED]	χ^2 -value	p-value	Spearman's (S) Eta coefficient (E)	Results
3D.6	<i>Bumi-controlled</i> (n=54)	.22442 (d.f.= 1)	.63570	-.06447 (S) .06447 (E)	(X)
	<i>Nonbumi-controlled</i> (n=81)	4.27276 (d.f.= 1)	.03873*	.22967 (S) .22967 (E)	(√)

(√) Reject null hypothesis (X) Do not reject null hypothesis

* Significant at $p \leq 0.05$

C. Discussion of test results

The above test results suggest that access of the SMMCs to banks and other financial institutions' credit does not significantly depend on any of the variables related to the profile of the entrepreneur. For example, age of the entrepreneur [AGE_R] does not have any significance in determining access of the companies to bank credits. In this

particular survey, the average age of entrepreneur in the sample fell within the age group of 30 to 49 years old. This observation implies that majority of the top management in the SMMC sector in Malaysia is within this age group.

Although the age of entrepreneur can be a good indicator of maturity, it does not have any effect on SMMCs access to bank credits. In other words, bankers in Malaysia do not consider age of entrepreneur as one of the principal criteria in deciding whether or not to grant credit to the companies concerned. Likewise, gender of the entrepreneur [GENDER] does not have significant influence on the SMMCs accessibility. This finding provides a solid evidence that there is virtually no discrimination against male or female entrepreneurs as far as their accessibility to bank credits is concerned.

The ethnic composition of the entrepreneurs [ETHNIC] was also found not to be significantly related to SMMCs accessibility to bank credits. This finding is consistent with our earlier finding where accessibility of SMMCs was not found to be significantly different in terms of the ownership structure of the companies (*refer to Section 8.5 above*). The *bumi-controlled* as well as the *nonbumi-controlled* SMMCs were found to have equal access to banks and other financial institution credits. Evidently, bankers in Malaysia do not differentiate credit applications from SMMCs according to their ethnic composition. Therefore, this finding can provide a very good ground to nullify the claims made by several *bumiputera* entrepreneurs that they have been 'discriminated against' by their bankers because of their ethnic origin.

The level of formal education [EDUCATE] of the entrepreneur does not significantly affect the access of SMMCs to bank credits. Most of the entrepreneurs have received

tertiary education², at least up to the diploma level. Similarly, the accessibility of SMMCs to bank credits is not affected by professional qualifications [PROF_Q] acquired by the entrepreneurs. In terms of business management training's attended [TRAINED], it appeared at first that it had no significant relationship with the SMMCs accessibility but when the second level of analysis was performed it had shown some significance. The second level of analysis is to control the interaction of the two variables [TRAINED and ACCESS_B] by levels of the firm size [F_SIZE] and their ownership structure [OWNSTRUC]. As shown in Table 8.8, the relationship between the smaller-sized companies where its owners have undergone business management training and the firms' access to bank credits is more significant than its medium-sized counterparts. Similarly, the relationship between the *nonbumi-controlled* SMMCs where its owners have undergone business management training and the firms' accessibility is more significant than the *bumi-controlled* SMMCs (Table 8.9). This finding suggests that bankers in Malaysia have placed some emphasis on business management training attended by the entrepreneurs when considering loan applications from the companies. Entrepreneurs who have attended business management trainings are perceived by the bankers to have the required knowledge and skills in running a business organisation, hence, minimising the chances of the companies to fail in its operation.

From the test results, it was evident that attending a formal training on project appraisal [PATRAIN] does not seem to improve the SMMCs accessibility to banks and other financial institutions credit although earlier finding indicates that adoption of formal

²Tertiary educational level: Diploma (15.6%), Bachelor's degree (34.1%), Master's degree (8.9%), and Ph.D. (3.0%).

project appraisal practices by companies could significantly increase the chance of the SMMCs in getting bank credits (*refer to Section 8.6.2 above*). This finding suggests that, bankers in Malaysia are putting more emphasis on the 'firms' rather than their 'owners' when evaluating a credit proposal by the SMMCs.

In terms of part-time business experience [PARTIME], past working experience [WORKEXP] and length of experience in current business [BUSEXP2], none of these variables have any significant importance in determining the access of SMMCs to banks and other financial institution credits. These observations strengthen the fact that bankers are more concerned with the firms' credibility rather than that of the entrepreneurs. However, these findings seemed to depart from one of the most traditional method of credit evaluation - the 5 Cs, where character of the entrepreneur is one of the aspect that was subjectively evaluated. Although, there have been controversies in the past on how the character of a person should be evaluated, nevertheless this method is still popular in the banking community in Malaysia (Haron, 1990). This clearly shows that banks in the country are still in favour of the traditional method of credit evaluation. Nevertheless, we believed that this practice has to change in the near future.

In the early period of financial innovation, 'personal guarantee' is seen as an acceptable form of 'collateral', as Bhatt (1984) has suggested. However, as the economy modernised, the role of personal guarantee is becoming less important, therefore, other types of financial innovation will be needed. In addition to subjective evaluation methods, banks should constantly seek for a more objective method of evaluation in order to minimise their lending risks. Our findings strongly suggest that by evaluating

the companies rather than its owners, bankers can rely on a more objective method of evaluation on the credit proposal. The adoption of formal project appraisal practices by SMMCs is seen as one of the alternative in supplying vital information about the companies and their investment proposals to the prospective bankers so that an objective evaluation can be performed by them.

D. Conclusion

1. In general, there is no significant relationship between the variables related to the profile of the entrepreneur and the SMMCs' access to banks and other financial institutions finance.
2. When controlled by size of company, there is a significant and positive relationship between business management training attended by entrepreneurs of the smaller-sized SMMCs and the SMMCs' accessibility to banks and other financial institutions finance.
3. When controlled by ownership structure of the company, there is a significant and positive relationship between business management training attended by entrepreneurs of the *nonbumi-controlled* SMMCs and their accessibility to banks and other financial institutions finance.

8.6.5 Testing Hypotheses 3E

A. Statement of the hypotheses

There is no significant relationship between access to bank and other financial institutions finance [ACCESS_B] and the utilisation of informal sources of finance [INFORM_S].

B. Test results

From the test performed, it was found that no significant relationship exists between the utilisation of informal sources of finance [INFORM_S] and the access of SMMCs to banks and other financial institutions finance [ACCESS_B]. Out of 135 SMMCs surveyed, 112 companies reported to have used some form of informal finance. The same number of companies (although not necessarily the same companies) also reported to have access to banks finance. The *chi-square* value is 0.43366 and the observed *significance level* is 0.51020. The relationship between the two variables was also found to be weak and insignificant (*eta coefficient* = 0.05668). Consequently, the null hypothesis is not rejected.

C. Discussion of test results

At first, it was expected that the utilisation of informal sources of finance by SMMCs resulted from their inadequacies to secure finance from banks and other financial institutions. But the above results prove otherwise. Utilisation of informal sources of finance by SMMCs was observed to be common practice regardless of whether or not financing from banks and other financial institutions is made available. This finding reflects the complementary nature of the informal sources to the formal sources and its usage is more for convenience rather than an alternative source to banks finance.

From the survey, it was evident that majority of the SMMCs covered in the survey rely mainly on past profits (73.2%) and credit from suppliers (65.2%) as a major source of informal finance. There were also other sources such as loans or advances from companies' directors, personal savings, customer advances, borrowing from friends and relatives and borrowing from moneylenders (Table 8.10).

Table 8.10: Types of informal sources of finance (n=112)

Rank	Types of informal sources	Frequency*	%
1.	[SOURCE2] Profits saved	82	73.2
2.	[SOURCE6] Trade or suppliers' credit	73	65.2
3.	[SOURCE3] Advances from company directors/officers	44	39.3
4.	[SOURCE1] Personal savings	41	36.6
5.	[SOURCE7] Customers' advances or deposits	30	26.8
6.	[SOURCE5] Loan from relatives & friends	25	22.3
7.	[SOURCE4] Loan from moneylenders	11	9.8
8.	[SOURCE8] Others	6	5.4

*Frequency is based on number of responses.

Out of the above sources, [SOURCE3] i.e. loans or advances from company directors were found to exhibit significant relationship with the SMMCs' accessibility to bank credits ($\chi^2 = 7.13761$, $p = .00755$). SMMCs who reported to have access to bank credits were also found to rely more on this informal source (Table 8.11).

Table 8.11: Accessibility to bank finance [ACCESS_B] by Loan/advances from company directors [SOURCE3]*

SOURCE3	Have used		Did not use		Total	
	Frequency	%	Frequency	%	Frequency	%
Have access	42	95.5	52	76.5	94	83.9
No access	2	4.5	16	23.5	18	16.1
Total	44	39.3	68	60.7	112	100.0

* Statistically significant at 0.01 level.

A separate test was carried out to determine whether or not the utilisation of the informal sources of finance is due to the difficulty to secure finance from banks and other financial institutions [CAUSE3]. The result displays no significant relationship between the two variables, thus, suggesting that inaccessibility to formal sources of finance was not the main reason causing SMMCs to resort financing from informal sources. The *Pearson's chi-square* value is 2.20646 and the associate level of

significance is 0.13743. In fact, this particular variable ranked sixth out of possible ten causes listed in the questionnaires (Table 8.12). Therefore, to a certain extent, this finding negates the claims made by some that SMMCs often have to resort using informal sources of finance because they lack financing from formal sources and end-up by paying usurious interest rate (at least in the Malaysian context).

Table 8.12: Ranking of reasons for using informal sources of finance (n=112)

<i>Rank</i>	<i>Reasons</i>	<i>Frequency*</i>	<i>%</i>
1.	[CAUSE1] Easy access and general availability	82	73.2
2.	[CAUSE4] Less emphasis on collateral	70	62.5
3.	[CAUSE2] Urgency in financial needs	68	60.7
4.	[CAUSE5] No bureaucratic procedures	52	46.4
5.	[CAUSE7] Flexible repayment scheme	33	29.5
6.	[CAUSE3] Fail to secure finance from banks/government agencies	28	25.0
7.	[CAUSE6] Fast delivery of credit	24	21.4
8.	[CAUSE8] Acceptable cost of loans	17	15.2
9.	[CAUSE9] Opportunity to refinance	12	10.7
10.	[CAUSE10] Other reasons	2	1.8

**Frequency is based on number of responses.*

D. Conclusion

1. There is no significant relationship between the utilisation of informal sources of finance and the access of SMMCs to banks and other financial institutions finance.
2. Inaccessibility of bank and other financial institutions credits is not the main reason for SMMCs to utilise informal sources of finance.
3. The utilisation of informal sources of finance is supplementary to the utilisation of the formal sources of finance.

8.7 Testing of Hypotheses 4A through 4D

8.7.1 Testing Hypotheses 4A

A. Statement of the hypotheses

There are no significant relationships between access to government agencies' finance [ACCESS_G] and the following variables:

4A.1 *size of company [F_SIZE]*

4A.2 *ownership structure [OWNSTRUC]*

4A.3 *age of company [AGEFIRM]*

4A.4 *business location [BUSLOCA]*

4A.5 *type of entity registration [REGTYPE]*

4A.6 *market classification [MKTCLASS]*

4A.7 *industry classification [INDCLASS]*

4A.8 *annual sales turnover [ANNSALES]*

B. Test results

From the tests performed, four out of the eight variables associated with the profile of companies were found to have significant relationship with access of government agencies' finance. The variables are size of company [F_SIZE], ownership structure [OWNSTRUC], type of entity registration [REGTYPE] and average annual sales turnover [ANNSALES]. Hence, the null hypotheses 4A.1, 4A.2, 4A.5 and 4A.8 were successfully rejected by the tests. Similar tests failed to reject hypotheses 4A.3, 4A.4, 4A.6 and 4A.7. Table 8.13 summarises the test results.

Table 8.13: Testing Hypotheses 4A - Summary of tests results (n=135)

Hypo no.	Independent variables	χ^2 -value (d.f.=)	p-value	Spearman's (S) Eta coefficient (E)	Results
4A.1	F_SIZE	7.95592 (d.f.= 1)	.00479**	-.24276 (S) .24276 (E)	(√)
4A.2	OWNSTRUC	17.37782 (d.f.= 1)	.00003****	.35878 (S) .35878 (E)	(√)
4A.3	AGEFIRM	4.31564 (d.f.= 4)	.36497	.12195 (S) .17880 (E)	(X)
4A.4	BUSLOCA	1.39947 (d.f.= 3)	.70566	.01295 (S) .10162 (E)	(X)
4A.5	REGTYPE	7.95596 (d.f.= 3)	.04693*	.07665 (S) .24276 (E)	(√)
4A.6	MKTCLASS	5.87551 (d.f.= 2)	.05298	.15952 (S) .20862 (E)	(X)
4A.7	INDCLASS	8.46079 (d.f.= 8)	.38980	.06493 (S) .25034 (E)	(X)
4A.8	ANNSALES	16.18622 (d.f.= 5)	.00633**	-.28410 (S) .34626 (E)	(√)

(√) Reject null hypothesis (X) Do not reject null hypothesis

* Significant at $p \leq 0.05$ ** Significant at $p \leq 0.01$ **** Significant at $p \leq 0.0001$

C. Discussion of test results

Size of company [F_SIZE] was found to be significantly related to SMMCs access to government agencies' finance [ACCESS_G]. As explained earlier (refer to Section 8.3.1 above), the smaller-sized SMMCs were observed to have better access to government agencies' finance than the medium-sized companies. In other words, SMMCs' access to government agencies' finance was very much influenced by the size of companies. This finding testifies the fact that government agencies' financing is more focused towards the smaller-sized companies. It was identified earlier that the small-sized SMMCs lack access to bank and other financial institutions finance, therefore they have to seek alternative source of financing from such government's agencies as MARA³ (Majlis Amanah Rakyat), Ministry of Youth and Sports, Ministry

³MARA (formally known as RIDA) is an organisation specifically established to look after the interest of the bumiputera community.

of Rural Development, Ministry of Trade and Industry and PUNB⁴ (Permodalan Usahawan Nasional Berhad). Medium-sized companies are considered more established than the smaller-sized companies and therefore should be able to secure financing from the banking institutions with relative ease.

In addition, government agencies' finance have certain features favourable to the smaller-sized companies. First, the prerequisites needed for access to these agencies finance are not as rigid and stringent as those of the banks and other formal financial institutions. This, however, does not imply that government agencies are more generous than the banking institutions. Credit applications to these agencies have to follow lengthy bureaucratic procedures and the process is very time consuming. Secondly, in general, the size of loans offered by these agencies is very small as compared to loan size disbursed by the banks, although there are a few cases where the amount of loan granted by government agencies were quite substantial. Thirdly, the interest charges were also low (normally in the range of 4 to 10 percent annually) as compared to interest charged by the commercial banks and financial institutions. Finally, the terms and conditions of the loans are more flexible than those of the banking institutions.

Another variable that was found to display a significant relationship with accessibility of government agencies' finance [ACCESS_G] is the firms' ownership structure [OWNSTRUC]. On the contrary, this variable did not exhibit significant relationship with accessibility of banks and other financial institutions finance [ACCESS_B].

⁴PUNB is primarily a venture capital company established as a subsidiary of PNB (Permodalan Nasional Berhad) which represents one of the prominent trust fund agencies in the country.

In terms of access to bank and other financial institutions finance, no significant difference was found between the two groups of companies whereas in terms of access to government agencies' finance, the *bumi-controlled* SMMCs were found to have better access to government agencies' finance than the *nonbumi-controlled* companies. The above findings were confirmed after applying the *Mann-Whitney* test. This particular finding provides an evidence that government's agency financing is more in favour of the *bumi-controlled* enterprises than the *nonbumi-controlled* enterprises. The discrepancy may be attributed to the nature of these agencies since most of them are giving priority to *bumiputeras'* SMMCs. For example, MARA is an organisation exclusively established for the purpose of developing the *bumiputera* communities in terms of education and their socio-economic status. In their case, they can only consider loan applications from the *bumi-controlled* companies. It was also due to the fact that these government agencies have to adhere and to carry out special government's policy guidelines such as the development of the BCIC - *Bumiputera Commercial and Industrial Community*⁵. The primary aim of this particular policy is to enable the *bumiputera* entrepreneurs to participate in strategic small and medium-sized industries in the manufacturing, construction and modern services sectors. It is also aimed at achieving a balance in SMMCs ownership between the two major compositions i.e. the *bumiputeras* and the *non-bumiputeras* so that the wealth of the country is evenly distributed.

⁵Policies on BCIC were formulated and launched in the Sixth Malaysia Plan. This plan marked the launching of the National Development Policy (NDP) as the successor to the New Economic Policy (NEP) in which development of the Bumiputera Commercial and Industrial Community represents one of the major thrusts in the policy.

The test results also indicate that the type of entity registration [REGTYPE] had a highly significant and positive relationship with access to government agencies' finance. This particular variable had been determined earlier to exhibit a very significant relationship with accessibility of bank and other financial institutions finance. SMMCs registered as private limited companies were observed to have better access to government agencies' finance. The reason for this observation is quite similar to the one explained in *Section 8.3.1* where SMMCs registered as private limited companies were found to have better access to banks and financial institutions finance.

The final variable related to profile of companies that was found to have a significant relationship with access to government agency finance is the firm's average annual sales turnover [ANNSALES]. However, the relationship is inversely related. Unlike banks and other financial institutions that prefer to extend credit to companies with higher sales turnover, government's agencies, on the other hand, seemed to assist companies with lower sales turnover. This finding strengthens the fact that government agencies were fulfilling its mandate by providing financial assistance to companies with potentials that might not qualify for bank credits because of its size as well as sales performance.

D. Conclusion

1. Small-sized SMMCs have better access to government agencies' finance than medium-sized SMMCs.
2. *Bumi-controlled* SMMCs have better access to government agencies' finance than *nonbumi-controlled* SMMCs.

3. SMMCs registered as private limited companies have better access to government agencies' finance than SMMCs registered as sole proprietorships and partnerships.
4. There is significant and strong, but inverse relationship between annual sales turnover and accessibility of government agencies' finance.
5. There is no significant relationship between age of company, business location, type of market classification and industry classification with access to government agencies' finance.

8.7.2 Testing Hypotheses 4B

A. Statement of the hypotheses

There are no significant relationships between access to government agencies' finance [ACCESS_G] and the following variables:

4B.1 adoption of formal project appraisal practices [ADOPTPA]

4B.2 type of appraisal used [TYPEPA]

4B.3 level of sophistication of methods used [METHOD]

4B.4 documentation of project appraisal [DOCPA]

4B.5 types of information contained in the PA document [INFOTYPE]

B. Tests results

After applying the relevant tests, none of the variables related to the adoption of project appraisal practices were found to have a significant relationship with the dependent variable - accessibility of government agency finance [ACCESS_G]. The observed significance level for every variable was found to be large, hence, the test failed to

reject the main hypotheses 4B and the entire sub-hypotheses associated with it. Table 8.14 provides a summary of the test results.

Table 8.14: Testing Hypotheses 4B - Summary of tests results (n=88)

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i>	<i>Spearman's (S) Eta coefficient (E)</i>	<i>Results</i>
4B.1	ADOPTPA	.42715 (d.f.= 1)	.51339	.05625 (S) .05625 (E)	(X)
4B.2	TYPEPA	2.00310 (d.f.= 4)	.73519	.01844 (S) .12181 (E)	(X)
4B.3	METHOD	20.29535 (d.f.= 21)	.50263	.04371 (S) .38773 (E)	(X)
4B.4	DOCPA	.02976 (d.f.= 1)	.86305	.01839 (S) .01839 (E)	(X)
4B.5	INFOTYPE	12.38099 (d.f.= 11)	.33570	.01372 (S) .30284 (E)	(X)

(X) Do not reject null hypothesis

C. Discussion of test results

It was quite surprising to discover that government agencies that are providing financial assistance to the SMMCs did not put major emphasis on whether or not the credit applicant (SMMCs) has adopted formal project appraisal practices. This finding is completely in contrast to the banking institutions where adoptions of formal project appraisal practices were reckoned as well as the type of appraisal undertaken. While banking institutions have placed major emphasis on project appraisal to be carried out by their prospective clients, government agencies, on the other hand, do not exhibit similar interest. The reasons behind this observation can be explained by looking at the following factors. First, government agencies might not have the required expertise (in terms of skilled personnel) in their individual organisations to evaluate project appraisal documents. Secondly, the government's personnel might not have the technology (in terms of methods and procedures) to assist them in the credit evaluation process. Thirdly, since the size of loans is generally small, they do not necessarily require

companies to submit a comprehensive project appraisal. Finally, government's agencies are not a profit making organisations, hence their procedures are not as rigid as in the banking institutions. Given that it is government policy to provide financial assistance to certain type of SMMCs, they may have set a target for lending through the agencies' annual budget. Since the size of the annual budget for these agencies is determined after assessing the utilisation of the previous budget allocation, it is commonly noticed that the objective of these agencies is to maximise lending rather than profit. Therefore, requirement for performance of project appraisal, in this case, may be redundant. Furthermore, these agencies are funded by the government and loanable funds are obtained from cheaper sources, hence, they are not too worried about risks of non-payment. Although, one can be critical of the role these agencies play in fulfilling their mandate, one should not forget that these agencies have contributed quite significantly to the development of the SMMC sector in the country.

D. Conclusion

There are no significant relationships between all variables related to the adoption of project appraisal practices and the accessibility of government agencies' finance.

8.7.3 Testing Hypotheses 4C

A. Statement of the hypothesis

There are no significant relationships between access to government agencies' finance [ACCESS_G] and the following variables related to company-bank relationship:

4C.1 existence of a deposit relationship [ACCSHIP]

4C.2 single or multiple account relationship [S_MACC]

4C.3 *single or multiple bank relationship [S_MBANK]*

4C.4 *length of deposit relationship [AGEACC2]*

4C.5 *utilisation of auxiliary bank services [OTHER_B]*

4C.6 *personal relationship between company officials and bank officials [KNOW_B]*

D. Test results

After applying the appropriate tests, it was found that two out of six variables related to company-bank relationship have very significant relationship with the dependent variable [ACCESS_G]. The two variables include the existence of an account relationship [S_MACC], and utilisation of auxiliary bank services [OTHER_B]. Hence, hypothesis 4C.1 and hypothesis 4C.5 were rejected. The above tests lacked sufficient power to reject hypotheses 4C.2, 4C.3, 3C.4 and 4C.6. Summary of the tests is given in Table 8.15 below.

Table 8.15: Testing Hypotheses 4C - Summary of tests results

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i> (<i>Fisher's test</i>)	<i>Spearman's (S)</i> <i>Eta coefficient (E)</i>	<i>Results</i>
4C.1	ACCSHIP	5.46908 (d.f.= 1)	.01936*	.20128 (S) .20128 (E)	(√)
4C.2	S_MACC	1.99320 (d.f.= 1)	.15801	-.12196 (S) .12196 (E)	(X)
4C.3	S_MBANK	1.75484 (d.f.= 1)	.18527	-.12688 (S) .12688 (E)	(X)
4C.4	AGEACC2	4.39029 (d.f.= 4)	.35576	.11241 (S) .18101 (E)	(X)
4C.5	OTHER_B	3.94919 (d.f.= 1)	.04689*	.17104 (S) .17104 (E)	(√)
4C.6	KNOW_B	1.57943 (d.f.= 1)	.20884	-.10816 (S) .10816 (E)	(X)

(√) *Reject null hypothesis* (X) *Do not reject null hypothesis*

* *Significant at $p \leq 0.05$*

C. Discussion of test results

From the results, it was observed that accessibility of government agencies' finance was affected by variables related to the company-bank relationships. The two variables that were found to exhibit a significant and positive relationship with accessibility of government agencies' finance are the existence of a deposit relationship [ACCSHIP] and the utilisation of auxiliary bank services. These findings suggest that government agencies also rely on information concerning the firms' relationship with their bankers as one of the important elements when assessing credit applications from SMMCs. SMMCs that have account relationship with a bank were found to have better access than SMMCs who did not have any such relationship. This observation was confirmed by the *Mann-Whitney* test ($z\text{-score} = -2.3299$; 2-tailed $p = .0198$). Having an account relationship with a bank was perceived to be important since monetary transactions (include disbursement of loans and repayment of loans) between the companies and the government agencies are normally accomplished through banks acting as intermediaries. However, having multiple accounts as well as multiple bank relationships did not enhanced the companies' access to government agencies' finance. In addition, the length of relationship also did not exhibit significant relationship with the dependent variable [ACCESS_G].

It was found that SMMCs who have been utilising the auxiliary services also have better access to government agencies' finance than companies who did not use such services. Again, this finding was confirmed by the *Mann-Whitney* test ($z\text{-score} = -1.9799$; 2 tailed $p = 0.0477$). The significance of this particular variable on accessibility of government agencies' finance might be attributed to the fact that government agencies are using this relationship to gauge the potency of the SMMCs.

The strength of relationships between the existence of a deposit relationship [ACCSHIP] and the utilisation of auxiliary bank services [OTHER_B] with the dependent variable [ACCESS_G] i.e. accessibility of government agencies' finance, was found to be strong and significant.

D. Conclusion

1. There is a significant and positive relationship between SMMC's access to government agencies' finance and the existence of a deposit relationship with a bank.
2. There is a significant and positive relationship between access to government agencies' finance and the utilisation of auxiliary bank services by the SMMCs.
3. There are no significant relationships between SMMCs' access to government agencies' finance with the multiple accounts and bank relationships, the length of the relationship as well as the individual relationship between company officials and bank officials.

8.7.4 Testing Hypotheses 4D.

A. Statement of the hypotheses

There are no significant relationships between accessibility of government agencies' finance [ACCESS_G] and the following variables related to the entrepreneur's profile:

4D.1 age of entrepreneur [AGE_R]

4D.2 gender of entrepreneur [GENDER]

4D.3 ethnic groups [ETHNIC]

- 4D.4 *educational level [EDUCATE]*
- 4D.5 *professional qualifications [PROF_Q]*
- 4D.6 *business management training attended [TRAINED]*
- 4D.7 *project appraisal training attended [TRAINPA]*
- 4D.8 *part-time business experience [PARTIME]*
- 4D.9 *past working experience [WORKEXP]*
- 4D.10 *experience in current business [BUSEXP]*

B. Test results

The results from the tests indicate that only two out of ten variables related to the entrepreneurs profile have significant relationship with the access of SMMCs to government agencies' finance. The two variables are the entrepreneurs' ethnic origin [ETHNIC] and the length of experience they have in the current business [BUSEXP2] which was measured in number of years. Thus, the null hypotheses of 4D.3 and 4D.10 were successfully rejected by the tests. However, age of entrepreneur [AGE_R], gender [GENDER], educational level [EDUCATE], professional qualification [PROF_Q], business management training attended [TRAINED], training on project appraisal [PATRAIN], part-time business experience [PARTIME] and previous working experience [WORKEXP] did not exhibit significant relationship with the SMMCs access to government agencies' finance. Hence, the null hypotheses of 4D.1, 4D.2, 4D.4, 4D.5, 4D.6, 4D.7, 4D.8, and 4D.9 failed to be rejected by the tests. The results of the above test are given in Table 8.16 below.

Table 8.16: Testing Hypotheses 4D - Summary of tests results

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i>	<i>Spearman's (S) Eta coefficient (E)</i>	<i>Results</i>
4D.1	AGE_R	2.03662 (d.f.= 4)	.72902	-.01157 (S) .12283 (E)	(X)
4D.2	GENDER	.56519 (d.f.= 1)	.45218	-.06470 (S) .06470 (E)	(X)
4D.3	ETHNIC	18.47623 (d.f.= 3)	.00035***	.32405 (S) .36995 (E)	(√)
4D.4	EDUCATE	3.83319 (d.f.= 5)	.57367	.00384 (S) .16851 (E)	(X)
4D.5	PROF_Q	.09442 (d.f.= 1)	.75863	-.02645 (S) .02645 (E)	(X)
4D.6	TRAINED	.64181 (d.f.= 1)	.42306	.06895 (S) .06895 (E)	(X)
4D.7	PATRAN	2.07102 (d.f.= 1)	.15012	.12386 (S) .12386 (E)	(X)
4D.8	PARTIME	.08734 (d.f.= 1)	.76759	-.02544 (S) .02544 (E)	(X)
4D.9	WORKEXP	.01413 (d.f.= 1)	.90538	.01023 (S) .01023 (E)	(X)
4D.10	BUSEXP2	10.65823 (d.f.= 4)	.03069*	.20480 (S) .28098 (E)	(√)

(√) *Reject the null hypothesis* (X) *Do not reject null hypothesis*

* *Significant at $p \leq 0.05$* *** *Significant at $p \leq 0.001$*

C. Discussion of test results

From the analysis, it was determined that the ethnic composition of the entrepreneur [ETHNIC] had a significant bearing on the companies' access to government agencies' finance. Earlier, it was found that the firms' ownership structure [OWNSTRUC] had a very significant influence on the companies' access to government agencies' finance (please refer to Section 8.7.1 above). Since ownership structure is closely related to the entrepreneur's ethnic composition, this finding proved to be consistent.

The Malay entrepreneurs (*bumiputeras*) were found to have better access to government agencies' finance than Chinese entrepreneurs as well as entrepreneurs from other races.

To confirm whether or not there was significant difference between the ethnic composition in terms of access to government agencies' finance, the *Kruskal-Wallis* one-way anova test was applied. From this test it was determined that there was significant difference between the ethnic groups. The relationship between the two variables was also found to be strong and significant.

The other variable that was found to have a significant and positive relationship with the SMMCs' access to government agencies' finance was the length of experience of the entrepreneur in their current business [BUSEXP2]. Entrepreneurs who have had experience of ten years or less in their current business were observed to have better access to government agencies' finance. Malay entrepreneurs were found to be less experienced as compared to the other races, especially with the Chinese since the former's involvement in the commercial and industrial sectors is relatively recent. This lack of experience in the present business might have contributed to the difficulty in securing finance from the banking institutions. As a result, they have to fall back to government agencies' finance for financial assistance.

D. Conclusion

1. There is a strong, significant and positive relationship between the entrepreneurs' ethnic composition and SMMCs' access to government agencies' finance.
2. There is a strong, significant and positive relationship between the entrepreneur's length of experience in the present business and SMMCs' access to government agencies' finance.

3. There is no significant relationship between age of entrepreneur, gender, educational level, professional qualification, business management training attended, training on project appraisal, part-time business experience as well as previous working experience and SMMCs' access to government agencies' finance.

8.7.5 Testing Hypotheses 4E

A. Statement of the hypotheses

There is no significant relationship between access to government agencies' finance [ACCESS_G] and the utilisation of informal sources of finance [INFORM_S]

C. Test results

From the test results, it was found that no significant relationship exists between the utilisation of informal sources of finance [INFORM_S] and the access of SMMCs to government agencies' finance. The *chi-square* value is 2.65108, and the observed significance level is 0.10348 (n=112). Consequently, the test failed to reject the null hypothesis 4D.

C. Discussion of test results

The insignificance of relationship between the two variables examined above indicates that the utilisation of informal sources of finance was not influenced by the firms' access to government agencies' finance. In order to determine whether SMMCs' utilisation of informal sources is due to difficulty in securing financial assistance from the government's agency [CAUSE3], a separate test was carried out. Using the *Pearson's chi-square* test, it was confirmed that SMMCs in the sample utilise the

informal sources regardless of their access or lack of access to government agencies' finance. The *chi-square* value is 1.29855 and the observed *significance level* is .25448.

Although it was found that utilisation of informal sources of finance by SMMCs had no significant relationship, further analysis showed that three out of eight variables related to the sources of informal finance had displayed a significant relationship with the companies' access to government agencies' finance. The three sources of informal sources of finance that have shown some significance were the profit saved from previous operations [SOURCE2], borrowings from relatives and friends [SOURCE5] and customers' deposit or advances [SOURCE7]. It was determined that SMMCs who have had access to government agencies' finance were also found to be using the above sources of informal finance.

D. Conclusion

1. There is no significant relationship between the utilisation of informal sources of finance [INFORM_S] by the SMMCs with the companies' access to government agency finance [ACCESS_G].
2. There is a significant relationship between certain sources of informal finance i.e. the profit saved from previous operations [SOURCE2], borrowings from relatives and friends [SOURCE5] as well as customers' deposit or advances [SOURCE7] with the companies' access to government agency finance.
3. Inaccessibility of government agencies' credits is not the main reason for SMMCs to utilise informal sources of finance.
4. The utilisation of informal sources of finance is complementary to the utilisation of the formal sources of finance.

8.8 Testing of Hypotheses 5

A. Statement of the Hypotheses

The demand for project appraisal by banks and other financial institutions [NEEDPA_B] is not significantly dependent on the following:

- 5.1 *size of company [F_SIZE]*
- 5.2 *ownership structure [OWNSTRUC]*
- 5.3 *age of company [AGEFIRM]*
- 5.4 *types of credit applied [CRTYPE]*
 - 5.4.1 *long-term loan [CRTYPE3]*
- 5.5 *length of deposit relationship [AGEACC2]*
- 5.6 *length of credit relationship [AGECR2_B]*
- 5.7 *annual sales turnover [ANNSALES]*
- 5.8 *adoption of formal project appraisal practices [ADOPTPA]*

B. Tests results

The test results revealed that the demand for project appraisal by banks and other financial institutions [NEEDPA_B] was not dependent on the size of company [F_SIZE], age of the company [AGEFIRM], the type of credits in general [CRTYPE], the length of the deposit relationship [AGEACC2] and the length of the credit relationship [AGECR2_B]. However, significant relationships were found between demand for project appraisal with ownership structure of the company [OWNSTRUC], with the long-term loan [CRTYPE3] as well as the adoption of formal project appraisal practices [ADOPTPA]. Therefore, hypotheses 5.1, 5.3, 5.4, 5.5, 5.6 and 5.7 failed to be rejected by the tests. Subsequently, hypothesis 5.2, hypothesis 5.4.1 and hypothesis 5.8 were successfully rejected. Table 8.17 provides the summary of test results.

Table 8.17: Testing Hypotheses 5 - Summary of tests results

Hypo no.	Independent variables	χ^2 -value	p-value	Spearman's (S) Eta coefficient (E)	Results
5.1	F_SIZE (n=135)	2.69231 (d.f.= 1)	.10083	.15504 (S) .15504 (E)	(X)
5.2	OWNSTRUC (n=135)	4.04278 (d.f.= 1)	.04436*	.18999 (S) .18999 (E)	(√)
5.3	AGEFIRM (n=135)	2.25379 (d.f.= 3)	.68919	.03570 (S) .14186 (E)	(X)
5.4	CRTYPE (n=112_)	1.25566 (d.f.= 4)	.86885	.09491 (S) .10588 (E)	(X)
5.4.1	CRTYPE3 (n=67)	13.07905 (d.f.= 1)	.00030***	.34173 (S) .34173 (E)	(√)
5.5	AGEACC2 (n=134)	3.89473 (d.f.= 4)	.42044	.09782 (S) .18648 (E)	(X)
5.6	AGECR2_B (n=112)	2.79653 (d.f.= 4)	.59243	.10719 (S) .15802 (E)	(X)
5.7	ANNSALES (135)	5.66271 (d.f.= 5)	.34043	.08202 (S) .22486 (E)	(X)
5.8	ADOPTPA (n=88)	8.05365 (d.f.= 1)	.00454**	.26816 (S) .26816 (E)	(√)

(√) Reject null hypothesis (X) Do not reject null hypothesis

* Significant at $p \leq 0.05$ ** Significant at $p \leq 0.01$ *** Significant at $p \leq 0.001$

C. Discussion of test results

Hypothesis 5 was set to investigate whether the demand for project appraisal that originated from banks and other financial institutions had any significant relationship with selected variables related to profile of the companies, project appraisal practices and also on selected variables related to the company-bank relationships. These variables were selected on the basis that they were presumed to have significant bearing on the dependent variable [NEEDPA_B].

It was presumed that banks and other financial institutions require their prospective borrowers, regardless of their size, to carry out project appraisal exercise. However, from the results, it was found that no significant relationship existed between the

demand for project appraisal by banks and other financial institutions and the size of the company. This finding implied that the demand for project appraisal by banks and other financial institutions was not influenced by the size of companies. In other words, they will require SMMCs to perform project appraisal regardless the size of the companies.

Similarly, it was found that demand for project appraisal was not dependent on the age of the company. In other words, younger companies as well as older companies will be required to perform project appraisal if it is so wished by the banks and other financial institutions concerned. The length of deposit relationship as well as the length of credit relationship also did not exhibit any significant relationship with the dependent variable.

In terms of type of credits, it was observed that no apparent relationship exist between all types of credit [CRTYPE] and the demand for project appraisal. However, after examining each individual type of credit, it was found the demand for project appraisal was significantly dependent on the long-term finance sought by the companies. The *Mann-Whitney* test revealed that there was a significant difference between the means of companies looking for long-term finance [CRTYPE3] and those who are not interested in long-term finance, in terms of the demand for project appraisal ($z\text{-score} = -3.6003$; 2-tailed $p = .0003$). This finding provides an evidence to the fact that banks and other financial institutions require prospective borrowers to perform project appraisal if they need long-term finance. Long-term loans usually involve a large sum of money and the time horizons are by definition, quite long; thus the default risks are also high. Careful assessments by bankers are necessary and in order for them to have an objective evaluation they will need more information. Through the performance of

project appraisals, bankers can have most of the information needed for them to make a prudent decision concerning the loan application. The relationship between the demand for project appraisal and term-loan financing was also found to be strong, positive and very significant.

The other variable that was found to exhibit a significant and positive relationship with the demand for project appraisal by banks and other financial institutions is the ownership structure. It was observed that demand for project appraisal was stronger on the *bumi-controlled* companies as compared to the *nonbumi-controlled* companies. The *Mann-Whitney* test revealed that there was a significant difference between the means of companies controlled by bumiputeras to those which is controlled by the non-bumiputeras in terms of the demand for project appraisal ($z\text{-score} = -2.0017$; $2\text{-tailed } p = .0453$). This finding indicates that banks and other financial institutions needed more information from the *bumi-controlled* companies, thus requiring them to perform the appraisal as part of the loan application requirements. As mentioned earlier, *bumi-controlled* companies are generally young and lacked experience therefore bankers are very cautious when dealing with them.

The final variable that had displayed significant relationship with the demand for project appraisal is the adoption of formal project appraisal practices by the SMMCs. It was found that SMMCs who have adopted formal project appraisal practices were often required to perform the appraisal when applying for financial assistance from the banking institutions. Again the *Mann-Whitney* test was used to confirm the finding ($z\text{-score} = -2.8252$; $2\text{-tailed } p = .0047$). This finding suggests that SMMCs who have adopted formal project appraisal practices have a higher probability of being requested

to perform project appraisal than those companies who did not have such practices. This is an added advantage for the SMMCs who have adopted formal project appraisal practices because it will enhance their chances of getting credits from the banking institutions. Earlier finding had confirmed that companies who have adopted formal project appraisal practices have better access than those companies who did not have such practices.

D. Conclusion

1. The demand for project appraisal by banks and other financial institutions was significantly dependent on the type of credit sought by the SMMCs. The demand was found to be stronger on companies seeking long-term financing as compared to those seeking for shorter-term financing.
2. The demand for project appraisal by banks and other financial institutions was significantly dependent on the ownership structure of the company. The demand was found to be stronger on the *bumi-controlled* companies as compared to the *nonbumi-controlled* companies.
3. The demand for project appraisal by banks and other financial institutions was significantly dependent on the adoption of formal project appraisal practices by the company.
4. The demand for project appraisal by banks and other financial institutions was not significantly dependent on size of company, age of company, annual sales turnover, credit types in general, length of deposit relationship and length of the credit relationship.

8.9 Testing of Hypotheses 6

A. Statement of the Hypotheses

The demand for project appraisal by government agencies [NEEDPA_G] is not significantly dependent on the following:

- 6.1 *size of company [F_SIZE]*
- 6.2 *ownership structure [OWNSTRUC]*
- 6.3 *age of company [AGEFIRM]*
- 6.4 *length of deposit relationship [AGEACC2]*
- 6.5 *length of credit relationship [AGECR2_B]*
- 6.6 *annual sales turnover [ANNSALES]*
- 6.7 *adoption of formal project appraisal practices [ADOPTPA]*

B. Tests results

From the tests result, it was determined that the group null hypotheses 6 failed to be rejected by the test due to the large observed significance level. The *chi-square* value and its associated *p-value* are given in Table 8.18.

D. Discussion of test results

From the test results it was observed that the null hypothesis number 6 was found to be true. The demand for project appraisal by government agencies failed to display any significant dependency on each of the independent variables related to the profile of companies. These findings confirm that government agencies did not place much importance on those variables even if they insisted on the performance of project appraisal from their prospective borrower. Furthermore, it was found that there was no

significant relationship between the adoption of formal project appraisal practices and the demand for project appraisal by government agencies.

Table 8.18: Testing Hypotheses 6 - Summary of tests results

<i>Hypo no.</i>	<i>Independent variables</i>	χ^2 - <i>value</i>	<i>p-value</i>	<i>Spearman's (S) Eta coefficient (E)</i>	<i>Results</i>
6.1	F_SIZE	.28636 (d.f.= 1)	.59256	.11677 (S) .11677 (E)	(X)
6.2	OWNSTRUC	1.48516 (d.f.= 1)	.22297	-.26594 (S) .26594 (E)	(X)
6.3	AGEFIRM	1.29818 (d.f.= 3)	.72956	.04911 (S) .24863 (E)	(X)
6.4	AGEACC2	1.00952 (d.f.= 3)	.79895	.17216 (S) .22467 (E)	(X)
6.5	AGECR2_B	2.5000 (d.f.= 2)	.28650	.40572 (S) .40825 (E)	(X)
6.6	ANNSALES	5.83227 (d.f.= 5)	.32288	-.27445 (S) .52700 (E)	(X)
6.7	ADOPTPA	3.22636 (d.f.= 1)	.07246	.39196 (S) .39196 (E)	(X)

(X) Do not reject null hypothesis

The length (duration) of deposit and credit relationships was also found to have no significant bearing on the demand for project appraisal by government agencies. These findings suggest that government agencies did not adhere to the same policy as formal banks in terms of their demand for project appraisal.

As discussed earlier, government agencies that have been given the task to assist potential SMMCs who have had difficulty securing finance from the banking institutions do not have the skills and expertise for them to actually re-evaluate the appraisal document submitted by potential borrower. Furthermore, government agencies, being non-profit organisations, have their own operational guidelines that are presumably different from those of the banking institutions. All these factors explained

the reason as to why government agencies were found to be less concerned with the requirement of project appraisal to be carried out by their potential borrower.

D. Conclusion.

The demand for project appraisal by the government agencies was not significantly dependent on the size of company, their ownership structure, age of the company, the firms' annual sales turnover, the length of account and credit relationships as well as whether or not the company have adopted formal project appraisal practices.

8.10 Summary of Findings

8.10.1 Findings from Hypotheses 1

1. Medium-sized SMMCs have better access to banks and other financial institutions finance than small-sized SMMCs.
2. Small-sized SMMCs have better access to government agencies' finance than medium-sized SMMCs.
3. There is no difference between the small and medium-sized SMMCs in terms of their project appraisal practices as well as their utilisation of the informal sources of finance.

8.10.2 Findings from Hypotheses 2

1. In terms of accessibility of banks and other financial institution finance, the *bumi* and *nonbumi-controlled* SMMCs were both found to have equal access.
2. In terms of accessibility of government agency finance, the *bumi-controlled* SMMCs were found to have better access than the *nonbumi-controlled* SMMCs.

3. There were no differences between the bumi and *nonbumi-controlled* SMMCs in terms of their project appraisal practices as well as their utilisation of informal sources of finance.

8.10.3 Findings from Hypotheses 3

Hypotheses 3A

1. Medium-sized SMMCs have better access to banks and other financial institutions finance than small-sized SMMCs.
2. SMMCs producing for both type of markets (local and exports) and SMMCs producing exclusively for local markets have better access to banks and other financial institutions finance than SMMCs producing exclusively for exports.
3. SMMCs registered as private limited companies (subsidiary or non-subsidiary) have better access to banks and other financial institutions finance than SMMCs registered as sole proprietorships and partnerships.
4. The companies average annual sales turnover had a very significant positive relationship with SMMCs' accessibility to banks and other financial institutions finance.
5. There were no significant relationships between ownership structure, age of company, types of business location and types of industry classification with SMMCs' accessibility to banks and other financial institutions finance.

Hypotheses 3B

1. There was a very significant and positive relationship between the adoption of formal project appraisal practices with the access of SMMCs to banks and other financial institutions finance.

2. There was a very significant and positive relationship between the types of appraisal adopted in carrying out the project appraisal exercise with the access of SMMCs to banks and other financial institutions finance.
3. The methods of appraisal, documentation of project appraisal and the types of information contained in the appraisal documents did not have any significance on the accessibility of SMMCs to banks and other financial institutions finance.

Hypotheses 3C

1. There was a very significant, strong and positive relationship between single or multiple account relationship [S_MACC] and access to banks and other financial institutions finance [ACCESS_B]. SMMCs having multiple account relationship with a single bank have better access than those who have single account only.
2. There was a very significant, strong and positive relationship between utilisation of auxiliary bank services [OTHER_B] and SMMCs' accessibility to banks and other financial institutions finance [ACCESS_B].
3. There was a very significant, strong and positive relationship between the individual relationship [KNOW_B] of the company officials with bank officials to SMMCs' accessibility to banks and other financial institutions finance [ACCESS_B].
4. There was no significant relationship between existence of an account relationship [ACCSHIP], single or multiple bank relationship [S_MBANK] and length of deposit relationship [AGEACC2] to SMMCs' accessibility to banks and other financial institutions' finances [ACCESS_B].

Hypotheses 3D

1. In general, there were no significant relationships between the variables related to the profile of the entrepreneur and the SMMCs' access of banks and other financial institutions finance.
2. There was a significant and positive relationship between business management training attended by entrepreneurs of the smaller-sized SMMCs and the SMMCs access of banks and other financial institutions finance (after controlling for size of companies).
3. There was a significant and positive relationship between business management training attended by entrepreneurs of the *nonbumi-controlled* SMMCs and their access to banks and other financial institutions finance (after controlling for ownership structure).

Hypotheses 3E

1. There was no significant relationship between the utilisation of informal sources of finance and the accessibility of SMMCs to banks and other financial institutions finance.
2. Inaccessibility to banks and other financial institutions' credits was not the main reason for SMMCs to utilise informal sources of finance.
3. The utilisation of informal sources of finance was complementary to the utilisation of the formal sources of finance.

8.10.4 Findings from Hypotheses 4

Hypotheses 4A

1. Small-sized SMMCs have better access to government agencies' finance than medium-sized SMMCs.

2. *Bumi-controlled* SMMCs have better access to government agencies' finance than *nonbumi-controlled* SMMCs.
3. SMMCs registered as private limited companies have better access to government agencies' finance than SMMCs registered as sole proprietorships and partnerships.
4. There was significant but negative relationship between annual sales turnover and accessibility to government agencies' finance.
5. There were no significant relationships between age of company, business location, type of market classification and industry classification with SMMCs' accessibility to government agencies' finance.

Hypotheses 4B

1. There were no significant relationships between all variables related to the adoption of project appraisal practices with the SMMCs' accessibility to government agencies' finance.

Hypotheses 4C

1. There was a significant and positive relationship between SMMCs' access of government agencies' finance and the existence of a deposit relationship with a bank.
2. There was a significant and positive relationship between SMMCs' access of government agencies' finance and the utilisation of auxiliary bank services by the SMMCs.
3. There were no significant relationships between SMMCs' access of government agencies' finance with the multiple accounts and bank relationships, the length of the relationship as well as the individual relationship between company officials and bank officials.

Hypotheses 4D

1. There was a strong, significant and positive relationship between the entrepreneurs' ethnic composition and SMMCs' access of government agencies' finance.
2. There was a strong, significant and positive relationship between the entrepreneur's length of experience in the present business and SMMCs' access of government agencies' finance.
3. There were no significant relationship between age of entrepreneur, gender, educational level, professional qualification, business management training attended, training on project appraisal, part-time business experience as well as previous working experience and SMMCs' access of government agencies' finance.

Hypotheses 4E

1. There was no significant relationship between the utilisation of informal sources of finance [INFORM_S] and SMMCs' access of government agency finance [ACCESS_G].
2. There was a significant and positive relationship between certain sources of informal finance i.e. the profit saved from previous operations [SOURCE2], borrowings from relatives and friends [SOURCE5] as well as customers' deposit or advances [SOURCE7] with the SMMCs' access of government agency finance.
3. Inaccessibility to government's agency credits was not the main reason for SMMCs to utilise informal sources of finance.
4. The utilisation of informal sources of finance was complementary to the utilisation of the formal sources of finance.

8.10.5 Findings from Hypotheses 5

1. The demand for project appraisal by banks and other financial institutions was significantly dependent on the type of credit sought by the SMMCs. The demand was found to be stronger on companies seeking for long-term financing as compared to those seeking for shorter-term financing.
2. The demand for project appraisal by banks and other financial institutions was significantly dependent on the ownership structure of the company. The demand was found to be stronger on *bumi-controlled* companies as compared to the *nonbumi-controlled* companies.
3. The demand for project appraisal by banks and other financial institutions was significantly dependent on the adoption of formal project appraisal practices by the company.
4. The demand for project appraisal by banks and other financial institutions was not significantly dependent on size of company, age of company, annual sales turnover, credit types in general, length of deposit relationship and length of the credit relationship.

8.10.6 Findings from Hypotheses 6

1. The demand for project appraisal by the government's agency was not significantly related with size of company, ownership structure, age of the company, the firms' annual sales turnover, the length of account and credit relationships as well as whether or not the company have adopted formal project appraisal practices.

8.11 Summary

In this chapter, all the null hypotheses developed for the research were systematically tested and the tests results were elaborated. The statistical package that was used to carry out the analysis was the SPSS[®] for Windows[™] Release 6.1. The use of this particular statistical package was found to be appropriate and sufficient in testing the research hypotheses.

Parametric tests as well as non-parametric tests were used in the analyses depending on the distribution of data for the relevant variables. For normally distributed data, parametric tests were used and for data that was not normally distributed, the non-parametric alternatives were used. The findings were then summarised at the end of the chapter for easy reference. Since adoption of a formal project appraisal practice was found to be an important factor in determining the SMMCs' access to formal sector financial institutions, an empirical model for determinants of adoption of project appraisal practice by SMMCs in Malaysia will be presented and discussed in the following chapter.

EMPIRICAL MODEL FOR DETERMINANTS OF ADOPTION OF PROJECT APPRAISAL PRACTICE BY SMMCs IN MALAYSIA

9.1 Introduction

In the previous chapter, the present study has been able to prove that the SMMCs' access to banks and other financial institutions significantly depends upon whether or not the SMMCs adopt a formal project appraisal practice (please refer to hypothesis 3B.1). It has also been shown that the demand for such appraisal was significantly dependent upon the ownership structure as well as the type of credit sought from these institutions (hypotheses 5.2 and 5.4.1). Since the present study is particularly interested in identifying the variables which can have significant influence in determining whether or not the SMMCs covered by the survey adopt a formal project appraisal practice, further analysis was carried out within a multi-variate framework. The primary objective of this extended analysis is to identify the variables that can best explain whether or not a firm adopt project appraisal practice. A logistic regression technique is used to examine the potential explanatory variables in their aggregate form, where all candidate variables are combined to form a single logit model. In the logistic model, the explanatory variables that affect the dependent variable will be determined as well as the estimated parameter for each of those variables that survived the regression. Since the dependent variable [ADOPTPA] is a dichotomous variable, the logistic regression model seemed to be our best choice in performing the required analysis (Hosmer and Lemeshow, 1989).

9.2 Logistic Regression Analysis versus Other Multivariate Techniques

No doubt that there is a variety of multivariate statistical techniques that can be used to estimate the parameters of a model such as the multiple regression analysis and discriminant analysis. Nevertheless, these techniques often require far too many assumptions for them to produce credible results. In a linear multiple regression, for example, the assumptions of normality and linearity cannot be violated, otherwise the results obtained may be biased. Moreover, the predicted values in a multiple regression analysis cannot be interpreted as probabilities whereas in the logistic regression, the predicted probability can be estimated directly (Norusis, 1993).

Similarly, for the results from discriminant analysis to be useful and credible, the assumptions needed are almost as rigid as that needed for the multiple regression analysis. Logistic regression, on the other hand, requires far fewer assumptions than discriminant analysis; and even when the assumptions required for discriminant analysis are satisfied, logistic regression still performs better (Norusis, 1994 p.1). Under most circumstances, the logistic regression analysis will produce at least the same results as that of the discriminant analysis (Press and Wilson, 1978).

In addition, the logistic regression technique is able to identify the set of variables which in linear combination, are statistically associated with the probability of membership in one of two mutually exclusive categories (Haines, Riding and Thomas, 1991). Furthermore, logistic regression allows the admission of both continuous and categorical variables into the regression model (Norusis, 1994; Haines, Riding and Thomas, 1991). Thus, the above explanations provide the basis for the use of the logistic regression technique for the present study.

9.3 The basic logistic model

In its general form, the logistic regression model can be written as follows:

$$E\{f/n\} = e^{f\{X\}} / (1 + e^{f\{X\}})$$

where $E\{f/n\}$ is the predicted probability of an event occurring/not occurring, (depending on how the dependent variable is coded), and

$$f\{X\} = a_0 + \sum a_i X_i$$

where a_0 and a_i are coefficients estimated from the data, $\{X\}$ is the set of independent variables and e is the base of the natural logarithms. In logistic regression, the probability of an event is estimated directly and its value will always be between 0 and 1, regardless the value of $f\{X\}$. Unlike linear regression, the parameters of the logistic regression model are estimated using the maximum-likelihood method. In addition, since the logistic regression model is non-linear, an iterative algorithm is necessary for parameter estimation (Norusis, 1994; Hosmer and Lemeshow, 1989; Maddala, 1983).

9.4 Logit Model for Variables Associated with Firms Adopting Project Appraisal Practice

9.4.1 Coding of the dependent and independent variables

The dependent variable in the following model is whether or not the sampled firm has indicated that they carry out project appraisal, which is the variable [ADOPTPA]. In our logit model, those firms who have adopted project appraisal practices are coded as "0", while those firms who did not adopt similar practice are coded as "1". The independent or explanatory variables are then selected based on the expectation that these variables have exerted some influence on the dependent variable.

The potential candidates are as follows (See Appendix 9.1 for summary):

1. X_1 [ACCESS_B] - Access to bank finance

The use of this variable as an independent variable in our logit model needs some clarification. In our earlier analysis we have established that access to bank finance [ACCESS_B] is a function of adoption of project appraisal practice [ADOPTPA]. In other words, [ACCESS_B] is the dependent variable and [ADOPTPA] is the independent variable. But in our logit model, we are changing the relationship between the two variables in order to identify a set of explanatory variables that would ideally explain the adoption of project appraisal practice. This change of relationship is permissible, as these variables are related in an *implicit function* relationship. According to Allen (1968, p.29), "there is an *implicit function* between two variables x and y , with given ranges of variation, if the values that x and y can take are not independent of each other but connected in some definitive way. An *implicit function* is thus a mutual relation between two variables and either variable "determines" the other. The variable y is an *explicit function* of the variable x if the value or values of y depend in some definite way upon the value which is allotted arbitrarily to x . In this case, it is the variable x which determines the variable y . In the same way, x may be given as an explicit function of y ". Allen (1968, p.29) also points out that "the difference between *implicit* and *explicit* function is mainly one of point of view or emphasis. If the relation between x and y is regarded as mutual, then the term *implicit function* is appropriate; the variables are on equal footing. But, if the relation is regarded from a definite angle, e.g. y as depending on x , then the use of the term *explicit function* would be more appropriate. In the *explicit function*, the variables are arbitrarily separated and y is called the *dependent* and x as the *independent* variable".

But from our point of view, we regard the relation between [ACCESS_B] and [ADOPTPA] as mutual or interdependence, thus there is an *implicit function* between the two variables. Allen (1968) further points out that “a given implicit function between two variables, say x and y , results in two explicit functions - y as an explicit function of x and x as an explicit function of y ”. These two explicit functions are said to be inverse to each other. We therefore argue that the same principle can be applied in our specification of the dependent and independent variables in the logit model. In other words, the variable [ACCESS_B] can be redefined as an independent variable and [ADOPTPA] as the dependent variable according to our point of view and the purpose at hand.

[ACCESS_B] is an indicator variable that denotes whether the firm has access to bank finance or otherwise. If the firm has access to bank's finance, the variable X_1 will take on the value of '0' and if the firm does not have access, it will take the value of '1'. This variable is an important one since it is able to indicate whether the firms that had access to bank finance, adopt project appraisal practice. However, the reason for adopting project appraisal practice can be either one of the following reasons or both. First, it could be a standard policy for the firm to perform project appraisal whenever they want to make capital investment decision, regardless whether they are going to borrow from the banks or not. Secondly, they do project appraisal because it was required by the banks from which they intend to borrow. In this instance, they will perform project appraisal only when they need financial assistance from the banks although majority of the SMMCs have indicated that they will perform project appraisal regardless of whether they intend to borrow or not. It is therefore expected that there

should be a very close and significant relationship between adoption of project appraisal practice and access to bank finances.

2. X_2 [ACCESS_G] - Access to government finance

This is an indicator variable which takes the value of '0' if the firms need access to government's agency finance and a value of '1' if not. The inclusion of this variable will provide an insight whether getting access to government's agency finance has any significance on the adoption of project appraisal practice by sample firms. Since to get government agency's finance is not as demanding as from the banking institutions, it is expected that this variable would not have a significant impact on the firm's adoption of project appraisal practice. In other words, getting access to government agency's finance, in most cases, would not determine whether the applicant firms carry out project appraisal or not.

3. $X_3 - X_6$ [AGEFIRM] - Age of the firm

Age of the firm¹ was originally treated as a continuous variable, however, it was then recoded into a categorical variable. The method used for coding all categorical variables in the model, is the 'reference cell coding' where the first group or category serves as the reference group. If the categorical variable has 'n' groups, then, the number of new indicator or dummy variables created would be 'n-1'. (Please refer to Appendix 9.2 for all parameter coding used in the logit model).

¹ The variable [AGEFIRM]- age of company, is different from the variable [BUSEXP2] - length of business experience and should not be confused. In other words, the variable [AGEFIRM] is associated with the company whereas the variable [BUSEXP2] is associated to the entrepreneur.

The new variables that are created from this particular categorical variable are as follows; X_3 or [AGEFIRM(1)] representing firms with age group 6 to 10 years, X_4 or [AGEFIRM(2)] representing firms with age group of 11 to 15 years, X_5 or [AGEFIRM(3)] representing firms with age group of 16 to 20 years and lastly, X_6 or [AGEFIRM(4)] representing the last age group of firm. The first age groupings of 1 to 5 years represent the reference group.

To a certain extent, this variable indicates the level of maturity and experience of the firms. Older firms are not expected to be receptive to the adoption of project appraisal practices since they rely more on their previous experience, unlike their younger counterparts. This variable can also be viewed as a proxy for the firm's risk (Haines, Riding and Thomas, 1991). Older firms are expected to be less risky than newer firms, since newer firms tend to bear higher risk of failure.

4. $X_7 - X_{11}$ [ANNSALES] - Average annual sales turnover

Variables X_7 to X_{11} represent the categorical variable [ANNSALES] which denotes the firm's average annual sales turnover. Each of the newly created variables takes on the value of '1' if it falls within the specified sales category. For example, variable X_7 [ANNSALES(1)] takes on a value of '1' for the firms annual sales turnover of more than RM 1 million to RM 1.5 million, and a value of '0' if not. Similarly, variables, X_8 , X_9 , X_{10} and X_{11} follow the same method of coding. The firms with sale category of RM 1 million or less is chosen as the reference group.

Average annual sales turnover is included in the model since it provides the 'state of activity' of the firm, that is whether the firm is active or not. It also can be used as a

measure of the firm's size. Firms with higher average of annual sales turnover are expected to adopt project appraisal practice more than firms with lower annual sales turnover. This is because, firms with higher sales turnover are presumed have better and bigger resources to engage in project appraisal practices.

5. $X_{12} - X_{14}$ [REGTYPE] - Type of entity registration

These variables are used as categorical variables to denote the type of entity registration for the firms. The variable [REGTYPE] has four types of entity registration, thus, three indicator/dummy variables are created namely X_{12} , X_{13} and X_{14} . The variable X_{12} or [REGTYPE(1)] takes on a value of '1' if it is registered as a partnership, and, '0' if not. Similarly, variable X_{13} or [REGTYPE(2)] and X_{14} or [REGTYPE(3)] are set to the values of '1' if the firm is registered as private limited companies-sub subsidiary or private limited companies - nonsubsidiary, respectively, and '0' if not. For this particular categorical variable, the group of firms registered as sole proprietorship is selected as the reference group.

From our earlier observation (*please refer to section 7.4.3 in Chapter 7*), we have found that SMMCs registered as sole proprietorship and partnership are less likely to adopt project appraisal practices than SMMCs registered as private limited companies. As for the private limited companies, those firms which are subsidiaries are more likely to adopt project appraisal practice as compared to non-subsidiary private limited companies.

6. $X_{15} - X_{18}$ [*BUSEXP2*] - *Length of business experience*

The length of business experience will give an indication of the level of experience hold by the entrepreneur. It is expected that the longer is the experience, the less will be the entrepreneur's inclination towards adopting project appraisal practice. This is based on the fact that the more experienced entrepreneurs will rely more on their intuitive judgement than any other scientific methods of project evaluation. Four dummy variables are created and assigned the value of '1' if the entrepreneur's experience fall within the specified category, and a value of '0' if otherwise. The first group of entrepreneurs with 1 to 5 years experience represents the reference group for this categorical variable.

7. X_{19} [*EDULEVEL*] - *Level of education received by the entrepreneur*

This variable indicates the level of education of the entrepreneur. It will take a value of '0' if the level of education is considered as low² and a value of '1' is assigned to the entrepreneurs who at least have completed up to the level of tertiary education. The level of education is considered an important variable in determining the willingness of the entrepreneur to adopt scientific methods of project evaluation techniques. They are expected to be more inclined to perform project appraisal when making capital investment choices.

8. $X_{20} - X_{22}$ [*ETHNIC*] - *Ethnic composition of the entrepreneur*

These are the three dummy variables represent the four ethnic compositions in Malaysia. The Malays that represent the major ethnic group are made to be the

²The educational level is considered low if the entrepreneur had received formal education until secondary level only. About 38.5 per cent of entrepreneurs fall in this category.

reference group. The variables X_{20} or [ETHNIC(1)], X_{21} or [ETHNIC(2)] and X_{22} or [ETHNIC(3)] will take a value of '1' if the entrepreneur is Chinese, Indian or others respectively, and a value of '0' if otherwise. The Chinese entrepreneurs are not expected to be more receptive to adoption of project appraisal practice than the Malay and Indian entrepreneurs because they rely more on their vast business experience due to their early involvement in commercial activities. However, the Malay entrepreneurs are expected to perform project appraisal as they are often required by the financial institutions whenever they apply for loans.

9. X_{23} [*F_SIZE*] - *Size of the firm*

Size of the firm, either small or medium-sized. This is a dummy variable which takes a value of '0' if the firm is categorised as small and a value of '1' if the firm is medium-sized. Larger-sized firms are expected to adopt project appraisal practice more readily than smaller firms.

10. X_{24} [*GENDER*] - *Gender of the entrepreneur*

This is a dummy variable that denotes the gender of the entrepreneur. It will take a value of '0' if the entrepreneur is a male and a value of '1' if the entrepreneur is a female. Female entrepreneurs are expected to be more meticulous in their decision-making, particularly when it involves substantial amount of money (Bigoness, 1988; Kallberg and Leicht, 1991). Also they usually have to prove their ability to the potential investor or lender to a far greater degree than their male counterpart. This variable is taken into consideration based on our earlier observation which suggests that firms headed by a female entrepreneur would be more in favour of adopting sophisticated project appraisal techniques (*please refer to section 7.4.5 in Chapter 7*).

11. $X_{25} - X_{32}$ [INDCLASS] - Industry classification

These are dummy variables to represent the categorical variable [INDCLASS] which classifies the industry into nine different groups according to the SIC code. The first group of industry which involves manufacturing electrical and electronic products as well as machinery is selected to be the reference group. Variable X_{25} through variable X_{32} or [INDCLASS(1)] to [INDCLASS(8)] will take on a value of '1' if the firms are involved in the respective industries, and zero otherwise. Firms involved in high technology-based industries are expected to adopt project appraisal practice more readily and open to modern business practice than firms involved in traditional industries.

12. X_{33} [INFORM_S] - Access to informal sources of finance

This variable is used to indicate whether or not the firms need access to informal sources of finance. If they need access, then the variable will take on a value of '0' and if not, it will take on the value of '1'. It is expected that those firms who need access to informal sources of finance will not adopt project appraisal practice. This is due to the fact that informal sector financiers normally do not require their clients to carry out formal project appraisal before deciding to lend them money (*Please refer to section 3.5 of Chapter 3*).

13. $X_{34} - X_{35}$ [MKTCLASS] - Market classification

These are also categorical variables that represent the type of market classification. Firms producing exclusively for local markets are set to be the reference group. Therefore, variable X_{34} or [MKTCLASS(1)] takes on a value of '1' if the firms are classified as producing exclusively for the export markets, and, zero, if not. Similarly, variable X_{35} or [MKTCLASS(2)] takes on a value of '1' if the firms produce for both local and export markets, and zero, if otherwise. Firm producing for exclusively exports markets as well as firms producing for both local and export markets are expected to adopt project appraisal practice as they are more open to new ideas than firms producing only for the local markets.

14. X_{36} [OWNSTRUC] - Ownership structure

Ownership structure is a dummy variable which takes a value of '0' if the firm is *bumi-controlled* and a value of '1' if it is a *nonbumi-controlled*. Since *bumi-controlled* firms are on average young and less experienced than the *nonbumi-controlled* firms, they are not expected to adopt project appraisal practice in their capital investment decisions. In addition, given the relatively easy access to subsidised credit, these firms are less likely to carry out project appraisal. However, due to demand from external financiers, the *bumi-controlled* firms are required more often than not to perform project appraisal than their nonbumi counterparts.

15. X_{37} [PATRAIN] - Have attended project appraisal training/course

This is a specific variable to denote whether the entrepreneur has received a special training on how to carry out project appraisal. If the entrepreneur has attended the

special training on project appraisal, this variable will take on a value of '0', if not, it takes on the value of '1'. It is expected that the entrepreneurs who have undergone special training on project appraisal will carry out project appraisal whenever their firms intend to make capital investment decisions.

16. X_{38} [*PROF_Q*] - *Have professional qualification*

This variable denotes whether the entrepreneur holds a professional qualification such as an accounting, engineering or other professional trainings and qualifications. These are special qualifications conferred by their respective vocations. If the entrepreneur has a professional qualification, the variable takes on the value of '0', otherwise, it will take on a value of '1'. This variable is an important indicator in determining that the entrepreneur has been exposed to a certain extent to the importance of performing project appraisal exercise. Entrepreneurs who possess a professional qualification are expected to correlate positively with the adoption of project appraisal practice by their firms.

17. X_{39} [*TRAINED*] - *Have attended business management training*

This variable is used to ascertain whether entrepreneurs who have attended the general business management training adopt project appraisal practice for their firms. Those who have attended the business management training programmes are expected to be more exposed to project appraisal practice, and thus adopt the practice for their firms. If the entrepreneur has attended the training programmes, this variable will take on a value of '0' and if not, takes a value of '1'.

18. X_{40} [WORKEXP] - Have past working experience

This variable denotes whether the entrepreneur has had previous working experience or not. If the entrepreneur has had previous working experience, the variable takes on a value of '0' and a value of '1' if otherwise. Past working experience can be used as proxy to indicate the inclination of those entrepreneurs to adopt similar project appraisal practice as they have previously done while working with other establishments. It is therefore expected that those entrepreneurs who have had previous working experience in the field related to performing project appraisal will adopt similar practice for their own firms.

9.4.2 Results of fitting the logistic regression model to the data

The procedure used to enter the candidate variables into the model is the forward stepwise selection as well as the backwards stepwise elimination procedure. The score statistic is used for entering the variables into the model but *likelihood-ratio test* (LR) was used for removing quality variables from the model. The likelihood-ratio test is preferred here because it provides a better criterion for removal than the alternative, Wald statistic (Norusis, 1994). A five per cent (0.05) level of significance was used as the entry criterion and a ten per cent (0.10) cut-off value was used to remove variables from the model.

In the first step, all candidate variables were fitted to the model using the forward stepwise procedure. Out of forty variables that were entered into the model, only nine variables survived and were entered into the model equation. To reconfirm the nine selected variables, a backward selection stepwise technique was applied to all the forty candidate variables. This procedure has produced an identical result to that in the first

procedure with a very high degree of consistency. The nine selected variables are as follows: X_1 [ACCESS_B], X_{15} [BUSEXP2(1)], X_{16} [BUSEXP2(2)], X_{17} [BUSEXP2(3)], X_{18} [BUSEXP2(4)], X_{19} [EDULEVEL], X_{34} [MKTCLASS(1)], X_{35} [MKTCLASS(2)] and X_{37} [PATRAIN].

In the next step, the above variables that have been identified under step one were excluded and the remaining variables were re-entered into the model. At this point, another two categorical variables [ANNSALES] and [AGEFIRM] were identified. In order to verify the significance of these two additional variables, they were combined together with the nine variables identified earlier, and again regressed for their significance. The results of this procedure (Step 3), indicate that the two additional categorical variables do not reveal any significant improvement on the earlier estimation. In fact, the two additional variables did not survive when they were regressed in combination with the nine selected variables.

Out of the nine explanatory variables which survived, three of the dummy variables [BUSEXP2(3)], [BUSEXP2(4)] and [MKTCLASS(2)] do not indicate acceptable levels of significance, thus they were removed from the equation in the final step. However, the result of their removal has only a small impact on the model, whereby the correct classification in terms of per centage falls slightly from 78.52 per cent to 71.85 per cent and the model chi-square falls from 56.880 to 38.693. The -2 Log Likelihood increases 117.619 to 174.499. Since these variables are perceived to be important, they were retained in the model equation (Hauck and Donner, 1977). The final fitting of the logistic regression model on the data is given in Table 9.1 below.

Table 9.1

Logit model of variables associated to adoption of project appraisal practice

<i>Variable</i>	<i>Beta coefficient^a</i>	<i>Wald statistic</i>
X ₁ - [ACCESS_B]	2.7362 (0.7676)	12.7067***
X ₁₅ - [BUSEXP2(1)] (6 to 10 years)	1.4224 (0.6361)	5.0008*
X ₁₆ - [BUSEXP2(2)] (11 to 15 years)	2.0933 (0.7055)	8.8044**
X ₁₇ - [BUSEXP2(3)] (16 to 20 years)	0.8097 (0.7587)	1.1390
X ₁₈ - [BUSEXP2(4)] (21 years or more)	1.7678 (1.0318)	2.9352
X ₁₉ - [EDULEVEL]	-1.1381 (0.4874)	5.4524*
X ₃₄ - [MKTCLASS(1)] (export market only)	-3.2190 (1.3903)	5.3604*
X ₃₅ - [MKTCLASS(2)] (local and export markets)	-0.1846 (0.5077)	0.1322
X ₃₇ - [PATRAIN]	3.6499 (1.1699)	9.7327**
Constant	-4.4810 (1.3471)	11.0653***

Notes:

- * Standard errors in parentheses.
- *** Statistically significant at 0.001 level of significance
- ** Statistically significant at 0.01 level of significance
- * Statistically significant at 0.05 level of significance

Number of cases in the model = 135; overall predictive accuracy = 78.52%; Firms adopting project appraisal practice correctly predicted = 88.64%; Firms not adopting project appraisal practice correctly predicted = 59.57%; -2 log likelihood = 117.619; χ^2 significance = 0.0000

In equation form, the final logit model can be written as follows:

$$f\{X\} = 2.7362(X_1) + 1.4224(X_{15}) + 2.0933(X_{16}) + 0.8097(X_{17}) + 1.7678(X_{18}) \\ - 1.1381(X_{19}) - 3.2190(X_{34}) - 0.1846(X_{35}) + 3.6499(X_{37}) - 4.4810$$

9.4.3 Analysing the goodness of fit of the model

There are various ways to assess whether or not the model derived in the above procedure represents the best fit to the available data. One way of assessing how well

the model fits is to compare the predicted outcomes to the observed outcomes by examining the classification table produced by the SPSS output. Figure 9.1 below provides the classification for the dependent variable ADOPTPA.

Figure 9.1

Classification Table for ADOPTPA

		Predicted		Percent Correct
		yes y	no n	
Observed	yes y	78	10	88.64%
	no n	19	28	59.57%
		Overall		78.52%

Looking at the above classification table, seventy eight cases (SMMCs) who adopted project appraisal practice are correctly predicted by the model. Similarly, twenty eight cases (SMMCs) which did not adopt project appraisal practice are also correctly classified. However, nineteen cases (SMMCs) which are predicted to have adopted project appraisal practice, did not do so. Likewise, ten cases (SMMCs) which are predicted by the model not to have adopted project appraisal practice, did in fact adopt project appraisal in the observed outcome. It is therefore obvious that the model has higher reliability in predicting firms that adopt project appraisal practice (88.64%) and not so accurate when predicting firms that will not adopt similar practice (59.57%). However, the overall accuracy of the model remains high, about eighty per cent (Figure 9.1).

Since the classification table above does not reveal the distribution of probabilities for the firms that adopt or do not adopt project appraisal practice, a histogram of estimated

project appraisal practice. There are three cases with a high estimated probability (probability value about 0.75 and above) of adopting project appraisal but do not adopt the practice. On the other hand, there are three extreme cases (with estimated probabilities less than 0.25) which are predicted not to adopt project appraisal practice but fall within the group that adopt project appraisal practice.

Another way of assessing the goodness of fit is by looking at the changes that occur in the log likelihood and the chi-square improvement test. Likelihood is the measure of how 'likely' the sample results actually are, given the parameter estimates. Since the likelihood is a small number of less than 1, it is customary to use -2 times the log of the likelihood (-2LL) as a measure of how well the estimated model fits the data (Norusis, 1994). The model is considered good as long as the change in the log likelihood is decreasing after the introduction of each variable. In this particular model, the initial -2 log likelihood is 174.499 and after five iterations the -2 log likelihood has decreased to 117.619 in the final equation. Closely related to the -2 log likelihood is the goodness-of-fit-statistic which in this model equals to 116.257, slightly lower than -2 log likelihood. This shows that the final logistic regression model fits the data reasonably well.

The chi-square improvement test measures the change in -2 log likelihood between each successive step until the final equation is reached. This particular test is comparable to the F-change test in multiple regression (Norusis, 1994). Figure 9.3 below provides the initial -2 log likelihood and the chi-square improvement test at each successive step while Figure 9.4 illustrates the final -2 log likelihood, goodness-of-fit statistics, model chi-square as well as the final chi-square improvement test.

Figure 9.3

Initial -2 Log Likelihood and Chi-Square improvement tests

Dependent Variable.. ADOPTPA Has adopted project appraisal practices?								
Beginning Block Number 0. Initial Log Likelihood Function								
-2 Log Likelihood 174.49904								
* Constant is included in the model.								
Beginning Block Number 1. Method: Forward Stepwise (LR)								
Step	Improv. Chi-Sq.	df	sig	Model Chi-Sq.	df	sig	Correct Class %	Variable
1	20.707	1	.000	20.707	1	.000	65.19	IN: PATRAIN
2	11.165	1	.001	31.872	2	.000	71.85	IN: ACCESS_B
3	6.822	1	.009	38.693	3	.000	71.85	IN: EDULEVEL
4	10.429	4	.034	49.122	7	.000	74.81	IN: BUSEXP2
5	7.757	2	.021	56.880	9	.000	78.52	IN: MKTCLASS
No more variables can be deleted or added.								
Note: The entry criteria is set at 0.05.								

Figure 9.4

Statistics showing goodness of fit of the model

Final Equation for Block 1			
Estimation terminated at iteration number 5 because Log Likelihood decreased by less than .01 per cent.			
-2 Log Likelihood	117.619		
Goodness of Fit	116.257		
	Chi-Square	df	Significance
Model Chi-Square	56.880	9	.0000
Improvement	7.757	2	.0207

9.4.4 Variables in the final equation

In the above logistic model, it is found that five variables (two of which are categorical) have had significant influence on the dependent variable [ADOPTPA] after taking into consideration the effects of other independent variables that did not enter into the final regression model. The other four variables were excluded because their beta coefficients were not statistically significant. The five significant independent variables are:

1. X1 [ACCESS_B] - access to banks finance
2. X15 - X18 [BUSEXP2] - length of business experience (categorical)
3. X19 [EDULEVEL] - level of formal education received by the entrepreneur
4. X34 - X35 [MKTCLASS] - market classification (categorical)
5. X37 [PATRAIN] - the entrepreneur has attended training on project appraisal

Out of the above five variables, variables [ACCESS_B], [BUSEXP2] and [PATRAIN] are all positively correlated to the dependent variable while variables [EDULEVEL] and [MKTCLASS] are negatively correlated³ (Table 9.2). The importance of the relationship of each of the above variables is discussed below.

Table 9.2

Correlation between the dependent and independent variables in the model

Variables	ADOPTPA	ACCESS_B	BUSEXP2	EDULEVEL	MKTCLASS	PATRAIN
ADOPTPA	1.0000	-	-	-	-	-
ACCESS_B	.2892**	1.0000	-	-	-	-
BUSEXP2	.1213	-.1291	1.0000	-	-	-
EDULEVEL	-.3162**	-.1676	-.2165*	1.0000	-	-
MKTCLASS	-.1066	-.1909*	.0749	.2033*	1.0000	-
PATRAIN	.3444**	.0451	-.0350	-.1916*	.0277	1.0000

*Note: ** - Significant at 0.01 level * - Significant at 0.05 level*

Access to bank finance

The significant relationship between access to bank finance and adoption of project appraisal practice reflects two important scenarios. First, since banks require their prospective borrowers to perform appraisal prior to the loan applications, it should be obvious that these borrowers would certainly comply with the bankers' demand. In this

³ The negative correlation between the two explanatory variables (EDULEVEL and MKTCLASS) and the dependent variable [ADOPTPA] will be explained later in the chapter.

case, the performance of the appraisal is merely to satisfy the demands of the potential lender, and will be carried out only if they require financial assistance from the commercial banks. In other words, the performance of project appraisal is done for the sole purpose of obtaining loan from financial institutions rather than adopting the practice as part of the companies' routine in making capital expenditure decisions. In terms of risk assessment and evaluation, it is suspected that the project appraisal carried out for the sole purpose of obtaining funding from financial institution does not reflect the 'true' information on the level of risk associated with the proposed projects. Therefore, if the financial institutions are not meticulous in their credit evaluation procedures, they might end up financing relatively high risk projects.

Secondly, the performance of project appraisal by the companies is demand driven. This means the appraisal is done by the company to evaluate the potential as well as the risk and uncertainties that might be associated with the proposed project. In this case, the purpose of performing project appraisal is to assess the cost and benefit associated with the investment project rather than merely to satisfy the needs of the lender. In other words, they will still carry out project appraisal whenever they want to make capital expenditure decisions regardless whether they apply any financial assistance or not.

From the survey, it is evident that slightly more than fifty per cent (45 out of 88 companies) of the respondent reported that the lender required them to perform project appraisal as part of the loan application process while the remainder were not required to do so. This reflects the fact that the demand for project appraisal by the supplier of finance in Malaysia is not an universal practice. Furthermore, it is evident that the requirement of project appraisal is highly dependent on the type of credit applied for by

the firms (Please refer to Table 8.17 in Chapter 8). Project appraisals are normally required by the lender when considering applications for longer term loans.

A rather important issue to be considered here is to determine whether or not small and medium-sized manufacturing companies in Malaysia adopt project practice merely to satisfy the lenders' requirement. Evidence from the survey indicates that 86.4 per cent of firms (76 out of 88 firms) who reported have done project appraisal before, would have done it even if they are not borrowing from the banks. This observation is supported by the ranking of purpose of appraisal by those companies. Out of the six purposes ranked, the fulfilment of lender's requirement came in fourth after ascertaining project's viability, helps make decision and ascertain project's risks (Figure 9.5). All these findings support the hypothesis that the demand for project appraisal, at least within the context of lending to small and medium-sized companies in Malaysia, is driven primarily by borrowers rather than lenders.

Figure 9.5
Ranking on purpose of appraisal

Number of valid observations (listwise) = 88.00					
<u>Rank</u>	<u>Mean</u>	<u>S.E.Mean</u>	<u>Std Dev</u>	<u>N(actual)</u>	<u>(Purpose of appraisal)</u>
(1)	1.15	.04	.36	75	ascertain project's viability?
(2)	1.33	.05	.47	59	helps make decision?
(3)	1.47	.05	.50	47	ascertain project risks?
(4)	1.49	.05	.50	45	Project app. as loan requirement?
(5)	1.67	.05	.47	29	guide to implementation?
(6)	1.82	.04	.39	16	Rank & select projects?

While getting access to bank finance is essential in determining whether or not the small and medium-sized manufacturing companies in Malaysia adopt project appraisal practice; getting access to government agency finance [ACCESS_G] and other informal

sources [INFORM_S], do not seem to be important in determining the SMMCs' adoption of project appraisal practice. From the logistic regression model, these two independent variables did not enter into the regression equation, and therefore can be concluded that they have insignificant relationship to the dependent variable.

The insignificant relationship between adoption of project appraisal practice and access to government agency finance has been expected earlier in the univariate analysis. As discussed earlier, government agencies, in general, do not require their potential borrowers to perform project appraisal prior to their loan application. This may be justified for the following reasons. First, the average amount of loan approved or disbursed is considered too small to justify the cost of performing project appraisal. Second, majority of these loans are targeted to smaller manufacturing companies at a very low interest rate. It is possible for the relevant agencies to charge concessional rate of interest because the government is able to source the fund at very low rate from international sources. Following the above two reasons, it is understood that these agencies are able to absorb quite substantially any losses due to loan defaults as compared to banks and other financial institutions. However, if the number of defaulters is large, the continuity of providing these funds could be jeopardised, as these funds were initially set up as revolving funds.

A third possible explanation to the insignificant relationship between adoption of project appraisal practice and access to government agency finance is due to politically sensitive nature of projects. Projects that are supported by influential political figures can have relatively easy access to these funds. From a government agency's point of view, there is no point in demanding project appraisal to be carried out on these projects

since the loans are going to be approved anyway. From the survey, it is found that a majority of firms who have access to government agency finance are *bumi-controlled* companies. This observation testifies the facts that the provision of finance to the small and medium-sized manufacturing companies in Malaysia are politically influenced and biased towards a certain ethnic composition particularly the Malay *bumiputeras*. Furthermore, the provisions of finance by the government agencies are read as a strategy to accelerate the growth and development of *bumiputera* SMMCs until they are able to compete at par with their *nonbumi* counterparts.

Finally, it is suspected that majority of the civil servants in government agencies lack skills to evaluate and appraise projects accurately due to lack of proper training and suitable technology. Adequate training is required to enable them to perform their function more effectively. But, first of all, the 'systems' on which the evaluation process is carried out should be free from any sort of interference and the element of 'subsidy mentality' should be erased completely. If this can be achieved, projects can then be assessed according to their merits, and in the long run the existence of these revolving funds can be sustainable whereby many more SMMCs will be able to receive financial assistance in the future.

Access to informal sources of finance seemed not to influence the adoption of project appraisal practice by the SMMCs. This may be due to the fact that, if they are using their own funds, or borrowing from relatives and friends, or from moneylenders, they do not need to perform project appraisal as they are usually not required by these informal lenders. In this survey, it is evident that 73.2 per cent (82 out of 112 companies) have used internal funds (i.e. profit saved) to finance their operations, while

65.2 per cent (73 out of 112 companies) have utilised trade/suppliers' credit. Only a very small proportion of companies have relied upon advances from company directors/officers (39.3%), customer advances (26.8%), family and friends (22.3%) and moneylenders (9.8%). It was also evident that 83 per cent (112 out of 135 companies) have access to banks finance while only a handful of companies have access to government agency finance (15.6%).

According to the figures from the industry survey 1994 (Table 9.3), majority of the companies covered by the survey indicate that they have used their own funds in order to finance their start-up capital. This is followed by loans from commercial banks (19.43%), loan from family (11.77%), non-family loan (3.96%), loan from government agencies (0.58%) and other sources of fund (2.9%).

Table 9.3
Sources of start-up capital

<i>Source</i>	<i>Frequency</i>	<i>Percent</i>
Own fund	1228	64.84
Commercial bank loan	368	19.43
Family loan	223	11.77
Non-family loan	75	3.96
Government agencies	11	0.58
Others	55	2.90
Total	1894	100.0

Source: Survey of Small and Medium Scales Industry in Malaysia, 1994

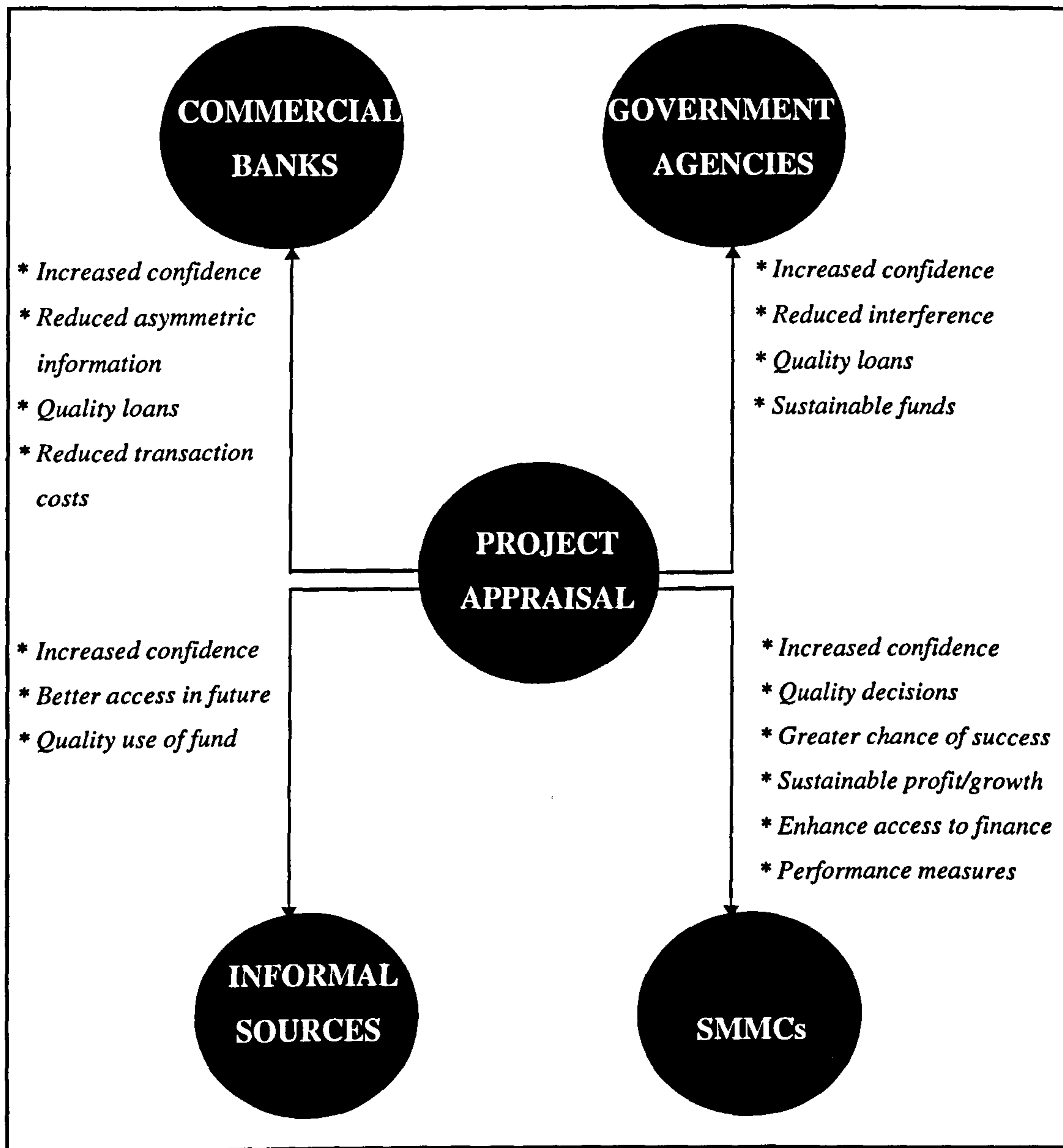
Figures from the present study as well from the industry survey strengthens the finding that majority of SMMCs in Malaysia rely heavily on their own fund for starting-up as well as funding their day-to-day operations. However, the fact that utilisation of these

informal sources has no influence on the adoption of project appraisal practice may cause some concern, particularly, if the firms are planning to use their own fund to finance their proposed capital projects. The objective of any capital investment is to maximise return, and project appraisal techniques and procedures are able to provide critical evaluation on the future return of the proposed project. It provides valuable information for the decision maker to make an informed choice based on that information.

Thus far, the research has shown that access to banks finance is a crucial factor in determining whether or not SMMCs in Malaysia adopt project appraisal practice. Similarly, the research has also been able to prove that access to government agency finance and access to informal sources are not crucial in determining whether or not SMMCs adopt project appraisal practice. However, it is highly recommended that all SMMCs in Malaysia should perform a comprehensive appraisal on their proposed projects regardless of the source of finance that will be utilised. The project appraisal exercise will provide them with some guidelines so that the final decision can be reached with some level of confidence. It must be remembered that project appraisal is only used as a tool to evaluate the costs (in terms of risks and uncertainties, cost of funds, losses or failure, etc.) against the benefits (increase in profits, market share, dividend, share prices etc.). Therefore, there is no one hundred per cent guarantee that the project will succeed. It is therefore suggested that project appraisal exercise should play a central role in identifying projects with the least risks and uncertainties, thus increasing the chance of projects with higher probability of success to be selected (Figure 9.6). It is believed that by adopting project appraisal practice, the success of the

SMMCs in gaining the confidence of their own shareholders as well as potential supplier of finance (including the venture capital companies) can be achieved.

Figure 9.6
Benefits of project appraisal to SMMCs and the Financiers



Although the above logistic model had identified access to banks finance as an important determinant to whether or not small and medium-sized manufacturing companies in Malaysia adopt project appraisal, it should be the prime motivation

underlying the adoption and performance of such appraisal. Given the benefits of performing project appraisal, SMMCs in Malaysia should consider it as an essential managerial tool to help them make better judgement on any proposed investment projects.

Length of business experience

The logistic model has also identified that the length of business experience that the entrepreneurs hold is also important to determine whether or not the SMMCs adopt project appraisal practice. However, the significance of this variable reflects the fact that entrepreneurs with less number of years of business experience are more inclined to adopt the practice whereas entrepreneurs with longer number of years of business experience are found to be less inclined to adopt similar practice. Given the first cohort (1 to 5 years experience) as the reference category, the second cohort (6 to 10 years experience [BUSXEP2(1)]) is about 1.5 times as likely as the first cohort to adopt the project appraisal practice while the third cohort (11 to 15 years experience [BUSEXP2(2)]) is twice as likely to adopt the practice as the first cohort. The fourth [BUSEXP2(3)] and fifth cohorts [BUSEXP2(4)], do not exert significant influence even though as a whole they contribute to the overall significance of this categorical independent variable.

The above findings have important implications. Entrepreneurs with few to medium number of years of business experience (15 years and below) have a greater tendency to adopt project appraisal practice than those with more years of business experience (16 years or more). This observation may be explained by the following factors:

- (1) Since the entrepreneurs lack experience, they tend to rely more on the modern management tools rather than their own management instinct. In this case, they consider project appraisal as an indispensable management tool that can help them make important decisions for their own companies.

- (2) Lack of business experience may also indicate that the majority of the entrepreneurs are young, probably in their mid thirties. The influences of their academic background on them are still very strong. As such, they are more inclined to adopt scientific methods in their decision making process. In terms of making capital investment decision, they perceive that project appraisal technique and procedures is an important management tool to help them in making decisions.

- (3) Lack of business experience may also instigate the potential lender to demand for project appraisal to be carried out prior to the loan application. However, this particular explanation cannot be justified further, since the research has found no significant correlation between this variable and access to banks finances. However, a significant positive relationship was found between this variable and accessibility to government agency finance. This observation reflects the fact that since the entrepreneurs lack experience, their access to bank finances is limited, therefore the only alternative is to seek finance from the government agencies.

Albeit the above logistic model has indicated that the length of business experience is important to determine whether or not SMMCs in Malaysia adopt the project appraisal practice, the adoption of this practice should be strongly recommended to every entrepreneurs interested in making capital expenditure decisions regardless of the length of business experience they possess. This can possibly be achieved by encouraging them to pursue into higher level of formal education.

Entrepreneur's level of education

In the logistic model, the variable which indicates the level of entrepreneurs' formal education has been found to be significant in determining whether or not SMMCs in Malaysia adopt project appraisal practice. The coefficient is negative, showing that the entrepreneur's level of education is inversely related the adoption of project appraisal practice. Since this dummy variable uses low level of education as the indicator, the negative relative relationship indicates that entrepreneurs with higher level of education are more likely to adopt project appraisal practice for their companies than those with lower level of formal education. Entrepreneurs with lower level of formal education are those who have received formal education until secondary level only while entrepreneurs with higher level of formal education have reached tertiary level of education.

This observation is logical since entrepreneurs with lower level of education are not expected to adopt modern scientific ways of making investment decisions as compared to those who with higher level of education. Those with higher level of education are expected to appreciate the importance of performing the appraisal since they may have been introduced to such appraisal techniques while they were in college or university.

However, this observation does not deny the fact that entrepreneurs with lower level of education are also interested in adopting the project appraisal techniques provided that they are given proper training and understanding of those procedures. Our earlier analysis has shown that that was a significant relationship between the special trainings on project appraisal attended by the entrepreneurs' and the adoption of such practice in their own companies. It is therefore believed that if proper training and consultation are given to these entrepreneurs, it is highly likely that the incidence of performing project appraisal among this group can be enhanced.

Types of market classification

Another variable that was found to affect the adoption or non-adoption of project appraisal practice by the SMMCs is type of market classification. There are three broad types of market classifications, namely exclusively local markets, exclusively export markets or a mixture of both. The firms which produce exclusively for the local markets are selected as the reference group. It is found that market classification, specifically, those SMMCs that are producing exclusively for the export markets [MKTCLASS(1)] are negatively correlated to the adoption of project appraisal practice (Table 9.2). It is also observed from the logistic model that SMMCs that are producing exclusively for the export markets are less likely to adopt project appraisal practice than those producing exclusively for the local markets and those producing for both markets. This observation contradicts the earlier assumption that SMMCs exporting exclusively to foreign markets are more likely to adopt project appraisal practice. Selling to the international markets obviously involve various kinds of risks and uncertainties which make the SMMCs to be more rigorous in evaluating the market potential. This particular inconsistency may be due to the small number of SMMCs in the sample who

are producing exclusively for the export markets. It can also be that the SMMCs catering exclusively for the export markets, may have access to foreign sources of finance (such as from the importers), which make them less dependent on the local source of finance. Therefore, they are not inclined to adopt formal project appraisal practice.

However, it is believed that performance of project appraisal is still very important particularly for SMMCs who are planning to export. Since penetrating the global market is very risky, SMMCs who intend to export should be meticulous in their assessment of the potential benefits as well as the risks associated to their decision of whether to export or not. Such evaluation can be performed quite effectively using the project appraisal techniques and procedures. The performance of project appraisal practice is highly recommended to those SMMCs planning to expand their markets globally. The recommendation of performing project appraisal should also be extended to all SMMCs regardless of their market classification since the objective of the appraisal is to ensure that the potential benefits that can be derived from the proposed project is greater than its potential costs.

Training on project appraisal

The logistic model has verified that there was a very strong and significant relationship between the special training on project appraisal and the adoption of such practice by the SMMCs. The logistic result indicates that entrepreneurs who have received special training on project appraisal are more likely to adopt project appraisal practice for their firms as compared to those who have not received similar training. Training on project appraisal refers to a specific training which involves a specific methodology on

techniques and procedures used in a project appraisal. This specialised training is comprehensive and is supposed to equip the entrepreneurs with the up-to-date 'technology' in project appraisal.

At the present moment, training on project appraisal are provided as part of entrepreneurs' development courses conducted by the few governments training agencies such as MARA, MEDEC, MARDI, and the National Productivity Board. Even then, most of these trainings are intended to give the awareness on the importance of performing project appraisal before making any investments, thus, the present training inputs do not cover the 'mechanics' of the appraisal practice. As a result, most of the entrepreneurs covered by the survey were already aware about the project appraisal practice but only a few of them actually adopted project appraisal practice. Out of 135 SMMCs who responded to the survey, 106 companies indicate that they were aware of project appraisal practice and out of these, only 88 actually adopted the practice.

9.5 Summary

In this chapter, an attempt is made to identify the explanatory/independent variables that are important and significant in determining whether or not the SMMCs adopt project appraisal practice. The objective is to derive a set of explanatory variables that can best represent the profile or a model of SMMCs who have adopted project appraisal practice. The logistic regression model was used because of its relevance to the type of analysis required by the study. Out of eighteen original independent variables (forty logit variables) that were selected as candidates, only five variables (ten logit variables) survived the logistic regression equation. The five independent variables that were found to be significant to the dependent variable are access to bank finance

[ACCESS_B], the entrepreneur's level of business experience [BUSEXP2], the entrepreneur's level of education [EDULEVEL], market classification [MKTCLASS] and entrepreneur's attendance to project appraisal training [PATRAIN].

It was also found that for small-sized SMMCs, the variables that are significant are access to bank finance, entrepreneurs attendance to project appraisal training and the length of business experience while for the medium-sized SMMCs, the only variable that exhibits some importance is whether or not the entrepreneur have attended project appraisal training. In terms of ownership structure, the adoption of project appraisal practice by *bumi-controlled* SMMCs is determined by the following variables; access to bank finances, the length of business experience and whether or not the entrepreneurs have attended project appraisal training. For the *nonbumi-controlled* SMMCs, the only variable that has some effect on their adoption of project appraisal practice is the level of formal education obtained by the entrepreneurs.

The implications from these findings are several. First, there is a very strong and significant positive relationship between access of the SMMCs to banks finances and the adoption of project appraisal practice. This finding provides an empirical evidence that getting access to external finance is an important consideration for SMMCs in Malaysia to adopt project appraisal practice. This is particularly important for the smaller-sized and *bumi-controlled* SMMCs. This particular finding also implies that by adopting formal project appraisal practice, the SMMCs' perceived risks are reduced to the level acceptable to formal sector lenders, thus enhancing the SMMCs' access to the formal sources of finance.

Secondly, the adoption of project appraisal practice also depends upon the level of formal education received by the entrepreneurs. High level of formal education is important to all firms, particularly to the *nonbumi-controlled* SMMCs. These findings reflect the importance of high level of education in advocating the use of sophisticated project appraisal procedures.

Thirdly, there is a positive significant relationship between the adoption of project appraisal practice to the entrepreneur's attendance to project appraisal training courses. It was found that entrepreneurs who have attended such training are more likely to adopt project appraisal practice for their firms, particularly for the medium-sized firms. This finding provides strong proof that special training on project appraisal methods and procedures would encourage the adoption of such practice by the Malaysian SMMCs. Therefore, the relevant training agencies that are responsible for entrepreneurs' development should focus their present training to include inputs specifically related to project appraisal.

Fourth, the adoption of project appraisal practice is found to be more common with SMMCs generally less experienced in the business. However, SMMCs with longer experience should also be encouraged to adopt project appraisal practice as such practices are beneficial to them in terms of minimising their projects' risks and uncertainties. Finally, in terms of market classification, adoption of project appraisal practice is found to be more common in SMMCs producing exclusively for the local markets. However, SMMCs producing exclusively for export markets and those producing for both markets were found not to be receptive to adopt the practice.

The above findings also imply that with the modernisation of the economy, SMMCs in Malaysia are expected to move from its traditional role as suppliers of products and services to a more challenging role of creating new markets (locally and globally) for their outputs. To fulfil this expectation, SMMCs should be prepared to adopt new, modern and more sophisticated way of managing resources as well as in their management practices. Adoption of a formal project appraisal practice by majority of the SMMCs covered by the survey is considered as one of the positive signs showing that these SMMCs are actually moving towards modernisation. It also encourages SMMCs (particularly the *bumi-controlled* companies) to learn new skills on risk assessments and be able to use them in evaluating their business risks.

In the next chapter, we will discuss the research implications even further, and suggest a few policy initiatives that can be pursued by the financial sector, government, and the various agencies in order to improve the overall provision of financial assistance to the SMMCs.

Chapter 10

SUMMARY, RESEARCH IMPLICATIONS AND CONCLUSION

10.1 Summary of the Thesis

The principal objective of the present study is to explore whether or not the adoption of a formal project appraisal practice by the SMMCs in Malaysia can help to reduce the perceived (subjective) risk as well as the transactions costs associated with the gathering of information in order to assess the risk of lending by the formal sector institutions to this particular sector. Specifically, the study is interested in establishing the link between the adoption of project appraisal practice and the access of SMMCs to formal sector finance.

In this particular context, the growth and development of an efficient financial intermediary is of paramount importance to the process of economic development and growth in these countries. As we all know that majority of developing countries are currently restructuring their economies towards industrialisation where the role of manufacturing sectors has become increasingly important. Malaysia, for example, has entrusted its manufacturing sector to spearhead the nation's industrialisation programme to become a newly industrialised country by the year 2020 (Fong, 1989).

In order to ensure a healthy and steady growth of the manufacturing sector, sufficient amount of financial resources has to be made available by the financial and government institutions to this sector. In addition to availability of funds, easy access to these funds by the manufacturing companies is also important. In Malaysia, the core banking

system (i.e. commercial banks and finance companies) has always been the principal supplier of finance to the manufacturing sector. However, the banking sector in this country has been vigorously criticised for being prejudiced against the small and medium-sized industries (SMIs), so much so that the lack of credit flowing from the banking sector to the SMIs has been blamed for the lack of growth of the latter. This issue has been discussed quite extensively in Chapter 1 of the present thesis. In addition to the above discussion, the chapter also provides the rationale and justification for the present research to be undertaken as well as outlining some of the possible policy implications that can be derived following the conclusion of the study.

The reasons for the banks' reluctance to extend finances to the SMIs are often attributed to the notion of high perceived (lenders') risk as well as high transactions costs associated with lending to this high risk sector. In addition, banks have to bear additional risks associated with asymmetric information and moral hazards. Since most of the SMMCs could not offer adequate collateral that are often demanded by these banks in order to provide cushion against those risks, their access to formal credits are much restrained. The above issues have been discussed quite extensively in Chapter 3 of the present thesis.

The lack of access to banks finance by the SMMCs have led to the government's interventions in the financial system which according to some practitioners and researchers, are detrimental to the long-term functioning of an effective financial system. The two most common form of interventions are by 'forcing' banks to fulfil lending quotas to certain 'priority groups' (in our case, the SMMCs) and by setting preferential interest rates that should be charged to this set of clients. The short-term

effects of both of these measures are that the banks become more pessimistic towards these types of forced financing of the SMMCs, a move which has led to only a marginal increase in the provision of finance to the SMMCs. As the number of defaulted loans increases, due to lack of proper appraisal on loan applications (since banks are obliged to fulfil their quotas, they have very little choice), and as banks' profitability decreases due to lower interest income, the long-term impact on the country's financial system would be extremely unfavourable. The financial system would be less efficient, less competitive and eventually weakened. This situation would not be healthy for a developing economy like Malaysia.

In addition to the above interventions, the government also offers SMMCs with direct financial assistance through various agencies and ministries. Various types of revolving funds were set-up to assist SMMCs operating in specific industries (usually those industries promoted by the government) and to those involved in special government-assisted projects. In some agencies, such as MARA, special budget allocations were given to them for lending purposes. Although the size of loans offered by these agencies are relatively small and ethnically biased (as we have explained in our findings), the long-term viability of these funds is very much in question. This is due to the fact that loans from government agencies usually charge a rate of interest which is much below the market rate of interest, and majority of the recipients of these loans are not required to perform any kind of project appraisal before their loan applications can be considered. What makes things even worse is that, the borrowers' attitudes towards these loans; which they usually perceive as 'gifts' or 'subsidies'; and therefore try to avoid repaying the loans even if they are capable of doing so. This situation often leads to exhaustion of the revolving fund well before the fund becomes able to sustain itself.

More dangerously, these SMMCs would not have any idea on how to survive if they have to compete for formal sector finance without government patronage. More often than not, the types of financing schemes offered by government agencies are always open to abuse, corruption and other malpractices.

Perhaps understandably, the above methods (interventions and direct financing) of improving the provision of finance to SMMCs, thus far, have not proved to be the most effective way or system of financing the small and medium-sized business in the country. The methods of improving the provision of finance through interventions as well as direct finance have not been successful because both methods have failed to address the fundamental issue of high perceived risk of lending to the SMMCs and high transaction costs associated to the assessment of these risks in lending to this particular sector. As we have discussed earlier, the most fundamental reasons for bankers' reluctance to extend credit to the SMMCs are due to their perceived risks and higher transactions costs of lending to this particular sector. Therefore, a more effective and sensible method to encourage banks to increase their lending to the sector is to provide them with an incentive whereby they can eventually reduce their perceived risk, and at the same time reduce the transactions costs. In the present study, we are focusing on the adoption of formal project appraisal practices by SMMCs which can effectively reduce the level of risk perceived by bankers (also known as the lemon gap) as well as reducing transactions costs in the longer term.

The high perceived risk, as discussed at length in Chapter 3, is attributed to the nature and characteristics of the small businesses themselves. The high rate of failure and lack of modern management skills coupled with business uncertainties, have made the

SMMCs in Malaysia more vulnerable to business risks than their larger counterparts. In the present study, we are not disputing that the above realities directly contribute to the higher level of perceived risks. However, we feel very strongly that a more critical issue here is to find a mechanism which could adequately assess those risks, so that the overall subjective risks can be reduced. In order to do this, information about the individual firms as well as the sub-sector that they are involved in has to be gathered. It is suggested by the present study that by performing project appraisal at the sectoral level as well as requiring project appraisal to be carried out by individual firms requesting for financial assistance, general and specific information about the sector, the project and the firm can be obtained. In addition to providing information, project appraisal can also be used to assess the risks and uncertainties which will directly affect the viability of the proposed project. If banks and other financial institutions can obtain the above information, they will be able to assess the risks associated with the sector which will eventually reduce the level of their perceived risk towards the sector. Chapter 4 of the present thesis provides a detail discussion on this particular issue.

In the present study, it is also suggested that project appraisal should be performed by the prospective borrowers in order to evaluate and measure the risk associated with the proposed project before financial assistance can be approved. This particular suggestion is based on the fact that companies who have adopted a formal project appraisal practice stand a better chance of securing financial assistance from the formal sector institutions (primarily, banks and finance companies) than those who did not adopt the similar practice. We have also explained how the performance of project appraisal by SMMCs is capable of providing adequate, accurate and reliable information (provided that it was done with prudence) to the prospective lender. This will help the lender to

objectively and confidently evaluate the risk of extending loans to finance the proposed projects.

However, from the lender's point of view, to obtain quality information about the borrower would inevitably require transactions costs to be increased to a limit which may not be justifiable for the banks to bear in order to earn a satisfactory profit. These high transactions costs are not only associated with the costs of obtaining accurate and reliable information but also to the cost of administration and monitoring the loans. This argument has its validity in the short term. As lenders become more knowledgeable about the sector and are able to assess the risks, the transactions costs for risk assessment will moderate and can be justified by the substantial reduction in lenders' perceived risks, which will lead to the overall reduction of cost of lending over the long-term. The present study strongly maintains that with the adoption of project appraisal practice becoming a common feature of the SMMCs, the transactions costs of lending to the sector will be reduced and banks will be able to earn a more satisfactory profit.

With regard to the moral hazard problem which bankers have to bear on their own, project appraisal can help them minimise the extent of this problem by controlling the disbursement of loans according to the needs and timing as outlined in the appraisal document. As we have said earlier, a project appraisal document can be an excellent guide towards the successful implementation of the project whereby any intolerable variance can be easily identified and rectified before it gets any worse. It can also ensure that the owner of the project fulfil his/her obligation to repay the loan as agreed,

and if this cannot be done due to unforeseen circumstances, it provides the lender to detect the problem and decides on the appropriate course of action.

From the borrowers' point of view, performing project appraisal will increase the borrower's transaction costs which will increase the overall cost of borrowing. This argument, however, is valid only for the short-term. The present study argues that in the longer-term, the performance of project appraisal can effectively reduce their cost of borrowing. This is based on the fact that as SMMCs become more familiar with the process of project appraisal and become more objective in their evaluation of the proposed projects, they will be able to perform project appraisals at a lower cost. Furthermore, the cost of obtaining information about a particular sector will also be reduced as project appraisal at sectoral level will be carried out by the respective government agencies. As lenders' risks are also reduced, it is expected that the interest they charge on loans extended to the SMI sector will also be reduced without the need for the government to artificially set an interest rate ceiling for this particular sector.

It is being suggested that project appraisal methods should be adopted and practised by all SMMCs regardless of size or ownership structure. If currently, they have not adopted the practice, they should seek the knowledge and expertise, and learn the techniques or engage someone who can assist them in preparing the project appraisal. Initially, the cost of doing the appraisal could be quite substantial for these firms, but the government should be able to assist them by providing training as well as financial assistance to those who are interested to adopt a formal project appraisal practice for their firms. The financial assistance can come from the Industrial Technical Assistance Funds (ITAF) schemes. Financing small firms to acquire special skills is recommended

more strongly than giving direct financial assistance to them. As the firms become more familiar with the project appraisal techniques, we believe that the cost of doing the appraisal for future projects would be reduced. The present study has been able to identify that access to bank finance, the level of education, the level of business experience, type of markets, and more importantly the specialised training on project appraisal were the important determinants which have encouraged SMMCs to adopt a formal project appraisal practice.

10.2 Research Implications

Findings from the present research can have various implications for the following groups: (i) the SMMCs, (ii) providers of finance, (iii) agencies and ministries responsible for the formulation of policy and those involved in the development of SMMCs, and, (iv) the informal sector.

10.2.1 Implications for the SMMCs

One direct implication for the SMMCs is that from now on they should refrain from blaming the banks and other financial institutions for their lack of access to finance without understanding the fundamental problem underlying the basic provision of credit. They should be able to understand about the high level of perceived risk as well as higher transaction cost faced by the formal sector lenders when extending credit to them. They should also be aware of the basic issues of risks and uncertainties inherent in them (or in their operation) and should learn and adopt the ways and means these risks can be assessed and reduced to a level acceptable to the formal sector lenders. Resorting to call for government interventions would only lead to serious rationing of

credit as well as worsening the adverse selection effect. In the longer term, it will only weaken the country's financial system.

The main issue here is how can the SMMCs (and other small businesses for that matter) be aware of the risks and uncertainties associated with their sector. It has been suggested by the present study that the SMMCs should make the effort of adopting formal project appraisal practices and apply those practices whenever they need to make capital expenditure or invest in a new project. The adoption of a formal project appraisal practice by the SMMCs will help them to be more aware of the risks and uncertainties associated with their investments, which in turn will make them to be more prudent and careful in their management practices in order to ensure the project's success. This practice will help them identify the cost and benefits associated to the proposed investment and they can determine the project's viability well before the actual investment is made. This practice will also help to ensure a high probability of the project to succeed, which will certainly increase the confidence of any lenders who are interested in financing the project. In other words, banks and other formal sector lenders will become more confident in extending finance to those companies who apply for a loan after carrying out a comprehensive appraisal on the proposed project. The performance of project appraisal ensure a higher probability for projects to succeed. Successful projects in turn can have a direct impact on formal sector lenders in terms of increasing their confidence. As a direct consequence, the SMMCs' access to formal sector finance can be substantially enhanced.

The SMMCs in the country should also try to intensify and build up a healthy relationship with their bankers. The present study has proved that the SMMCs who

have a very close relationship with their bankers have better access to banks finance. It is recommended that firms should concentrate their banking activities on one bank (or at least with a few banks) although one might argue that it will limit the firms ability to broaden their credit-base. Since there is not much difference in terms of services (and their cost) offered by the banks to their small business customers, the firms will be better-off concentrating only with a singular or a few banks.

10.2.2 Implications for the providers of finance

So far, the reluctance of banks and other formal sector lenders to extend credit to the SMMCs is due to the high level of risk and uncertainties associated with lending to the latter. These high risks are believed by the bankers to be inherent in the sector itself due to its diverse nature of operation and the environment in which they operate. Experience has shown that lending to the small business sector remains a very risky business for them. In addition, it is difficult for the banks to assess these risks due to asymmetric information and lack of quality and standardised information that can be obtained from the sector. All of the above circumstances get translated into a higher level of perceived risk to the lenders. Furthermore, banks are faced with the moral hazard problem as well.

The present study have consistently argued that in order to remedy the situation, government interventions into the financial system should be minimised as it will only weaken the system in the long-run and worsen the provision of credit to the SMMCs. Furthermore, government interventions are seen by the banks as an 'invasion' to their intermediary role, and the only way to 'save' themselves is to ration credit (because the interest that they can charge under the interventionist policy does not reflect the true

risk). Instead, a new way of encouraging banks and other financial institutions to increase their lending to the sector should be identified. The reduction of government intervention will give them an incentive to boost their confidence in performing their function more effectively, according to the dictate of the market forces.

The present study has suggested that with the performance of project appraisal practice by their prospective borrowers, bankers would be able to reduce their level of risk perceived since they can make better assessment on the loan application given the comprehensive information contained in the project appraisal document. As banks begin to accumulate information about the sector, their subjective risk should also be reduced as their knowledge about the sector (particularly in terms of lending) increases. In this instance, the performance of project appraisal by SMMCs can be seen as an integral part of financial innovation which tends to reduce transactions costs and risks, both subjectively and objectively. This sort of financial innovation is crucial for the development of the financial system of the developing countries, as such innovations will certainly increase the pace of economic development. So far, financial institutions in most developing countries do not have the appropriate technology in dealing with SMMCs' subjective risks. Therefore, by adopting project appraisal as a financial technology (in terms of risk assessment), financial institutions can be more certain in evaluating the SMMCs' subjective risks, which may induce them to lend to this (previously) high risk sector. By improving the SMMCs access to financial assistance (as well as to technical consultancy services), we believe that their productivity can be raised, thus reducing the overall risk of lending to this particular sector.

Based on these facts, the adoption of project appraisal practice should be made mandatory for those companies (SMMCs) who intend to apply for a loan from the banks. The providers of finance are also urged to change their attitudes towards the SMMCs in particular and the small business sector in general. They should try to understand the risks and uncertainties faced by these SMMCs in running their business operations and should try to assist them in whichever way possible in order to minimise those risks and uncertainties. A healthy partnership between the providers of finance and the SMMCs with a more transparent relationship will allow both parties to share information between the two, thus reducing the level of risk associated with asymmetric information.

10.2.3 Implications for the government's agencies/ministries

The implications for the government's agencies and ministries will be discussed after categorising these institutions under the following broad groups:

- (a) Those involved in the training and development of SMMCs (e.g. MEDEC, MARA, PUNB, SIRIM, Ministry of Entrepreneurship Development and Ministry of Youth and Culture).
- (b) those involved in providing financial assistance (e.g. MARA, PUNB, DFIs and States' Co-operative)
- (c) those involved in formulating policies on SMMCs (e.g. MITI, MED, EPU, ICU)

A. *Training and development agencies*

The present study has clearly identified that there is a significant positive correlation between training on project appraisal and adoption of such practices by the SMMCs. This fact clearly indicates that training increases the level of confidence of the

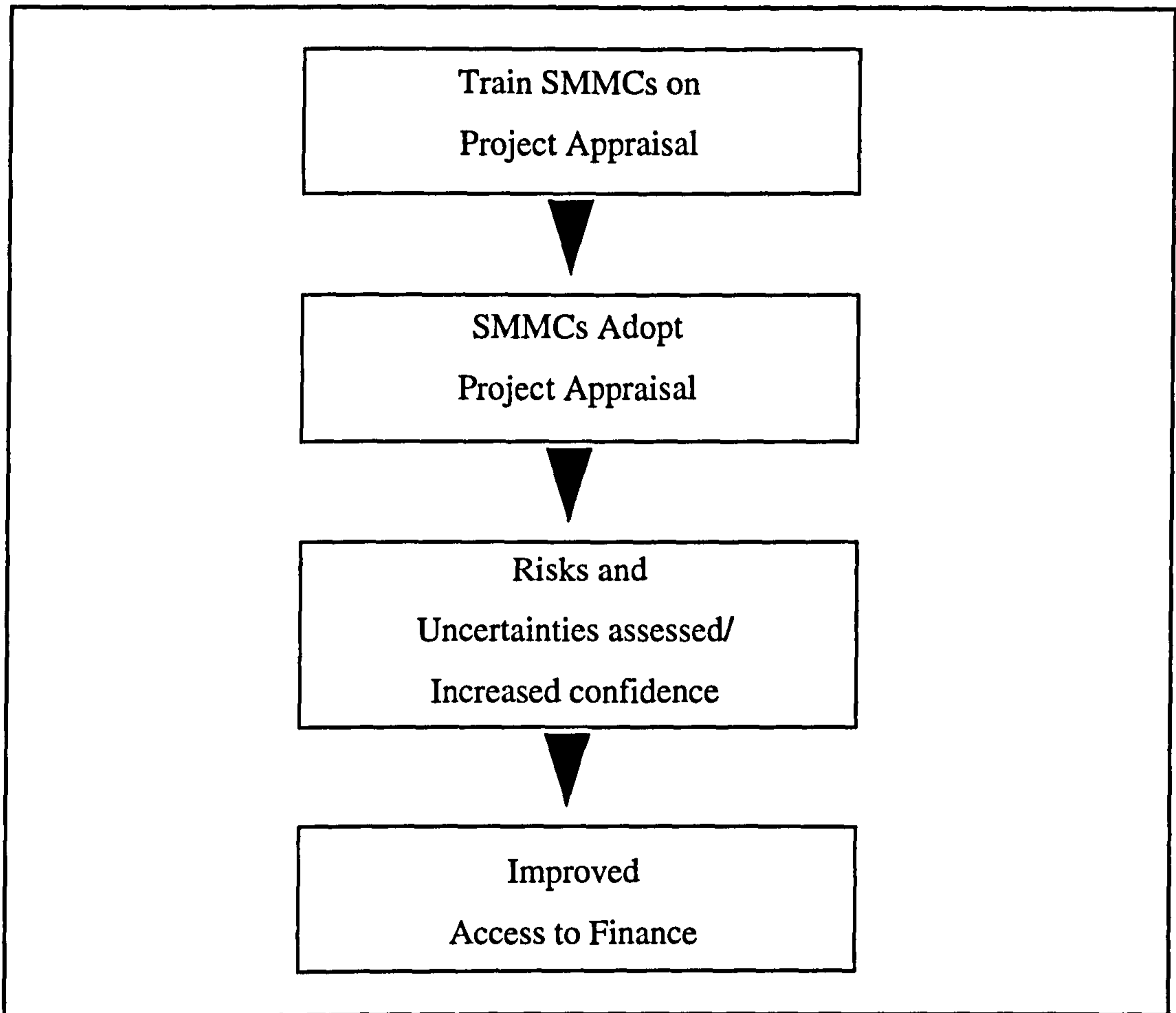
entrepreneurs to adopt project appraisal practice besides teaching them on the mechanics of performing the appraisal for their firms. Therefore, a special training package on project appraisal practice tailored to the needs of the SMMCs should be developed and formulated by the relevant training agencies. Academic as well as business consultants can help these training agencies to develop simple, practical and customised systems of project appraisal that are suitable for the SMMCs. Intensive, comprehensive and specific training on project appraisal methods and procedures can then be carried out by the relevant training agencies for the SMMCs. It is expected that entrepreneurs who have undergone such training should have better understanding and knowledge on how to perform the appraisals on their own. Ultimately, if the SMMCs are able to perform project appraisal, the risks associated with lending to this supposedly vulnerable sector can be minimised and confidence of the lenders is enhanced. Ultimately, in the long run, the SMMCs' access to formal sector finance can be significantly improved without the government interventions into the financial system, as can be seen from Figure 10.1.

In addition to the comprehensive training on project appraisal, it is also suggested that the relevant training agencies should be able to provide direct assistance to those SMMCs who want to carry out project appraisal or nominate consultants who can assist SMMCs with consultancy fees kept to a minimum. These assistance should not be provided free of charge, otherwise the 'subsidy mentality' cannot be eradicated. The point is we want to transfer the technology of performing project appraisal to the SMMCs so that they are able to carry these out on their own and are in a position to assess their own risks. There is no doubt that the above fees will increase the

borrower's transaction cost initially, but as the SMMCs become more versatile and able to carry their own appraisal, the cost of doing the appraisal will substantially reduce.

Figure 10.1

Model for Causal Effects of Project Appraisal Training



By adopting and performing project appraisal, SMMCs in the country will be more prepared (in terms of cost and benefit) to make future investment decisions, with greater confidence, and at the same time potential lenders will also have more assurance that the project that they are going to finance will have a better chance to succeed. In the long-term, the level of the lenders' perceived risk and transactions costs will be reduced, thus enhancing the flow of credit from these formal institutions to the small and medium-sized industrial sector.

B. Providers of financial assistance

From the survey, it has been revealed that government agencies involved in the provision of financial assistance to the SMI sector do not explicitly require the borrower to carry out project appraisal when appraising loan applications from the SMMCs. Considering the high rate of defaults on these loans, it is suggested that these agencies should reform their lending guidelines and practices. SMMCs who are applying for loans from these agencies should be required to carry out project appraisal (as has been suggested for the banks and other financial institutions) before their loan applications can be considered. This requirement will encourage SMMCs to objectively assess the risks and uncertainties surrounding their proposed project using a more scientific approach, and be able to determine the potential net benefit that can be derived from the proposed project. For the agencies, the performance of project appraisal will help them to carefully evaluate and appraise projects and identify the projects that have a higher probability of success. This will guarantee that the loan can be repaid according to the agreed schedule, thus minimising the rate of loan defaults. Consequently, the viability of these special funds (in particular, the revolving fund) can be assured and these funds can have a sustainable future.

With project appraisal becoming a core-requirement for loans from governmental agencies, the bureaucratic procedures that are often associated with borrowing from these agencies should be simplified. In addition, government personnel should also be trained on the general aspects of project appraisal and trained specifically on how to evaluate project appraisal documents. It has also been recommended that the Industrial Technical Assistance Funds (ITAFs) should be extended to include those companies which need to perform project appraisal whereby the cost of the appraisal can be

subsidised by the fund. This will certainly reduce the borrower's transaction costs if they decide to borrow from them or other formal sector lenders.

C. Policy makers

The obvious implication for the policy makers in the country is that a new way or system of providing financial assistance to the SMMCs should be formulated. It has been argued by the present study that government interventions in the financial system should be minimised and financial system should be provided the incentive (rather than commands) so that they can be more willing to extend credit to the SMI sector. The real underlying causes of the financial institutions' reluctance to extend credit to this sector are due to the high level of subjective risks and high transaction costs as well as risks associated with moral hazard and information asymmetry. Therefore, by understanding the real causes, governments should focus on finding the ways and means to reduce the level of risks as perceived by the financial institutions, rather than 'forcing' them to extend credit to the SMI's sector. In the present study, we have suggested that a more rational and logical way to tackle the issue is by promoting the adoption of formal project appraisal by the SMMCs in the country.

As we have suggested earlier, project appraisal for the SMI sector should be done at two levels; (i) at the sectoral level and, (ii) at the individual firm level. At the sectoral level, comprehensive study on the viability of investment projects in a particular subsector is to be evaluated. Such appraisals should be able to draw up profiles of successful small and medium-sized industrial businesses, rating their strength and weaknesses as well as the pre-requisites for and constraints on the establishment and operation of viable enterprises. The appraisal at this level should also include

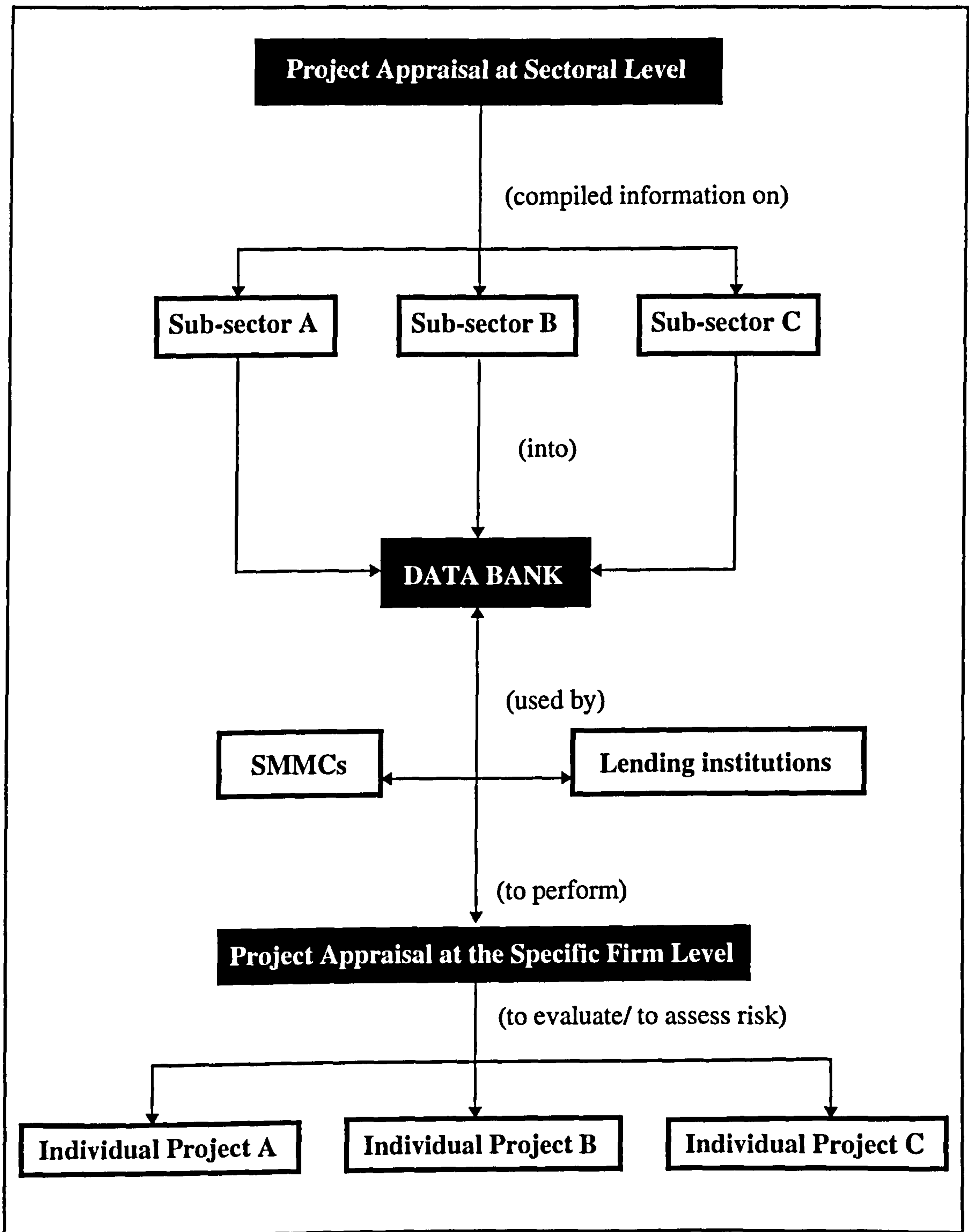
investigation on the prevalence of conditions for success and provide cost ratios and other project-related data. The main purpose of project appraisal at this level is to accumulate as much information as possible about the a particular sub-sector and develop this information in a more meaningful database which can be easily accessed by individual firms which want to get some information about a particular sector in which they are interested to invest in. This information will allow them to do their own specific project appraisal (at the firm level) with reduced cost, since the information on macro variables can easily be obtained from the database compiled earlier at the sectoral level.

It is suggested that project appraisal at the sectoral level should be done by the government agencies or ministries concerned with the promotion of small and medium-sized industries in the country. The information deriving from these appraisals should be compiled in a form of data-bank. This database should be able to provide information on the existing opportunities and conditions for success, providing complete information on markets, entrepreneurial inputs, locational conditions, the business environment and other factors that might affect project implementation. The database can then be shared by those lending institutions in order to evaluate the viability of a certain project in a particular subsector that they are interested to finance as well as by individual firms who might be interested in investing in a particular subsector. In addition, with the existence of appraisal at the sectoral level, lending institutions as well as private individuals can share the information at little or no cost, and with these information they can effectively assess the risks and uncertainties for a particular sub-sector. At the individual firm level (the second level), project appraisal is to be carried out by the specific firm which is interested to determine the viability of a

particular project in the subsector. The links between the project appraisal performed at the sectoral level and the individual project appraisal are shown in Figure 10.2.

Figure 10.2

The Links Between Sectoral and Specific Firm Level of Project Appraisal

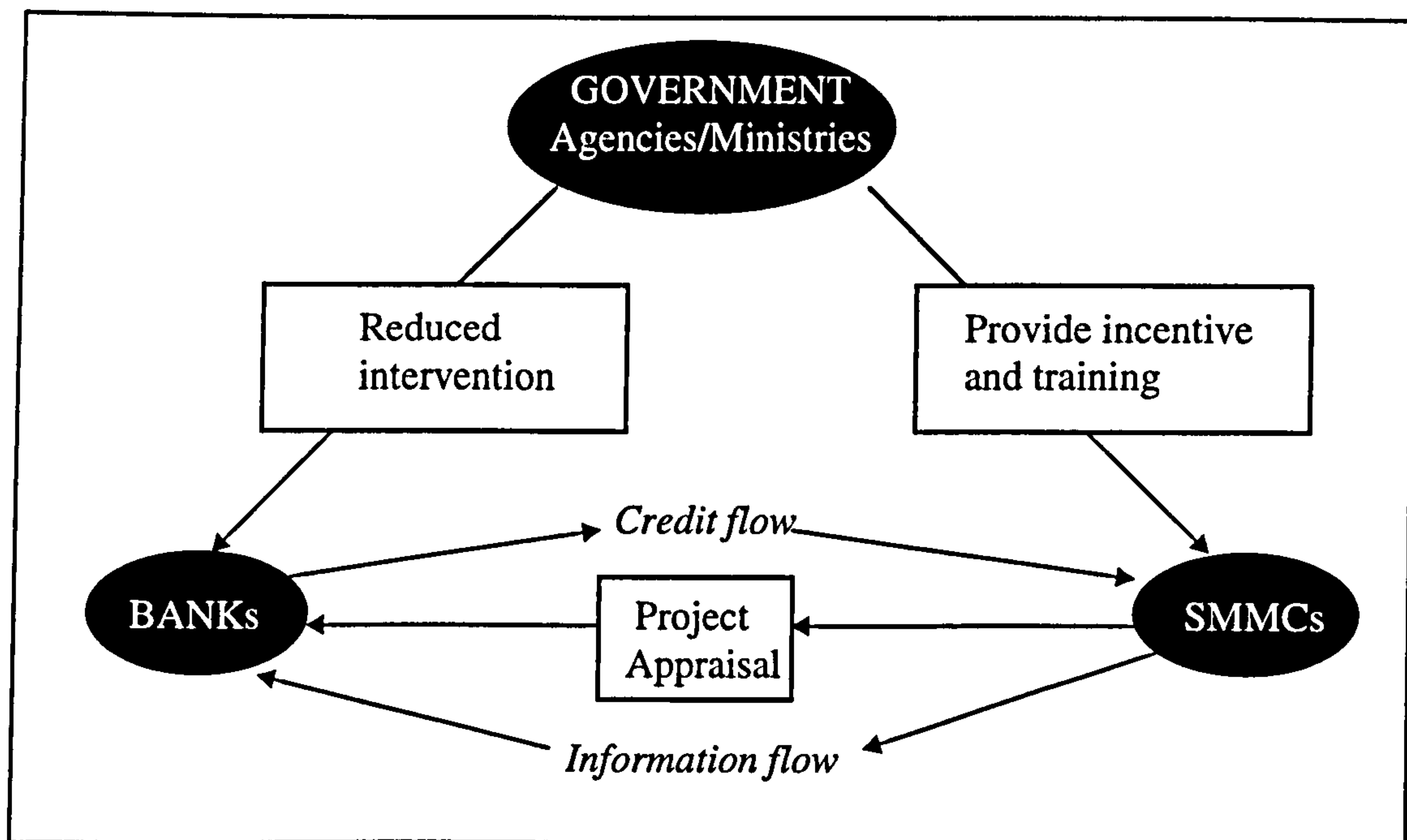


Earlier we suggested that the way that finance is provided to the SMMCs should be reformed. On the one hand, the government should provide the incentive for the SMMCs to adopt a formal project appraisal practice, by subsidising partly the cost of doing the appraisal through a ITAF scheme and provide the relevant training programme in order to enhance the knowledge and expertise of the SMMCs to carry out project appraisal on their own. Providing incentives and trainings to the SMMCs would be a better option for the government instead of providing direct financial assistance to them. It will also help SMMCs to realise the importance of performing project appraisals in order to increase their probability of success. The performance of project appraisal should be made compulsory before the SMMCs can approach the financial institutions or government agencies for financial assistance.

On the other hand, the government should reduce its interventions to the financial system and encourage them to be more innovative in their way of evaluating their lending risk to the SMI sector in general. The government should also allow them to perform their intermediary function more freely but with responsibility. By reducing interventions and allowing the financial system to be more liberal, it is expected that the flow of credit to SMMCs will be enhanced as the financial system begins to accumulate more information on the sector as provided by the project appraisal performed at the sectoral level as well as the specific firm level. It is expected that financial institutions should continue to be the main supplier of credit to the SMMCs, and the provision of finance by government agencies should be reduced to the minimum. It is also anticipated that the reliance on informal sector lenders will be reduced as banks become more efficient in providing credit to the SMMCs. A reformed system of providing finance to SMMCs is illustrated in Figure 10.3.

Figure 10.3

A Reformed System of Providing Finance to SMMCs



It is quite understandable that the so called 'positive discrimination strategy' by the Malaysian government is to encourage *bumiputera* participation in the commercial and industrial activities so that the 'wealth gap' between the two major ethnic groups (Chinese and Malays) can be minimised. However, this particular strategy can be counterproductive. First, it sends the wrong message to the *bumiputera* community in the sense that it encourages everybody to start their own business without proper assessment of the risks involved. The lack of proper assessment on business risks will eventually (in most cases) lead to business failure. If the number of government-assisted firms that fails are more than the number of firms that are successful (which is usually the case), then all assistance and subsidies given by the government will be seen as unproductive. In this case, the cost of pursuing this particular strategy certainly outweigh the benefit that can be derived from it. In the longer-term, the above strategy

will impose an ever increasing burden on the public purse, thus casting some serious doubts about the sustainability, let alone success, of such strategy.

Secondly, the strategy of 'positive discrimination' strengthens the 'dependency culture' or the 'subsidy mentality' among the bumiputeras. This particular 'culture' or 'mentality' is not healthy, and certainly the aim is not to create *bumiputera* entrepreneurs who are totally dependant on government handouts. What this policy does is actually grooming the entrepreneur to be uncreative, uninnovative, uncompetitive and non self-reliant. Therefore, in our opinion and in the best interest of the nation, the above strategy should be reviewed.

We are not proposing for the above strategy to be totally scrapped. What we are suggesting is that, the above strategy is used with certain conditions attached to it. First, there should be a specified 'time-frame' within which the *bumiputera* companies can qualify for government assistance and subsidies. After this 'time-frame' has elapsed, the companies will no longer be entitled to government handouts, and would have to find their own ways in order to survive. With regards to the 'time-frame', it is up to the government to determine the appropriate time-frame, but we would suggest that it should be flexible, as some companies may need longer time than an average company to find their threshold, such as those involved in high-tech industries.

Second, we would suggest that within this 'incubation' period, the government or its agencies should play the central role as 'coach' and equip the entrepreneurs with the modern management skills. This can be done through regular seminars or workshops. All entrepreneurs currently receiving assistance and subsidies from the government

should be required to attend all these courses. The aim of these short training sessions is to prepare the entrepreneurs with the relevant skills so that they can manage their companies more effectively once they are no longer entitled to receive government subsidies anymore. One of the most important skills that need to be acquired by the entrepreneurs within this period, is the skill to acquire information and use the information to evaluate their own business risks and be able to communicate these information to the prospective banker, in the event they need financial assistance. This is particularly the area where we feel very strongly that formal training on project appraisal methods and procedures can benefit the SMMCs. Their understanding of the concept of risk and uncertainties, and risk assessment will eventually enhance their access to the formal sector financial institutions (as their perceived risk is minimised).

10.2.4 Implications for the informal sector

From our study, we have found no statistical evidence to support our earlier hypothesis that SMMCs have to resort to informal finance because they lack access to the formal sector institutions. Instead, we have found that informal sources of finance are used by SMMCs as supplement rather than as alternative to the formal sources of finance. Therefore, we have reasons to believe that the SMMCs' lack of access to formal sources of finance have put on to them an enormous pressure to utilise their internally generated funds (personal savings/equity and retained profit) which in most cases, are very limited.

Nevertheless, the present study has some important implications for the informal sector (i.e. informal supplier and users of finance) in the country. First, for the informal sector SMMCs to be able to have access to the formal sector lenders, they have to be

modernised. In other words, they have to adopt modern management practices similar to their formal sector counterparts. We understood the fact that most of the informal sector SMMCs are relatively small-sized but as they eventually grow bigger, greater financing will be needed to carry out their operation. Inevitably for this, they will have to resort to borrowing from the formal sector lenders. It is quite unlikely that formal sector lenders will extend credit to them unless they are formally registered. Furthermore, if they need to borrow from the formal sector, they will be required to perform project appraisal. This will require them to learn and adopt the practice and be able to assess the risks associated to their proposed investments on their own. It will also provide an excellent opportunity for them to have greater access to formal credit. Transformation of informal sector SMMCs into the formal sector will benefit the country in the long-term.

Second, as far as the informal suppliers of fund are concerned, their activities can seldomly be controlled by the relevant authorities. Our study has pointed out that there are lessons that can be positively learned from the informal sector lenders, particularly in terms of their efficiency in providing tailor-made credit and their ability to reduce default rates. Recognising this fact, informal sector lenders should be allowed to mediate the provision of loans from the formal sector lenders to the SMMCs. However, better understanding of their modus-operandi is needed before any meaningful strategies to integrate the two sectors can be worked out. We strongly believe that as the Malaysian economy becomes more modernised, the role of the informal sector will become less important.

10.3 Directions for Future Research

The findings from the present study have shown that the adoption of a formal project practice is important in improving the SMMCs' access to formal external sources of finance via banks and other financial institutions. These findings are consistent with the foundation laid earlier by the study that the performance of project appraisal helps to reduce both the lenders' and borrowers' risks by providing a mechanism which enables both the lenders and borrowers to assess risks and uncertainties associated with a particular project at reduced transactions costs. As a result, the flow of credit from the formal sector institutions to the SMMCs will be improved. However, the present study was not directed to determine whether or not the performance of project appraisal by the SMMCs have contributed directly to the success of a particular project. Future research in this area should try to examine the relationship between the performance of project appraisal on a proposed project by SMMCs and rate of success of that particular project after it has been implemented.

As the present study is directed predominantly to the formal sector SMMCs (due to certain constraints faced by the researcher), a similar study could be carried out to determine whether SMMCs that operate in the informal sector could be encouraged and trained to adopt a formal project appraisal practice as their formal sector counterparts. It is suggested that the proposed study should be able to assess whether or not the adoption of a formal project appraisal practice by the informal sector SMMCs have any significance in determining their access to formal sector finance.

Based on our earlier findings (*please refer to sections 7.5 and 7.6 in Chapter 7*) that SMI's access to both formal and informal sector finance is complementary rather than

substitutes for one another, we would like to suggest a separate study to be undertaken in the future to explore this particular issue more thoroughly. In other words, the research should be able to provide some insights or explanations, as to why formal sector SMIs use informal sources of finance even when they can have access to formal sources of finance.

It is also suggested that a separate study should be carried out in order to determine whether or not the government interventionist policies have a negative effect on the provision of credit to SMMCs by the core banking system. The study should be able to track the quantity of credit flowing from the core banking system over a period of time (say for a period of 20 years), and try to examine whether any of the interventionist policy introduced over the same period has simultaneously affected the volume of credit going to the SMMCs. The volume of credit to the SMMCs should be gauged as a percentage of the total loans disbursed by the financial system to the whole manufacturing sector. This is essential to ensure that the provision of finance to the SMMCs is increased or decreased according to the proportion of total loans extended to the whole manufacturing sector.

10.4 Conclusion

Based on the findings of the present study, it is therefore concluded that the adoption of a formal project appraisal practice is important in determining the access of the SMMCs to formal sector finance, particularly from the banking institutions. Adoption of a formal project appraisal practice has been able to reduce both lenders' and borrowers' risk by allowing both parties to assess adequately the risks and uncertainties associated with a proposed project and also facilitates the exchange of information

between both parties - information which is essential for them to make a well-informed decision.

It is also concluded by the present study that the adoption of project appraisal practice by SMMCs depends significantly on the level of education and the specific training on project appraisal received by the owner of the companies. Therefore, in order to encourage SMMCs to adopt the practice, it is suggested that the government through relevant agencies should provide some form of incentives. This incentives may include the provision of training on the specific area of project appraisal to the entrepreneur or their employees and by subsidising the cost of doing the appraisal through a new ITAF scheme. It is also recommended that SMMCs in the country should be required to perform project appraisal as a pre-requisite before they can borrow from the formal sector institutions.

The present study have also concluded that the role of government institutions in providing financial assistance directly to the SMMCs should be minimised. This is based on the fact that government agencies usually lack the knowledge and expertise to carry out an effective credit appraisal. This is evident from our survey, that government agencies do not specifically require project appraisal to be performed by their potential borrowers. It is also evident that credit from these agencies flows largely to the *bumiputera* SMMCs (ethnically biased), since majority of the top ranking officers in these agencies are also *bumiputeras*. In addition, it is understood that there is no incentive whatsoever for the civil servants to meticulously appraise credit applications as their performance appraisal (e.g. their promotion exercise) does not depend on whether the loan they have authorised turn out to be 'good or bad'. It is therefore

concluded that instead of giving out loans without proper appraisal, it will be a lot better for these agencies to channel their fund in providing incentives for SMMCs to carry out project appraisal and encourage the SMMCs to resort their credit needs from the banking institutions.

The present study have also concluded that in addition to the adoption of project appraisal practices, the SMMCs should be encouraged to build and strengthen their relationship with the banking sector. The improved relationship will allow both parties to understand each other fully and help to reduce information asymmetry that are often associated with their credit transactions. The SMMCs should be encouraged to utilise as much as possible the auxiliary services provided by their banks and maintain an active account relationship with them.

In terms of the utilisation of informal sources of finance, the present study has found that the high utilisation rate by the SMMCs in the sample was not due to their lack of access to formal sector finance. The most common forms of informal finance used were personal savings/equity and retained profit saved from past operation. This observation has led us to believe that SMMCs have used these sources in order to supplement the finance which they could raise from the formal sector sources.

As a general conclusion, since project appraisal is beneficial in providing accurate and reliable information that reduces lenders' and borrowers' risks, it is therefore suggested that this practice should be adopted by the SMMCs in the country. The government (through its relevant authorities) should play a central role in encouraging the SMMCs to adopt formal project appraisal practices and persuade the banking institutions to

make the performance of project appraisal mandatory to back-up all credit applications from the SMMCs. It is envisaged that the net benefit which can be achieved from this particular strategy is, in the long-term, SMMCs in the country could enjoy better access to formal sector credits as the level of perceived risks (the lemon gap) is reduced. With provision of finance is less of a constraint, SMMCs in the country are expected to have a more dynamic and sustainable future which is essential to the nation's goal of becoming a newly industrialised country by the year 2020.

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List of the Approved Training Institutions

1. National Productivity Corporation (NPC).
2. Standards and Industrial Research Institute of Malaysia (SIRIM).
3. Mara Institute of Technology (ITM).
4. Malaysian Agricultural Research and Development Institute (MARDI).
5. Forest Research Institute of Malaysia (FRIM).
6. Centre for Instructors and Advanced Skill Training (CIAST).
7. Penang Skills Development Centre (PSDC).
8. Institut Kemahiran MARA (IKM).
9. Industrial Training Institute (ILP).
10. German-Malaysia Institute (GMI).
11. Malaysian Timber Industry Board (MITB).
12. Perak Entrepreneurs Skill Development Centre (PESDC).
13. Federation of Malaysian Manufacturers Entrepreneur and Skills Development Centre (FMM-ESDC) - certain courses only.
14. Persatuan Elektrik dan Elektronik Malaysia - certain courses only.

Note: The above list will be revised from time to time by the Ministry of Finance.

List of Promoted Activities and Products which are Eligible for Consideration of Pioneer Status and Investment Tax Allowance under The Promotion of Investments Act 1986

This list of promoted activities and products is gazetted under the Gazette Notification No. P.U. (A)31 dated 4 January, 1995

I. Agricultural production

- (1) Cultivation of tea
- (2) Cultivation of fruits
- (3) Cultivation of vegetables, tubers or roots
- (4) Cultivation of rice or maize
- (5) Cultivation of herbs or spices
- (6) Cultivation of essential oil crops
- (7) Production of planting materials
- (8) Cultivation of crops for animal feed
- (9) Floriculture
- (10) Sericultur
- (11) Apiculture
- (12) Livestock farming (excluding rearing of chickens, ducks or pigs)
- (13) Production of breeder stock
- (14) Spawning, breeding and culturing of aquatic products
- (15) Off-shore fishing
- (16) Cultivation of medicinal plants
- *(17) Cultivation of coffee
- *(18) Cultivation of cocoa
- *(19) Cultivation of coconut
- *(20) Cultivation of sago palm

II. Integrated agriculture

- (1) Cultivation and processing of tea
- (2) Cultivation and processing of herbs or spices
- (3) Cultivation and processing of crops for animal feed
- (4) Cultivation and processing of medicinal plants
- (5) Cultivation and processing of aquatic products
- (6) Apiculture and processing of its produce
- *(7) Cultivation and processing of coffee
- *(8) Cultivation of sago palm and processing of its produce

III. Processing of agricultural produce

- (1) Cocoa products
- (2) Coconut products except copra or crude coconut oil
- (3) Fruits
- (4) Vegetables, tubers or roots
- (5) Cereal products
- (6) Starch products
- (7) Essential oils

XV. Manufacture of machinery and machinery components

- (1) Industrial machinery or equipment
- (2) Agricultural machinery or equipment
- (3) Mining or mineral processing machinery or equipment
- (4) Power generating machinery or equipment
- (5) Construction machinery or equipment
- (6) Material handling equipment
- (7) Waste water treatment equipment
- (8) Machine tools, hand tools or power tools
- (9) Machinery components
- (10) Printing rolls or embossing rolls
- (11) Dicing blades, accessories for silicon wafers or ceramic substrates
- (12) Sewing machines
- (13) Soldering equipment or iron soldering tips
- (14) Elevators or escalators

XVI. Manufacture of transport equipment, components and accessories

- (1) Bicycles or tricycles
- (2) Bicycles or tricycle parts:
 - (a) Drive set (chain wheel and crank)
 - (b) Brake set
 - (c) Speed change set
 - (d) Hub
- (3) Pleasure crafts, hydrofoils or hovercrafts
- (4) Motor vehicles
- (5) Engines
- (6) Engine parts:
 - (a) Cylinder block, cylinder head, rocker cover, flywheel or pulley
 - (b) Crank shaft, connecting rod, cam shaft, rocker, rocker shaft, engine valve, sprocket, piston pin or piston ring
 - (c) Intake manifold or exhaust manifold
 - (d) Oil pan, oil pump, oil pump gear shaft, fuel pump, water pump or oil seal
 - (e) Timing belt, timing chain, carburettor, ignition coil or distributor
 - (f) Fuel injection mechanism (injector, pump, tubing, valves, regulator, sensors, electronic control modules)
 - (g) High tension cables

- (8) Livestock or livestock products
 - (9) Aquatic products
 - (10) Agricultural waste or agricultural by-products
 - (11) Aquaculture feed
 - (12) Plant extracts for pharmaceutical, perfumery, cosmetic or food industries
 - (13) High fructose syrup
 - (14) Coffee products
 - *(15) Illipe products
-

IV. Forestry and forestry products

- (1) Cultivation of timber, bamboo or cane
 - (2) Cane products
 - (3) Bamboo products
-

V. Manufacture of rubber products

- (1) Earthmover, agricultural, industrial, commercial vehicle, motorcycle, aircraft or solid tyres.
 - (2) Retreading of aircraft tyres
 - (3) Moulded rubber products
 - (4) Latex dipped products (excluding examination, household or industrial gloves, catheters, swimming caps, balloons, finger cots or toys)
 - (5) Extruded rubber products (excluding latex threads)
 - (6) General rubber products
 - (7) Foam rubber products (excluding carpet underlay)
 - (8) Rubberised fabrics
 - (9) Inflatable rubber products
 - (10) Conveyor belts, transmission belts, V-type belts or rubber beltings
 - (11) Rubber-based (elastomeric) specialty coating
 - (12) Epoxidized natural rubber
 - (13) Thermoplastic natural rubber
 - (14) Deproteinised natural rubber
 - *(15) Catheters, carpet underlay, swimming caps, balloons, finger cots or toys
-

VI. Manufacture of palm and palm kernel oil products and their derivatives

- (1) Oleochemicals or oleochemical derivatives
 - (2) Margarine, vanaspati, shortening or other manufactured fat products
 - *(3) Cocoa butter replacers, palm oil mid-fraction or special olein
 - *(4) Crude palm kernel oil or palm kernel meal
 - *(5) Refining of palm oil or palm kernel oil
-

VII. Manufacture of chemicals and petrochemicals

(h) Engine brackets

- (7) Transmissions
- (8) Transmission parts:

- (a) Transmission shift lever and fork or transmission control linkages
- (b) Speedometer pinion
- (c) Clutch
- (d) Torque converter
- (e) Drive shaft

- (9) Axle, wheel, wheel hub or knuckle
- (10) Disc brake, drum brake, brake cylinder, brake master cylinder, brake booster, anti-lock braking mechanism, clutch master cylinder or clutch operating cylinder.
- (11) Steering wheel, steering column, steering gear box, power steering pump, steering linkages, tie rod or constant velocity joints
- (12) Stabilizer bar, suspension arm or suspension arm shaft and member
- (13) Body panels, chassis frame, fuel tank, window regulator, locks and keys, locking mechanism or seat adjusters
- (14) Head lights, indicating/signalling lights, meters, gauges, electronic control modules, switches or horns
- (15) Weather strips, control cables, speedometer cables, metallic tubings, hoses or hinges
- (16) Catalytic converter
- (17) Vehicle safety air bag
- (18) Aerospace industry

- (a) Ground support equipment for the aerospace industry
- (b) Airborne ordnance

- *(19) Electrical or electronics systems instrumentation
 - *(20) Cooling equipment, air-inlet equipment or exhaust equipment
 - *(21) Shipbuilding
-

XVII. Supporting products/services

- (1) Metal castings
 - (2) Metal forgings
 - (3) Plating
 - (4) Machining
 - (5) Moulds, tools or dies
 - (6) Overhaul, repair, reconditioning, modification or servicing and testing of turbine engines, components or sub-assemblies
 - (7) Maintenance, repair, overhaul or service of aircraft, aircraft components or accessories or testing and repairing of avionics
 - (8) Storage, treatment and disposal of toxic and hazardous waste
 - (9) Powder metallurgical parts (sintering of metal parts)
 - (10) Industrial seals or seal materials
 - (11) Advanced composite materials
 - *(12) Metal stamping
 - *(13) Galvanising, shearing or slitting of metal sheets or other related engineering services
-

- (1) Chemical derivatives from organic or inorganic sources
- (2) Basic manufacture of pesticides
- (3) Fine chemicals
- (4) Recycling of chemicals
- (5) Epoxy encapsulation moulding compounds
- (6) Titanium dioxide pigment
- (7) Barium sulphate pigment
- (8) Iron dioxide pigment
- (9) Ferromanganese, silicon manganese or ferrosilicon
- (10) Metallic pigment
- (11) Petrochemical products
- *(12) Soap, cleaning preparations, cosmetics or toilet preparations
- *(13) Specialised paints or coatings
- *(14) Wax products

VIII. Manufacture of pharmaceutical and related products

- (1) Basic manufacture of pharmaceuticals
- (2) Clinic diagnostic reagents
- (3) Gelatine or gelatine products
- (4) Intravenous, dialysis or irrigating solutions
- *(5) Animal vaccine

IX. Manufacture of wood and wood products

- (1) Reconstituted wood-based panel boards or products
- (2) Wooden solid or other specialised function doors or wooden solid windows
- (3) 3-ply parquet
- (4) Wooden furniture or parts
- *(5) All wooden products except sawn timber, veneer and plain plywood

X. Manufacture of pulp, paper and paperboard

- (1) Pulp
- (2) Newsprint
- (3) Security paper
- (4) Sack kraft
- (5) Resin impregnated paper
- (6) Printing and writing paper
- (7) Corrugated medium paper, testliner or kraftliner
- (8) Kraft paper
- (9) Coated board and boxboard (duplex board)
- (10) Moulded paper
- (11) Wall paper base
- *(12) All types of paper products from pulp

XI. Manufacture of textiles and textile

XVIII. Manufacture of electrical and electronic products and components and parts thereof

- (1) Colour television receivers
- (2) Colour television receiver parts:
 - (a) Cathode ray tubes
 - (b) Electron guns
 - (c) Polished glass panels or glass funnels for colour picture tubes
- (3) Video recorders/players
- (4) Video recorder/player parts:
 - (a) Video head tips
 - (b) Video drum assembly
 - (c) Video cassette mechanisms
- (5) Digital audio recorders/players
- (6) Digital audio recorders/player parts:
 - (a) Digital tape mechanisms
 - (b) Digital disk mechanisms
 - (c) Optical pick-up units
- (7) Computers (excluding detached peripherals not manufactured in-house)
- (8) Computer parts or computer peripherals:
 - (a) Monitors
 - (b) Computer printers (including printer mechanism)
 - (c) Printer heads
 - (d) Computer scanners
 - (e) Disk drives
 - (f) Head gimbal assemblies/head carriage assemblies
 - (g) Computer magnetic heads
 - (h) Headstack assemblies
 - (i) Data storage media
 - (j) Voice coil motors
 - (k) Actuators
- (9) Magnetic heads
- (10) Computer Aided Design (CAD), Computer Aided Manufacturing (CAM) or Computer Aided Engineering (CAE) equipment
- (11) Robots or robotics
- (12) Software development and production
- (13) Compact disks
- (14) Disk substrates or disk blanks
- (15) Industrial controllers
- (16) Optical fibres or optical fibre products
- (17) Batteries excluding manganese dioxide, dry cells and lead acid batteries
- (18) Discharge tubes
- (19) Uninterruptible power supplies
- (20) Quartz crystals
- (21) Solar cells or panels
- (22) Motors
- (23) Printed circuit boards (excluding rigid single sided circuit boards)
- (24) Connectors with or without wires or cables
- (25) Displays - electroluminescent, plasma or liquid crystal
- (26) Gold or aluminium bonding wires
- (27) Lead-frames
- (28) Magnets or ferrite cores

products

- (1) Natural or man-made fibres (excluding polyester staple fibres)
- (2) Continuous filament yarn of natural or man-made fibres
- (3) Yarns of discontinuous, natural or man-made fibres
- (4) Woven fabrics of yarns of discontinuous fibres
- (5) Woven fabrics of continuous filament yarn
- (6) Knitted fabrics
- (7) Cord fabrics
- (8) Commission bleaching, dyeing, printing and finishing of yarns or fabrics
- (9) Knitwear
- (10) Skiwear or winter outerwear
- (11) Non-woven products
- (12) Elastic webbings

XII. Manufacture of clay-based, sand-based and other non-metallic mineral products

- (1) High alumina or basic refractories
- (2) Kiln furniture
- (3) Laboratory, chemical or industrial wares
- (4) Artware, ornaments or articles for adornment of ceramic or glass
- (5) Decorative glasses or glassware
- (6) High tension electrical glass insulators
- (7) Glass envelopes (including bulbs and tubes) for electrical lamps, electronic valves or the like
- (8) Glass fittings for lighting purposes
- (9) Glass fibre in all forms produced from basic raw materials
- (10) Finished woven fabrics of glass fibre
- (11) Optical glass blanks
- (12) Polished slabs of locally sourced marble or granite
- (13) High purity alumino-silicate ceramic fibres
- (14) Ceramic components or parts for electrical, electronic or industrial uses
- (15) Frits, glazes or glaze stains
- (16) Silicon dioxide fillers
- (17) Rockwool in all forms produced from basic raw materials
- (18) Synthetic industrial diamonds
- (19) High grade processed ball clay
- (20) Bricks, tiles, slabs, paving blocks, squares or other articles of pressed or moulded glass used in building
- (21) Glass pellets
- (22) Tableware
- (23) Thin film metal oxide coated glass
- *(24) High grade processed kaolin
- *(25) Ceramic wall or floor tiles
- *(26) Vitrified clay pipes
- *(27) Calcium carbonate powder
- *(28) Coated or uncoated talc or barium sulphate powders (average particle size less than 5 microns)
- *(29) High grade silica sand or powder
- *(30) Panels, boards, tiles, blocks or similar articles of vegetable fibre, wood fibre, straw, wood shavings or wood wastes, agglomerated with cement, plaster or other mineral binding substance
- *(31) Clay roofing tiles

- (29) Semiconductor wafer fabrication
- (30) Magnetic webs, pancakes or cassettes therefrom
- (31) Cables or wires for electronic devices
- (32) SMT chipholders on lead-frames
- (33) Surface mount components
- (34) Hermetic seals
- (35) Electrical/electronic components moulded with magnets
- (36) Telecommunication equipment excluding telephones
- (37) Teller machines
- (38) Office equipment
- (39) Alarm equipment/systems or devices
- (40) Demagnetisers
- (41) Heat guns
- (42) Ultrasonic cleaners
- (43) Computing scales
- (44) Cash registers
- (45) Voice recognition or synthesis equipment
- (46) Data terminal displays
- (47) Heat shrinkable cable joints and terminations
- (48) Thermistors
- *(49) Transformers or coils
- *(50) Automatic gate mechanisms
- *(51) Consumer electronic products; parts, sub-assemblies or accessories thereof
- *(52) Industrial electronic products; parts, sub-assemblies and accessories thereof
- *(53) Electrical household appliances
- *(54) Electrical industrial equipment or parts thereof

XIX. Manufacture of professional, medical, scientific and measuring devices/parts

- (1) Medical, surgical, dental or veterinary devices/equipment
- (2) Gauges or measuring apparatus
- (3) Surveying, hydrographic, navigational, meteorological, hydrological or geophysical instruments
- (4) Testing equipment
- (5) Clocks or watches
- (6) Stainless steel cannulae or tubes for needles

XX. Manufacture of photographic, cinematographic, video and optical goods

- (1) Cameras
- (2) Lenses
- (3) Binoculars, telescopes, magnifying glasses or microscopes
- (4) Cinematographic or video equipment

XXI. Manufacture of plastic products

- (1) Inflatable plastic products
- (2) Specialised plastic films/sheets
- (3) PVC coated cotton industrial gloves
- *(4) Expanded polystyrene sheets
- *(5) Plastic products for engineering use

XIII. Manufacture of iron and steel

- (1) Blooms or slabs of steel
- (2) Shapes or sections of more than 200 mm of steel
- (3) Plates, sheets, coils, hoops or strips of steel
- (4) Seamless steel pipes
- (5) Seamless high pressure gas cylinders
- *(6) Stainless steel pipes
- *(7) Pig iron, sponge iron or hot briquetted iron
- *(8) Ingots or billets of all grades of steel
- *(9) Bars or wire rods (except those of mild steel), angles, shapes or sections of all grades of steel either hot-rolled, cold-rolled or cold-finished
- *(10) Welded pipe or pipe fittings
- *(11) Wires or wire products of iron or steel
- *(12) Steel fabricated products

XIV. Manufacture of non-ferrous metals and their products

- (1) Dressing and smelting of non-ferrous metals other than tin metals
- (2) Ingots, billets or slabs of non-ferrous metals
- (3) Bars, rods, shapes or sections of non-ferrous metals except EC copper rods
- (4) Plates, sheets, coils, hoops or strips of non-ferrous metals
- (5) Pipes or tubes of non-ferrous metals
- (6) Offset printing plates
- (7) Copper clad laminates
- (8) Cream or paste of non-ferrous metals
- *(9) Powder of non-ferrous metals
- *(10) Wire or wire products of non-ferrous metals
- *(11) Fabricated products of non-ferrous metals

XXII. Miscellaneous

- (1) Musical instruments
- (2) Furniture hardware
- (3) Souvenirs, handicrafts or giftware
- (4) Toys
- (5) Sports goods or equipment
- (6) Spectacles or spectacle frames
- (7) Accessories for the textile industry
- (8) Fire fighting equipment
- (9) Cutlery
- (10) Lock sets or lock cylinder mechanisms
- (11) Jewellery of precious metal
- (12) Costume jewellery
- (13) Hand labellers
- *(14) Art and design apparatus - all types
- *(15) Enamelled household ware
- *(16) Cooker or barbeque sets

XXIII. Hotel business and tourist industry

- (1) Establishment of hotels
- (2) Expansion/modernisation of hotels
- (3) Establishment of tourist projects
- (4) Expansion /modernisation of tourist projects

XXIV. Film industry

- (1) Film or video production
- (2) Post production for film or video

XXV. Infrastructure

- (1) Light rail transit system
-

* Additional promoted activities and products for promoted areas, that is, Sabah, Sarawak, Kelantan, Terengganu, Pahang excluding the districts of Lipis, Raub, Jerantut and Cameron Highlands (except those approved industrial estates located in these districts), and the district of Mersing in Johor.

List of Promoted Activities and Products for High Technology Companies under the Promotion of Investments Act 1986

This list of promoted activities and products is gazetted under the Gazette Notification No. P.U. (A)32 dated 4 January, 1995

I. Advanced electronics

(1) Design, development and manufacture of:

- (a) computer or peripherals
- (b) microprocessor application

(2) Development and production of communication equipment

(3) Design and production of integrated circuits (IC)

II. Equipment/ Instrumentation

(1) Design, development and manufacture of:

- (a) medical equipment
- (b) medical implant or devices
- (c) scientific equipment

(2) Development and production of high pressure water cutting equipment

III. Biotechnology

(1) Development, testing and production of:

- (a) pharmaceuticals
- (b) fine chemicals
- (c) food or feed supplements
- (d) biodiagnostics

(2) Development and production of:

- (a) cell cultures
- (b) biopolymers

(3) Development and production of biotechnology processes for waste treatment

IV. Automation and flexible manufacturing systems

(1) Development and production of:

VI. Advanced materials

(1) Application or production of:

- (a) polymers or biopolymers
 - (b) superconductors
 - (c) fine ceramics or advanced ceramics
 - (d) High strength composites
-

VII. Optoelectronics

(1) Development and production of:

- (a) optoelectronics systems components
 - (b) optical systems components
 - (c) photo-couplers
 - (d) semiconductors lasers
-

VIII. Software engineering

(1) Development and production of:

- (a) neural networks
 - (b) pattern recognition systems
 - (c) machine vision
 - (d) fuzzy logic systems
-

IX. Alternative energy sources

(1) Development and production of:

- (a) fuel cells
 - (b) polymer batteries
 - (c) solar cells
 - (d) renewable energy
-

X. Aerospace

(1) Manufacture and assembly of aircraft

(2) Manufacture of aircraft equipment, components, accessories or parts thereof

(3) Modification and conversion of aircraft

(a) computer process control systems/equipment

(b) process instrumentation

(c) robotic equipment

(d) computer numerical control (CNC) machine tools

(4) Refurbishment or re-manufacture of aircraft equipment, components, accessories or parts thereof

V. Electro-optics and non-linear optics

(1) Development and production of:

(a) optical lenses

(b) laser application equipment

(c) fibre-optic communication equipment

List of Promoted Activities and Products for Small Scale Companies under The Promotion of Investments Act 1986

I. Agricultural Processing

- (1) Cocoa and cocoa products
 - (2) Coffee
 - (3) Tea
 - (4) Coconut products except copra and crude coconut oil
 - (5) Fruits
 - (6) Vegetables
 - (7) Cereal Products
 - (8) Starch and proteins
 - (9) Herbs or spices
 - (10) Essential oils
 - (11) Fodder or other animal feed ingredients
 - (12) Tobacco
 - (13) Flowers or ornamental foliages
 - (14) Honey
 - (15) Meat
 - (16) Livestock products
 - (17) Aquatic products, including seaweed
 - (18) Agricultural waste and by-products
 - (19) Agriculture feed
 - (20) Sugar and confectionary products
-

II. Forestry and Forestry Products

- (1) Forestry products
 - (2) Rattan Processing
 - (3) Basketware and other rattan products
 - (4) Bamboo products
-

III. Manufacture of Rubber Products

- (1) Tubes
 - (2) Moulded rubber products
 - (3) Latex dipped products
 - (4) Extruded rubber products
 - (5) General rubber goods
 - (6) Foam rubber products
 - (7) Rubberised fabrics
 - (8) Inflatable rubber products
 - (9) Conveyor belts, transmission belts, V-type belts and other rubber belting
 - (10) Engineering components of rubber (e.g. building mounts, anti-vibration mounts)
 - (11) Reclaimed rubber
 - (12) Rubber compound
 - (13) Rubber-based (elastomeric) specialty coating
 - (14) Rubber adhesive / rubber sealant
-

XI. Manufacture of Iron and Steel and their Products

- (1) Wire and wire products of iron and steel
 - (2) Steel fabricated products
 - (3) Steel structures
-

XII. Manufacture of Non-Ferrous Metals and their Products

- (1) Bars, rods, shapes and sections of non-ferrous metals
 - (2) Wire and wire products of non-ferrous metals
 - (3) Fabricated products of non-ferrous metals
-

XIII. Supporting Services and Products

- (1) Iron and steel castings
 - (2) Iron and steel forgings
 - (3) Precision machining
 - (4) Precision stamping
 - (5) Precision electroplating
 - (6) Moulds, tools and dies
 - (7) Non-ferrous metal castings
 - (8) Non-ferrous metal forgings
 - (9) Galvanising shearing and slitting of metal sheets and other engineering related services
 - (10) Castor wheels
-

XIV. Manufacture of Handtools

- (1) Handtools, all types (such as axes, pliers, spanners, screwdrivers, wrenches, hammers, pincers, riveting tools and other handtools)
-

XV. Manufacture of Motor Vehicles, Components and Accessories

- (1) All automotive components and accessories
-

XVI. Manufacture of other Transport Equipment

IV. Manufacture of Palm and Palm Kernel Oil Products and their Derivatives

- (1) Margarine, vanaspati, shortening and other manufactured fat products
 - (2) Palm kernel meal
-

V. Manufacture of Chemicals and Pharmaceuticals

- (1) Plant and vegetable extracts for pharmaceutical, perfumery, cosmetics and food flavouring industries
 - (2) Chemical derivatives from inorganic sources
 - (3) Injections, sterile solution and gelatin capsules
 - (4) Carbon black master batch
 - (5) Hair care products, perfumery, air freshener and cosmetics
 - (6) Wax products
-

VI. Manufacture of Leather and Leather Products

- (1) Leather products
-

VII. Manufacture of Wood and Wood Products

- (1) Fancy plywood, prefinished and printed plywood
 - (2) Timber mouldings, all types
 - (3) Prefabricated housing units and components
 - (4) Wooden cabinets for electrical or electronic products
 - (5) Builders carpentry and joinery, assembled parquet flooring panels
 - (6) Wooden staircases
 - (7) Wooden doors and windows
 - (8) Products derived from utilisation of wood waste (eg. activated charcoal, wooden briquettes, wood wool)
 - (9) Wood pallets
 - (10) Articles of turned wood
 - (11) Rubberwood veneer
 - (12) Wooden pencil slate
 - (13) Wooden household articles
 - (14) Wooden furniture parts and components
-

VIII. Manufacture of Pulp, Paper and Paperboard

- (1) Carton and paper boxes, all types
-

IX. Manufacture of Textiles and Textile Products

- (1) Non-motorised vehicles such as bicycles, tricycles and gliders and parts thereof
-

XVII. Assembly and Manufacture of Electrical and Electronic Products and Components and Parts Thereof

- (1) Decorative lights
 - (2) Antennaes
 - (3) Speakers
 - (4) Capacitors
 - (5) Disc card players
 - (6) Energy-saving lamps
-

XVIII. Manufacture of Kitchenware

- (1) Kitchenware, all types
 - (2) Cutlery
 - (3) Tableware
-

XIX. Manufacture of Furniture

- (1) Furniture, all types
-

XX. Manufacture of Souvenirs and Handicrafts

- (1) Souvenirs, handicrafts, giftwares and decorative wares, all types
-

XXI. Manufacture of Toys

- (1) Toys, all types
-

XXII. Manufacture of Footwear

- (1) Leather footwear
-

XXIII. Manufacture of Sports Goods and Equipment

- (1) Sports goods and equipment, all types
-

- (1) Batik printing
 - (2) Knitted fabrics
 - (3) Accessories for the textile industry
 - (4) Knitted articles
-

X. Manufacture of Clay and Sand-Based Products and other Non-Metallic Mineral Products

- (1) Ceramic artware, ornaments and articles for adornment
 - (2) High grade silica sand and powder
 - (3) Decorative glass and glassware
 - (4) Glass ornaments and articles of adornment
 - (5) Bricks, tiles, slabs, paving blocks, squares and other articles of pressed or moulded glass used in building
 - (6) Mirrors
 - (7) Glass fittings for lighting purposes
 - (8) Sand lime bricks
 - (9) Polished slabs or locally sourced marbles and granites
 - (10) Panels, boards, tiles, blocks and similar articles of vegetable fibre, straw, wood shavings or wood wastes, agglomerated with cement plaster or with other mineral binding substances
 - (11) Cellular concrete blocks and panels
 - (12) Rice-husk ash cement
 - (13) Abrasive products for grinding, polishing and sharpening
 - (14) Bricks
 - (15) Prestressed spun concrete piles
-

XXIV. Manufacture of Jewellery and Related Products

- (1) Jewellery
 - (2) Processed Gems
-

XXV. Manufacture of Plastic Products

- (1) Single-sided cling stretch wrapping film
-

XXVI. Miscellaneous

- (1) Welding shield
-

General Features of the Special Funds for the SMIs

Since 1972, the Central Bank of Malaysia have introduced various directives and lending guidelines to the commercial banks for the purpose of extending credits to the SMIs in order promote the growth and development of the sector. However, in 1990, the SMIs were no longer considered as priority sectors but the Central Bank still maintain the guidelines for loans secured under the CGC schemes (Detailed discussion on the CGC schemes are covered in Chapter 3). Beside the CGC loans, the government has also set-up various funds in order to promote specific industries or ethnic groups with the participation from commercial banks and finance companies as well as the development financial institutions (DFIs).

1. New Entrepreneurs Fund (NEF)

Objectives

The main objective of this fund is to stimulate the growth of small and medium-sized Bumiputera enterprises by extending financial assistance at a reasonable rate. This fund was launched in 1989 with initial allocation of 250 million. This amount was then raised to 600 million ringgit and converted into a revolving fund. As at the end of July 1994, the amount approved was 497.8 million of which 376.4 million has been disbursed.

Eligibility Criteria

Wholly-owned Bumiputera enterprises engaged in small and medium-scale business ventures. Priority will be given to manufacturing, agriculture, tourism and export-oriented industries as well as business activities under the franchise development programme.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 2.0 million per borrower	85 percent of the project cost	Maximum - 5 % for maximum 8 years. After that interest will be at market rate.

Participating Financial Institutions

1. Perwira Affin Bank Malaysia Berhad
2. United Malayan Banking Corporation Berhad
3. Malayan Banking Berhad
4. Bank Bumiputera Malaysia Berhad

5. Oriental Bank Berhad
6. Bank of Commerce (M) Berhad
7. Sabah Bank Berhad
8. Bank Utama (Malaysia) Berhad
9. Development & Commercial Bank Berhad
10. Public Bank Berhad
11. Development Bank of Malaysia
12. Malaysian Industrial Development Finance Berhad
13. Industrial Bank of Malaysia

2. Bumiputera Industrial Fund (BIF)

Objectives

The main objective is to encourage and to assist Bumiputera entrepreneurs in small and medium-scale industries under the 'umbrella concept' of the principal companies and are seeking to expand their existing operations. Loans can also be applied to improve the design and quality of local products with the assistance of the principal companies. The fund is also intended to assist Bumiputera entrepreneurs producing parts/raw materials/components for the established corporations and export-oriented industries.

Eligibility Criteria

Bumiputera individuals or corporations with at least 70 percent Bumiputera and management control operating under the umbrella concept.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 2.5 million per borrower	85 percent of the project cost	Maximum - 5 % for maximum 8 years. After that interest will be at market rate.

Participating Financial Institutions

1. Malayan Banking Berhad
2. Bank Bumiputera Malaysia Berhad
3. Perwira Affin Bank Berhad
4. Development Bank of Malaysia
5. Malaysian Industrial Development Finance Berhad
6. Bank Industri Malaysia Berhad

3. Special Fund for Tourism (SFT)

Objectives

This fund was set-up in 1990 with an initial allocation of RM120 million with the objective to promote the tourism industry. The amount was added by 80 million in 1993 and it has now become a revolving fund. As of July 1994, 146 applications were approved with a value of loan amounting to 167.8 million. Out of this amount, 100.2 million has been disbursed.

Eligibility Criteria

Entrepreneurs undertaking new small and medium-sized tourism related investment projects in Malaysia. Since the scheme gave priority to new fixed investment, the scheme is not eligible for financing working capital or to finance and refinance acquisition of shares, land or existing assets.

Main Features

<i>Project Cost</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
Minimum - RM100,000 Maximum - RM3 -RM5 million	75 percent of the project cost	Maximum - 6.5 % for maximum 10 year. After that interest will be at market rate.

Participating Financial Institutions

1. All commercial banks
2. All merchant banks
3. Development Bank of Malaysia

4. Industrial Adjustment Fund (IAF)

Objectives

This fund was set up for the purpose of assisting existing companies in restructuring its organisation through merger, takeover, relocation and diversification. It was launched in 1991 with a total allocation of RM500 million. As of July 1994, a total of 16 applications with an aggregate value of RM56 million was approved and the drawdown was RM36 million.

Eligibility Criteria

Companies in the three selected industries namely machinery and engineering, wood based and textile industries.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 2.5 million per borrower	85 percent of the project cost	Maximum - 5 % for maximum 8 years. After that interest will be at market rate.

Participating Institutions

1. Industrial Bank of Malaysia
2. Development Bank of Malaysia
3. Malaysian Industrial Development Finance Berhad

5. ASEAN-Japan Development Fund (AJDF)

Objectives

The objective of this fund is to assist the development of small and medium-sized industries. This fund was established in 1989 where the fund was provided by the Export-Import Bank of Japan (EXIM) and also from Overseas Economic Cooperation Fund (OECF). As of June 1994, total amount of loans approved amounted to RM1.1 billion to finance 3,406 approved projects.

Eligibility Criteria

All small and medium-sized companies with priority given to manufacturing and agriculture and export-oriented companies.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 2.5 million per borrower	85 percent of the project cost	OECF - 6.5 % EXIM - 7.75 % OECF-SMIPP - 7%

Participating Institutions

1. Agriculture Bank of Malaysia
2. Industrial Bank of Malaysia
3. Development Bank of Malaysia
4. Malaysian Industrial Development Finance Berhad

6. Soft Loan Scheme for Modernisation and Automation

Objectives

The fund is aimed at promoting the modernisation and automation of SMIs through the utilisation of modern technology. This fund was launched in 1993 with an allocation of RM50 million. Utilisation of the fund as at end of December 1994 was about RM17.18 million. The loan is opened to all eligible SMIs in the form of soft loans to assist in the acquisition of new machinery and equipment which will reflect modern features and are capable of automating manufacturing operations. The loans are primarily geared to assist supporting industries which have linkages with large scale industries and have potential to expand.

Eligibility Criteria

All SMIs in manufacturing activities except those involved in the food processing and wood-based industries.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 1.0 million per borrower	75 percent of the cost of machinery and equipment	4% and maximum repayment period of 10 years.

Participating Financial Institutions

Malaysian Industrial Development Finance Berhad

7. Soft Loan Scheme for Modernisation and Automation of Food-based and Food Industry

Objectives

The objective of the scheme is similar to the above scheme except it is specially allocated for Bumiputera SMIs involved in the furniture and food industry. This fund was also launched in 1993 with similar allocation of RM50 million. As of December 31, 1994, RM13.6 million were approved and disbursed to the successful applicants.

Eligibility Criteria

All Bumiputera SMIs involved in the furniture and food processing industries under the umbrella concept.

Main Features

<i>Loan Size</i>	<i>Maximum Loan</i>	<i>Interest rate</i>
RM 1.0 million per borrower	75 percent of the cost of machinery and equipment	4% and maximum repayment period of 10 years.

Participating Financial Institutions

Development Bank of Malaysia

8. Industrial Technical Assistance Fund (ITAF)

Objectives

The fund was set up in 1990 with the purpose of modernising and enhancing the development of SMIs into a progressive and modern sector capable of supporting the large industry in the country. The initial allocation was RM50 million. The fund provides one-to-one matching grants for SMIs in the following four schemes:

<i>Type of scheme</i>	<i>Purpose</i>	<i>Maximum amount of grant</i>	<i>Managed by</i>
ITAF 1	Consultancy Service	RM40,000	Development Bank of Malaysia
ITAF 2	Product Development and Design	RM250,000	Standards and Industrial Research Institute of Malaysia
ITAF 3	Quality Improvements and Productivity	RM250,000	Standards and Industrial Research Institute of Malaysia
ITAF 4	Market Development	RM40,000	Malaysian External Trade Development Corporation

In terms of utilisation, as at end of December, 1994, 925 applications were considered for processing, of which 592 applications with a total value of RM18.1 million were approved and subsequently RM5.7 million was disbursed by the end of 1994.

Industrial and Technical Assistance Fund Utilisation				
<i>Year</i>	<i>Applications considered</i>	<i>Applications approved</i>	<i>Applications rejected</i>	<i>Amount (RM million)</i>
1991	229	116	113	4.9
1992	84	48	36	2.2
1993	196	137	59	3.8
1994	416	291	125	7.2
Total	925	592	333	18.1

Eligibility Criteria

All registered SMIs are eligible but approval must be obtained in advance from the relevant fund manager before any expenditure can be matched.

Main Features of the New Principal Guarantee Scheme (NPGS)

1. The overall limit on credit facilities eligible for guarantee was increased from the present RM 500,000 to RM 3 million. For businesses producing MITI promoted products, the new limit is RM 5 million.
2. The maximum guarantee cover to a single borrower was raised to RM 1 million (MITI: RM 1.5 million); the former limit was 70 percent of RM 500,000 subject to a maximum clean facility of RM 50,000.
3. The facilities were made available to businesses with net assets or shareholders funds up to RM 1million (MITI: RM 1.5 million).
4. The CGC continued to assume partial risk, but its maximum guarantee coverage was increased to 90 percent. In practice, the cover ranges from 70 to 90 percent depending on the underlying collateral and type of industry being considered.
5. The guarantee is approved for a fixed period only.
6. CGC cover was extended to all licensed finance companies.

Source: Boocock (1994, p.51-52)

LIST OF VARIABLES

SECTION 1: PROFILE OF THE FIRM

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
1	1.1	var00001	year of establishment	Ordinal	Actual
2	1.1a	var00002 AGEFIRM	age of the firm Recode to AGEFIRM	Ordinal Interval	1,2,3,4
3	1.2	var00003 F_SIZE	size of employment Recode to F_SIZE	Interval Nominal	1,2,3,4
4	1.3	BUSLOC	type of location	Nominal	1,2,3,4
5	1.4	var00005 OWNSTRUC	ownership structure Recode to OWNSTRUC	Nominal Nominal	1,2,3,4 1,2
6	1.5	REGTYPE	type of entity formation	Nominal	1,2,3,4
7	1.6	MKTCLASS	market classification	Nominal	1,2,3
8	1.7	INDCLASS	industry classification	Nominal	1,2,3,4,5,6,7,8 ,9,10,11
9	1.8	ANNSALES	annual sales turnover	Interval	1,2,3,4,5,6

SECTION 2: INFORMATION ON PROJECT APPRAISAL PRACTICES

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
10	2.1	AWAREPA	aware of project appraisal?	Nominal	1,2
11	2.2	ADOPTPA	have adopted project appraisal	Nominal	1,2
12	2.3	REASON1	project appraisal as a loan requirement	Nominal	1,2,9
13	2.4		<i>Type of appraisal?</i>		
		TYPE1	technical	Nominal	1,2,9
14		TYPE2	commercial	Nominal	1,2,9
15		TYPE3	financial	Nominal	1,2,9
16		TYPE4	all of the above	Nominal	1,2,9
17	2.5		<i>Who did the PA?</i>		
		var00017	in-house consultant	Nominal	1,2,9
18		var00018	external consultant	Nominal	1,2,9
19		var00019	government's consultant	Nominal	1,2,9
20		var00020	accounting firm	Nominal	1,2,9
21		var00021	internal management	Nominal	1,2,9
22		var00022	owner himself	Nominal	1,2,9
23	2.6		<i>Purpose of PA?</i>		
		REASON2	to ascertain risk	Nominal	1,2,9
24		REASON3	to ascertain viability	Nominal	1,2,9
25		REASON4	to rank and select project	Nominal	1,2,9
26		REASON5	to help mgmt. make decision	Nominal	1,2,9
27		REASON6	guide to implementation	Nominal	1,2,9
28	2.7	var00028	Do PA even do not intend to borrow	Nominal	1,2,9
29	2.8		<i>Methods of appraisal?</i>		
		METHOD1	payback period	Ordinal	1,2,3,4,5,9
30		METHOD2	accounting rate of return	Ordinal	1,2,3,4,5,9
31		METHOD3	net present value	Ordinal	1,2,3,4,5,9
32		METHOD4	internal rate of return	Ordinal	1,2,3,4,5,9
33		METHOD5	sensitivity analysis	Ordinal	1,2,3,4,5,9
34		METHOD6	qualitative methods	Ordinal	1,2,3,4,5,9
35	2.9	SOFTPAK	use software packages	Nominal	1,2,9
36	2.10	NONEPA9	complicated procedure/not tailored	Nominal	1,2,9

37	2.11	DOCPA	PA documented?	Nominal	1,2,9
38	2.12	INFO1	<i>Type of information?</i> company's history/background	Nominal	1,2,9
39		INFO2	key owner's/shareholders background	Nominal	1,2,9
40		INFO3	project's location	Nominal	1,2,9
41		INFO4	marketing analysis	Nominal	1,2,9
42		INFO5	technical/operational analysis	Nominal	1,2,9
43		INFO6	management's structure	Nominal	1,2,9
44		INFO7	financial analysis	Nominal	1,2,9
45		INFO8	company's strength	Nominal	1,2,9
46		INFO9	limitations of the company	Nominal	1,2,9
47		INFO10	description of the collateral	Nominal	1,2,9
48		INFO11	others	Nominal	1,2,9
49	2.13	var00049	extent of info. used by lender	Interval	1,2,3,4,5
50	2.14	NONEPA1	<i>Reasons for not doing PA:</i> borrowing not required	Nominal	1,2,9
51		NONEPA2	not required by lender	Nominal	1,2,9
52		NONEPA3	do not believe its practicality	Nominal	1,2,9
53		NONEPA4	lack of knowledge & expertise	Nominal	1,2,9
54		NONEPA5	lack of time & energy	Nominal	1,2,9
55		NONEPA6	too expensive & time consuming	Nominal	1,2,9
56		NONEPA7	investment too small	Nominal	1,2,9
57		NONEPA8	others	Nominal	1,2,9

SECTION 3:FIRM-BANK RELATIONSHIP

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
58	3.1	ACCSHIP	have deposit relationship?	Nominal	1,2
59	3.2	S_MACC	have more than one account	Nominal	1,2,9
60	3.3	S_MBANK	accounts with the same bank	Nominal	1,2,9
61	3.4	AGEACC1	year account was first established	Ordinal	Actual
62	3.4a	AGEACC2	age of deposit relationship Recode to AGEACC2	Ordinal	1,2,3,4,5
63	3.5	ACCESS_B	accessibility to bank finance?	Nominal	1,2,9
64	3.6	CRTYPE1	<i>Type of credits:</i> working capital loan	Nominal	1,2,9
65		CRTYPE2	import-export financing	Nominal	1,2,9
66		CRTYPE3	term loan	Nominal	1,2,9
67		CRTYPE4	hire-purchase	Nominal	1,2,9
68		CRTYPE5	overdraft	Nominal	1,2,9
69		CRTYPE6	others	Nominal	1,2,9
70	3.7	CRSAME_B	credit from depositing institutions	Nominal	1,2,9
71	3.8	FREQAPP1	no. of applications made	Ordinal	Actual
72	3.9	AGECR1_B	year credit was first given	Ordinal	Actual
73	3.9a	AGECR2_B	age of credit relationship Recode to AGECR2_B	Ordinal Interval	1,2,3,4,5
74	3.10	NEEDPA_B	PA was required by lender	Nominal	1,2,9
75	3.11	INRATE_B	explicit annual rate of interest	Interval	1,2,3,4,5,9
76	3.12	OTHSER_B	used other bank services	Nominal	1,2
77	3.13	KNOW_B	know bank officers personally	Nominal	1,2
78	3.14	RATING_B	bank's rating	Ordinal	1,2,3,4,5

SECTION 4: FINANCING FROM GOVERNMENTAL INSTITUTIONS

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
79	4.1	ACCESS_G	had received govt. financing	Nominal	1,2
80	4.2	SOURCE_G	name of institution	Nominal	1,2,3,4,9
81	4.3	FREQAPP2	no. of applications made	Ordinal	Actual
82	4.4	AGECR1_G	year loan was first approved	Ordinal	Actual
83	4.4a	AGECR2_G	age of loan relationship Recode to AGECR2_G	Ordinal Interval	1,2,3,4,5
84	4.5	NEEDPA_G	PA was required?	Nominal	1,2,9
85	4.6	RATE_G	Annual rate of interest charged	Interval	1,2,3,4,5,9

SECTION 5: INFORMAL SOURCES OF FINANCE

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
86	5.1	INFORM_S	had used informal sources	Nominal	1,2
87	5.1a	SOURCE1	<i>Types of informal sources:</i> personal savings	Nominal	1,2,9
88		SOURCE2	profits saved	Nominal	1,2,9
89		SOURCE3	advances from directors/officers	Nominal	1,2,9
90		SOURCE4	borrowing from moneylenders	Nominal	1,2,9
91		SOURCE5	borrowing from relatives or friends	Nominal	1,2,9
92		SOURCE6	use trade/suppliers credit	Nominal	1,2,9
93		SOURCE7	use customer's advances/deposits	Nominal	1,2,9
94		SOURCE8	others	Nominal	1,2,9
95	5.2	CAUSE1	<i>Reasons for usage:</i> easy access & general availability	Nominal	1,2,9
96		CAUSE2	urgency in financial needs	Nominal	1,2,9
97		CAUSE3	difficult/failure to get formal loans	Nominal	1,2,9
98		CAUSE4	less emphasis on collateral	Nominal	1,2,9
99		CAUSE5	no bureaucratic procedures	Nominal	1,2,9
100		CAUSE6	fast delivery of credit	Nominal	1,2,9
101		CAUSE7	flexible repayment scheme	Nominal	1,2,9
102		CAUSE8	acceptable cost of loans	Nominal	1,2,9
103		CAUSE9	opportunity to refinance	Nominal	1,2,9
104		CAUSE10	others	Nominal	1,2,9
105	5.3	RATE_INF	cost of fund	Interval	1,2,3,4,5,9
106	5.4	BASIS	basis on which rate is charged	Interval	1,2,3,4,5,9

SECTION 6: PROFILE OF ENTREPRENEUR

No.	Q_No.	Var_No/Name	Var_Des.	Var_Type	Value
107	6.1	AGE_R	age group	Nominal	1,2,3,4
108	6.2	GENDER	sex	Nominal	1,2
109	6.3	ETHNIC	ethnicity	Nominal	1,2,3,4
110	6.4	EDUCATE	highest academic qualification	Nominal	1,2,3,4,5,6
111	6.5	PROF_Q	have professional qualification?	Nominal	1,2,9
112	6.6	TRAINED	have attended business training	Nominal	1,2,9
113	6.7	PATRIN	have attended PA training	Nominal	1,2,9
114	6.8	ATTENPA1	attend training if offered	Nominal	1,2,9
115	6.9	ATTENPA2	attend training even not borrowing	Nominal	1,2,9
116	6.10	PARTIME	have done part-time business	Nominal	1,2,9
117	6.11	WORKEXP	have worked with other organisation	Nominal	1,2,9
118	6.12	BUSEXP1	length in business Recode into BUSEXP2	Ordinal Interval	Actual

Review of methodology on project appraisal/capital budgeting practices

Author/Year	Main research issues	Sample size	Data source or data gathering methods	Data analysis
Peel and Wilson (1996)	Working capital and capital budgeting practices in the small firm sector in the North of England.	84 small firms	Postal questionnaire	Chi-square and t-test.
Sheehan (1993a)	The study examines the decision-making process and the investment determinants in the Northern Ireland manufacturing sector. It also investigates how investment appraisals have been affected by government capital grants.	11 small, 18 medium and 16 large firms. Total: 45 firms	Personal interviews	Descriptive statistics
Sheehan (1993b)	The paper focuses on the influence of government grants on the investment decision making process of the Northern Ireland manufacturing sector.	11 small, 18 medium and 16 large firms. Total: 45 firms	Personal interviews	Descriptive statistics
McIntyre and Coulthurst (1987)	The study evaluates to what extent capital budgeting techniques are used by the UK small and medium-sized companies.	141 medium-sized firms	Postal survey	Descriptive statistics
Pope (1987)	The study compares the capital budgeting practices of small and large firms and found that the use of discounted cash flow techniques is widespread regardless of firm size or industrial classification.	420 small and large firms	Postal questionnaire	Descriptive statistics
Beng, Choudhury and Tee (1986)	The article provides some insights on the management accounting practices by small firms in Singapore.	68 small firms	Postal survey	Descriptive statistics
Velez and Nieto (1986)	The study focuses on the investment decision-making practices by the firms in Colombia. Their results suggest that the degree to which capital budgeting tools are used is higher for large firms than smaller firms.	17 small, 11 medium and 42 large firms. Total: 70 firms	Postal survey	Descriptive statistics
Mao (1970)	The paper compares the current theory of capital budgeting with practice by medium and large companies.	8 medium-sized and 8 large firms. Total: 16 firms	Personal interviews	Transcription and descriptive analysis

Review of methodology on SMI financing

Author/Year	Main research issues	Sample size	Data gathering methods/Data source	Data analysis
Cowling and Westhead (1996)	Study of the relationship between small firms and their banks at two different levels: local branch banks and at regional office. It also covers the effect of size on the bank lending decisions to small firms.	272 small firms	Postal questionnaire	Chi-square and t-test. Logistic regression and OLS linear regression.
Petersen and Rajan (1994)	The study investigates the benefits of a lending relationships to small firms which they found a significant relationship between the state of relationship and the availability of financing	3,404 small firms	National Survey of Small Business Finances (1988 and 1989)	F-statistics. Multiple linear regression.
Haines, Riding and Thomas (1991)	The study examines the factors associated with decisions to switch banks by the Canadian small businesses. Among the factors that are significantly affect their decisions are perceived increase in competition among bankers, if existing banks failed to approve the full amount and when business owners perceived their non-financial aspects of the banking relationship has worsened.	3,217 small firms	Canadian Federation of Independent Business database (1987)	Logistic regression
Boocock and Shariff (1995)	To provide an assessment on the credit guarantee schemes in Malaysia as well as to explore the relationship between small firms, CGC and the banks, the level of finance additionality and the level of economic additionality generated.	32 small and medium-sized firms	Personal interviews with semi-structured questionnaire	Descriptive analysis
Boocock (1995)	The study examines the role of government in promoting venture capital in developing countries, with specific reference to the development of industry in Malaysia.	7 senior fund managers	Personal interviews	Comparative statistics

Onn, Maziah (1995)	A comparative study on the five of the leading institutional providers of funds to the small and medium-sized enterprises in Malaysia.	5 lending institutions	Structured questionnaires, personal and telephone interviews	Descriptive analysis
Haron (1994)	The study examines the attitude and perceptions of Malaysian commercial bank loan officers towards lending to small businesses.	49 credit officers	Postal questionnaire	Descriptive statistics
Haron (1990)	The study highlights some of the common problems faced by commercial banks in dealing small businesses that prejudice against them, or make them wary of small businesses.	41 bank managers	Postal questionnaire	Descriptive statistics
Binks and Ennew (1996)	The study focuses upon the nature of the credit constraint confronting small businesses and the extent to which this may be more or less severe for growing firms.	6,101 small firms	Forum of Private Business survey (1992)	Factor analysis and ordered probit model.
Sjogren and Jungerhem (1996)	The study examines the use of Swedish business network (firm, the public and private creditor) in characterising the provision of external capital to small firms in Sweden.	63 small companies	Postal questionnaire	Descriptive statistics.
Berry et.al. (1993)	The study focuses on the type of information used by bankers when lending to an existing small business. It examines the factors that influence the information sought, the use of the information and the use of surrogates for unavailable or unreliable information.	63 bankers	Personal taped-interviews	Transcription, mapping and categorising of information. Descriptive analysis.
Binks, Ennew and Reed (1992)	The study intend to verify that restricted access to finance is not attributable directly to size, but is instead a result of the problems associated with the availability of information from which projects are evaluated.	4,000 small firms	Field surveys	Simple weighing procedures

Production - Principal Economic Statistic, Output, Input, Value Added,
Employment and Productivity By Division and Sector - Malaysia

Division	Major	Description	No Of Establishment	Output ('000)	Input ('000)	Value Added ('000)	Number Of Employees	Productivity in ('000)
31	311 - 312 313	ALL FULLY QUALIFIED SMIS Food Manufacturing Beverages industries	1,900 268	3,142,787 384,976 368,000 16,976	1,981,579 284,472 274,000 10,472	1,161,208 100,504 94,000 6,504	49,307 4,933 4,877 56	23,551 20,374 19,274 116,141
32	321 322 323 324	Manufacture of textile Manufacture of wearing apparel, except footwear Manufacture of leather & products of leather, leather substitutes and fur, except footwear & wearing apparel Manufacture of footwear except galvanized or moulded rubber or plastic footwear	175	296,689 122,000 147,000 9,113 18,576	189,390 83,381 89,726 6,601 9,682	107,299 38,619 57,274 2,512 8,895	5,239 1,749 2,934 255 301	20,481 22,081 19,521 9,850 29,550
33	331 332	Manufacture of wood & wood & cork products except furniture Manufacture of furniture and fixtures except primarily of metal	203	240,000 83,000 157,000	116,471 19,561 96,909	123,529 63,439 60,091	4,705 1,354 3,351	26,255 46,853 17,932
34	341 342	Manufacture of paper and paper product Printing, publishing & allied industries	175	197,890 110,000 87,890	117,331 71,118 46,213	80,558 38,882 41,677	3,820 1,816 2,104	20,551 21,411 19,808
35	351 352 353 354 355 356	Manufacture of industrial chemical Manufacture of other chemical products Manufacture of refineries Manufacture of miscellaneous products of petroleum and coal Manufacture of rubber products Manufacture of plastic products	333	599,034 23,564 123,000 3,000 2,470 181,000 266,000	388,749 19,922 75,638 2,300 1,889 130,000 159,000	210,285 3,642 47,362 700 581 51,000 107,000	9,210 127 1,311 32 8 2,037 5,695	22,832 28,677 36,127 21,875 72,625 25,037 18,788
36	361 362 369	Manufacture of pottery, china and earthenware Manufacture of glass & glass products Manufacture of non-metallic mineral products	64	200,274 106,000 5,540 88,734	97,203 43,366 3,333 50,504	103,071 62,634 2,207 38,229	3,878 2,795 198 885	26,578 22,409 11,148 43,197
37	371 372	Iron & steel basic industries Non ferrous metal basic industries	149	93,145 74,772 18,373	66,242 55,069 11,173	26,902 19,703 7,200	1,270 946 324	21,183 20,828 22,221
38	381 382 383 384 385	Manufacture of fabricated metal products except machinery and equipment Manufacture of machinery except electrical Manufacture of electrical machinery, apparatus, appliances and supplies Manufacture of transport equipment Manufacture of professional & scientific & measuring, controlling equipment and of photographic and optical goods	418	996,780 396,000 149,000 339,000 105,000 7,780	643,229 240,000 104,000 226,000 69,009 4,220	353,552 156,000 45,000 113,000 35,991 3,560	14,226 5,534 2,060 4,549 1,920 163	24,852 28,189 21,845 24,841 18,746 21,842
39	390	Other manufacturing industry	115	134,000	78,492	55,508	1,926	28,820

SMI Classified Ownership and Size of Equity

Equity (RM)	Bumiputera		Non Bumiputera		Others		Total	
	No.	Equity (mil\$)	No	Equity (mil\$)	No	Equity (mil\$)	No	Equity (mil\$)
Less than 10,000	4235	6.32	13663	13.81	4894	5.63	22792	25.76
10,001 - 50,000	2036	62.75	6009	186.99	1691	51.70	9736	301.44
50,001 - 100,000	1600	135.48	5428	445.46	1720	149.19	8748	730.13
100,001 - 500,000	2158	513.45	10525	2542.21	4121	1134.57	16811	4190.23
500,001 - 1,000,000	416	298.33	2041	1487.27	1642	1297.19	4099	3082.79
1,000,001 - 2,500,000	198	322.59	974	1478.98	1400	2305.4	2572	4106.97
Total	10643	1338.92	38640	6154.72	15468	15142.56	64758	12437.32

Source: Registrar of Companies (1990)

**KAJISELIDIK TERHADAP AMALAN PENILAIAN PROJEK OLEH
FIRMA-FIRMA PEMBUATAN BERSAIZ KECIL DAN SEDERHANA
TERPILIH DI MALAYSIA**

***“A SURVEY ON PROJECT APPRAISAL PRACTICES OF THE
SELECTED SMALL AND MEDIUM-SIZED MANUFACTURING
COMPANIES IN MALAYSIA”***

Oleh:

**Pusat Pembangunan Usahawan Malaysia (MEDEC)
Institut Teknologi MARA
Shah Alam, Selangor**

(By)

***Malaysian Entrepreneurship Development Centre (MEDEC)
MARA Institute of Technology
Shah Alam, Selangor***

Objektif utama kajian

- Untuk mengenalpasti sama ada firma-firma pembuatan bersaiz kecil dan sederhana membuat penilaian projek secara formal sebagai pra-syarat sebelum membuat keputusan pelaburan atau untuk mendapatkan pembiayaan projek daripada institusi kewangan atau agensi kerajaan.

Main research objective

- *“To examine whether the small and medium sized manufacturing companies carry out project appraisal exercise formally as a pre-requisite before undertaking capital expenditure or in order to obtain finance from the financial institution or governmental agency”*

Terminologi yang digunakan dalam kajian ini (Terminology used in this research)

- **Penilaian projek/Kajian Kemungkinan**

Penilaian projek adalah satu proses untuk mengenalpasti potensi sesuatu projek dari sudut ekonomik, teknikal, kewangan, kemasyarakatan dan dari lain-lain aspek sebelum keputusan pelaburan dibuat (Bridger dan Wimpenny, 1983)

(Project appraisal/Feasibility Study)

Project appraisal is the process of examining the attractiveness of a project from its economic, technical, financial, social and other points of view, before the actual investment is made (Bridger and Wimpenny, 1983).

- **Firma Bersaiz Kecil dan Sederhana**

Firma-firma pembuatan yang mempunyai pekerja tidak lebih dari 100 orang, saiz aset tetap tidak melebihi RM2.5 juta dan ekuiti pemilik tidak melebihi RM2.5 juta.

(Small and Medium-Sized Companies)

Manufacturing companies which employ not more than 100 employees, value of fixed assets not more than RM2.5 million and shareholders' fund not more than RM2.5 million.

- **Institusi-Institusi Kewangan**

Merangkumi bank-bank perdagangan, bank-bank pembangunan dan syarikat kewangan berlesen yang menawarkan perkhidmatan kewangan di Malaysia

(Financial Institutions)

Include all commercial banks, development banks and finance companies that provide financial services in Malaysia.

- **Agensi-Agensi Kerajaan**

Merangkumi semua agensi-agensi kerajaan yang ada menawarkan pembiayaan kepada firma bersaiz kecil dan sederhana.

(Governmental Agencies)

Include all governmental agencies that provide financial assistance to small and medium-sized firms.

- **Pinjaman/Kredit**

Hutang atau pendahuluan jangka panjang atau pendek yang diperolehi daripada institusi kewangan, agensi kerajaan atau dari sumber-sumber lain.

(Loan/Credit)

Short-term or long-term loan or advances secured from financial institution, governmental agencies or from any other sources.

- **Pelaburan Modal**

Pelaburan dalam bentuk aset-aset jangka masa panjang yang akan digunakan untuk mengeluarkan atau mengedarkan produk atau perkhidmatan. Contoh: pembelian mesin, peralatan atau kenderaan.

(Capital Expenditure)

Investment in tangible assets with terminable life for the purpose of production or distribution of products or services. Example: purchase of heavy machineries, equipments or vehicles

Arahan: Tandakan (✓) di dalam kotak pada setiap soalan SEKALI sahaja kecuali jika soalan membolehkan anda menanda lebih daripada sekali.

Instruction: Tick (✓) in the box only ONCE for each question unless the question specified otherwise.

Untuk kegunaan
pejabat sahaja
(For office use only)

Bahagian (Section) 1

1.1 Tahun firma ditubuhkan : _____
(Year of establishment)

--	--	--	--

1.2 Bilangan pekerja, termasuk pemilik firma):
(Size of employment, inclusive of owner-manager)

- 1 - 25
 26 - 50
 51 - 75
 76 ke atas (and over)

1.3 Jenis lokasi perniagaan (Type of business location):

- Kawasan perindustrian bandar (Urban industrial estate)
 Industri kampung/kawasan luar bandar (Rural area/industries)
 Pusat bandar/kompleks beli-belah (Urban business centre/shopping complex)
 Kawasan perumahan/tempat kediaman awam (Residential business area)

1.4 Struktur pemilikan firma (Ownership structure):

- 100% Bumiputra
 100% bukan bumiputra (100% non-bumi, inclusive of foreigners)
 Milik bersama dengan majoriti bumi (mixed with bumi majority)
 Milik bersama dengan majoriti bukan-bumi (mixed with nonbumi majority)

1.5 Jenis pendaftaran firma (Type of entity):

- Kepunyaan tunggal (Sole proprietor)
 Perkongsian (Partnership)
 Sdn. Bhd - anak syarikat lain (Private Ltd.- subsidiary of a company)
 Sdn. Bhd - bukan anak syarikat lain (Private Ltd.- non-subsidiary)

1.6 Klasifikasi pasaran (Market classification):

- Pasaran tempatan sahaja (local markets only)
 Pasaran eksport sahaja (export markets only)
 Pasaran tempatan & eksport (both)

1.7 **Klasifikasi industri (*Industry classification*):**

- Elektrikal & perkakasan elektronik & mesin-mesin (*Electrical and electronic products and machinery*)
- Pemprosesan makanan (*Food products/manufacturing*)
- Tekstil & pemakaian (*Textile and apparel*)
- Kayu & produk berasaskan kayu (*Wood and wood products*)
- Produk berasaskan getah (*Rubber-based products*)
- Produk berasas besi (*Iron and steel and metal products*)
- Produk mineral bukan besi (*Non-metallic mineral products*)
- Perkakasan pengangkutan (*Transportation equipments*)
- Barangan kimia, petrokimia & plastik (*Chemicals, petrochemicals and plastic products*)
- Barangan petrolium dan gas (*Petroleum and gas products*)
- Lain-lain (*Other manufactured products*)

1.8 **Anggaran jualan tahunan (*average annual sales turnover*):**

- RM 1 juta (*million*) dan kurang (*or less*)
- >RM 1 juta (*million*) - RM1.5 juta (*million*)
- >RM 1.5 juta (*million*) - RM2 juta (*million*)
- >RM 2 juta (*million*) - RM 2.5 juta (*million*)
- >RM 2.5 juta (*million*) - RM 3 juta (*million*)
- RM 3 juta (*million*) ke atas (*or more*)

Bahagian (*Section*) 2

2.1 **Tahukah anda dengan apa yang dimaksudkan dengan penilaian projek/kajian kemungkinan?**
(*Are you aware about what a project appraisal/feasibility study is?*)

- Ya (*Yes*)
- Tidak (*No*)

2.2 **Pernahkah firma anda melakukan penilaian projek/kajian kemungkinan sebelum membuat pelaburan modal?**
(*Did your firm perform any sort of project appraisal/feasibility study before committing to capital expenditure*)

- Pernah (*Yes*)
- Tidak pernah (*No*)

Jika tidak pernah, sila terus ke soalan 2.14
(*Go to question 2.14*)

2.3 Adakah penilaian projek tersebut dibuat sebagai memenuhi syarat untuk mendapatkan pinjaman daripada institusi kewangan?
(Was the project appraisal done to fulfill one of the requirement for a loan application by a financial institution?)

- Ya (Yes)
- Tidak (No)

2.4 Sila nyatakan jenis penilaian projek yang digunakan. Anda boleh menjawab lebih dari satu.
(Please indicate the type of project appraisal used. You may tick more than one.)

- Penilaian teknikal (Technical appraisal)
- Penilaian komersil (Commercial appraisal)
- Penilaian kewangan (Financial appraisal)
- Semua di atas (All of the above)

2.5 Siapakah yang melakukan penilaian projek tersebut? Anda boleh menjawab lebih dari satu.
(Who did the project appraisal? You may tick more than one)

- Konsultan dalaman (In-house consultant)
- Konsultan luar (External consultant)
- Konsultan dari agensi kerajaan (Government's consultant)
- Firm perakaunan (Accounting firm)
- Pengurusan dalaman (Internal management)
- Pemilik sendiri (The owner himself)

2.6 Apakah di antara sebab-sebab lain firma anda membuat penilaian projek? Anda boleh menjawab lebih dari satu.
(What were the other reasons for performing the project appraisal? You may tick more than one)

- Menilai risiko project (To ascertain the risk of the project)
- Menilai viabiliti/daya maju projek (To ascertain the viability of the project)
- Membantu firma memilih projek yang sesuai (To rank and select projects)
- Membantu firma membuat keputusan pelaburan modal (To help management undertake capital expenditure decision)
- Sebagai panduan implementasi projek (As a guide to the implementation process)

2.7 Adakah firma anda akan melakukan penilaian projek walau pun tidak bercadang untuk mendapatkan pinjaman daripada institusi kewangan?
(Would your firm perform project appraisal even if your firm does not plan to borrow money from the financial institution?)

- Ya (Yes)
- Tidak (No)

2.8 Sejauh manakah kaedah-kaedah penilaian projek berikut digunakan?
(To what extent the following methods were used in the appraisal?)

- Petunjuk (Key):
- 1 Mesti digunakan (Always used)
 - 2 Kerap digunakan (Very often used)
 - 3 Kurang pasti (Often used)
 - 4 Kadang-kadang digunakan (Occasionally)
 - 5 Tidak digunakan (Not used at all)

Bulatkan nombor yg. berkaitan
(Circle the appropriate number)

Kaedah pulangan pelaburan (Payback period)	1	2	3	4	5
Kadar pulangan perakaunan (Accounting rate of return)	1	2	3	4	5
Kadar pulangan bersih kini (Net present value)	1	2	3	4	5
Kadar pulangan dalaman (Internal rate of return)	1	2	3	4	5
Analisis kepekaan (Sensitivity analysis)	1	2	3	4	5
Kaedah kualitatif (kata-hati) Qualitative methods (intuition)	1	2	3	4	5

2.9 Adakah firma anda menggunakan bantuan program/perisian komputer dalam melaksanakan penilaian projek?
(Did your firm utilize software packages in the project appraisal exercise?)

- Ya (Yes)
- Tidak (No)

--

2.10 Adakah firma anda mendapati kaedah penilaian projek masakini terlalu rumit dan tidak sesuai dengan kehendak firma pembuatan kecil dan sederhana?
(Did your firm finds that the current project appraisal methods and procedures are too complicated and not tailored to the needs of the small & medium sized manufacturing companies?)

- Ya (Yes)
- Tidak (No)

--

2.11 Adakah penilaian projek tersebut didokumenkan?
(Was the project appraisal documented?)

- Ada (Yes)
- Tiada (No)

**Jika tiada, sila terus ke Bahagian 3.
(Proceed to Section 3)**

--

2.12 Sekiranya ada, apakah maklumat-maklumat yang terkandung di dalamnya. Anda boleh menjawab lebih dari satu.
(If yes, what kind of information were contained in it. You may tick more than one)

- Latarbelakang/sejarah firma (Company's history & background)
- Latarbelakang pemilik/kongsi (Key owners'/shareholders' background)
- Lokasi projek (Project's location)

.....bersambung (.....continue on next page)

- Analisis pemasaran (*Marketing analysis*)
- Analisis tenikal/operasi (*Technical/Operational analysis*)
- Struktur pengurusan (*Management's structure*)
- Analisis kewangan (*Financial analysis*)
- Kekuatan/kelebihan firma (*Company's strength*)
- Kekurangan/kelemahan firma (*Limitations of the company*)
- Deskripsi cagaran (*Description of proposed collateral*)
- Lain-lain. (*Others*)

Nyatakan (*Specify*): _____

2.13 Pada pendapat anda, sejauh manakah maklumat-maklumat di atas diambil kira oleh pihak pembiaya?
(In your opinion, to what extent the above information had been considered by the prospective lender?)

- Sepenuhnya (*All of it*)
- Sebahagian besar (*Most of it*)
- Kurang pasti (*Undecided*)
- Sedikit sahaja (*A little of it*)
- Tidak diperlukan langsung (*Not considered at all*)

--

Perhatian: Tinggalkan soalan 2.14 dan sila terus ke Bahagian 3 di m/s 6
(Note: Now, skip question 2.14 and please proceed to Section 3 on page 6)

2.14 Apakah di antara sebab-sebab firma anda tidak melakukan penilaian/projek apabila hendak membuat pelaburan modal? Anda boleh menjawab lebih dari satu.
(Why did your firm do not perform project appraisal before committing to capital expenditure project? You may tick more than one)

- Tidak memerlukan pinjaman (*Borrowing not required*)
- Tidak diperlukan oleh pembiaya (*Not required by lender*)
- Tidak praktikal untuk IKS (*Not practical for SMIs*)
- Tidak mempunyai kepakaran/pengetahuan (*Lack of knowledge and expertise*)
- Tidak mempunyai masa & tenaga (*Lack of time & energy*)
- Terlalu mahal & memakan masa (*Too expensive & time consuming*)
- Jumlah pelaburan terlalu kecil (*Investment too small*)
- Lain-lain. (*Others*)

Nyatakan. (*Specify*) _____

Bahagian (Section) 3

3.1 Adakah firma anda mempunyai akaun [eg. akaun simpanan atau semasa atau simpanan tetap dsbnya.] dengan institusi kewangan?
(Does your firm has accounts [eg. savings or current or fixed deposit accounts] with financial institutions?)

Ada (Yes)

Tiada (No)

Jika tiada, sila terus ke soalan 3.5 (Go to question 3.5)

3.2 Adakah firma anda mempunyai lebih dari satu akaun dengan mana-mana institusi kewangan?
(Does your firm has more than one account with the financial institution?)

Ya (Yes)

Tidak (No)

Jika tidak, sila terus ke soalan 3.4 (Go to question 3.4)

3.3 Jika ya, adakah dengan institusi kewangan yang sama atau lain-lain?
(If yes, is it with the same institution or different?)

Sama (Same)

Lain-lain (Different)

3.4 Bilakah [nyatakan tahun] buat pertama kalinya firma anda membuka akaun dengan institusi kewangan?
(In what year did your firm opened the very first account with the financial institution?)

Tahun (Year): _____

--	--	--	--

3.5 Pernahkah firma anda mendapat pinjaman atau kredit daripada mana-mana institusi kewangan?
(Does your firm get any loan or credit from the financial institution?)

Pernah (Yes)

Tidak pernah (No)

Jika tidak pernah, sila terus ke soalan 3.12
(Go to question 3.12)

3.6 Jika pernah, sila nyatakan jenis pinjaman atau kredit yang diperolehi. Anda boleh menjawab lebih dari satu.
(If yes, please indicate what type of loan or credit. You may tick more than one)

Pembiayaan modal pusingan (working capital loan)

Pembiayaan import-eksport (import-export financing)

Pinjaman berpenggal (term loan)

Sewa beli (hire-purchase)

Oberdraf (overdraft)

Lain-lain. (others)

Nyatakan (specify) : _____

- 3.7 Adakah pinjaman/kredit diperolehi daripada institusi kewangan di mana firma anda mempunyai akaun?
(*Did the loan or credit comes from the financial institution where your firm has an account with?*)
- Ya (*Yes*)
 Tidak (*No*)
- 3.8 Berdasarkan kepada permohonan terbaharu, berapa kalikah [*nyatakan bilangan*] anda membuat permohonan pinjaman/kredit sebelum ianya diluluskan?
(*Focussing on your most recent application, how many times [indicate the frequency] have you applied for loans/credit before it was approved?*)
- _____ kali (*times*).
- 3.9 Bilakah [*nyatakan tahun*] buat pertama kalinya firma anda mendapatkan pinjaman/kredit daripada institusi kewangan?
(*In what year did your firm get loan/credit for the very first time?*)
- Tahun (*Year*) : _____
- 3.10 Adakah firma anda dikehendaki untuk membuat penilaian projek oleh pihak pembiaya semasa firma anda membuat permohonan pinjaman/kredit?
(*Did the lender requires your firm to perform project appraisal at the time when your firm made the loan/credit application?*)
- Ya (*Yes*)
 Tidak (*No*)
- 3.11 Berapakah kadar faedah tahunan yang dikenakan?
(*What was the explicit annual rate of interest charged?*)
- Percuma (*Free*)
 ≤ 10%
 > 10% ≤ 20%
 > 20% ≤ 30%
 > 30%
- 3.12 Selain daripada perkhidmatan akaun dan pinjaman/kredit, adakah firma anda juga menggunakan lain-lain perkhidmatan yang ditawarkan oleh institusi kewangan?
(*Apart from using the depositing and/or credit services, does your firm also utilise any auxiliary services provided by your financial institution?*)
- Ada (*Yes*)
 Tiada (*No*)
- 3.13 Adakah anda mengenali pengurus dan/atau pegawai kredit di cawangan institusi kewangan anda secara peribadi?
(*Do you personally know the manager and/or credit officer of your financial institution?*)
- Ya (*Yes*)
 Tidak (*No*)

3.14 Setakat ini, apakah penilaian anda terhadap perkhidmatan-perkhidmatan yang ditawarkan oleh institusi kewangan anda?
(At the moment, how do you rate the services provided by your financial institution?)

- Terbaik (*Excellent*)
- Baik (*Good*)
- Memuaskan (*Satisfactory*)
- Tidak memuaskan (*Poor*)
- Amat tidak memuaskan (*Very poor*)

Bahagian (Section) 4

4.1 Pernahkah firma anda mendapat pinjaman atau kredit daripada agensi kerajaan?
(Does your firm get any loan or credit from any governmental agencies?)

- Pernah (*Yes*)
- Tidak pernah (*No*)

**Jika tidak pernah, sila terus ke Bahagian 5
 (Go to Section 5)**

4.2 Jika pernah, sila nyatakan agensi yang telah memberikan pinjaman/kredit.
(If yes, please indicate from which government agencies)

- MARA
- Kem. Belia & Sukan (*Ministry of Youth & Sports*)
- PUNB
- Lain-lain. (*others*)

Nyatakan (*specify*) : _____

4.3 Berdasarkan kepada permohonan terbaharu, berapa kalikah anda membuat permohonan pinjaman/kredit sebelum ianya diluluskan?
(Focussing on your most recent application, how many times have you applied for loans/credit before it is approved?)

_____ kali (*times*).

--	--

4.4 Bilakah [*nyatakan tahun*] buat pertama kalinya firma anda mendapatkan kredit/pinjaman daripada agensi kerajaan?
(In what year did your firm get loan/credit for the very first time?)

Tahun (*Year*) : _____

--	--	--	--

4.5 Adakah firma anda dikehendaki untuk membuat penilaian projek oleh pihak agensi tersebut semasa firma anda membuat permohonan pinjaman/kredit?
(Did the agency requires your firm to perform project appraisal at the time when your firm made the loan/credit application?)

- Ya (*Yes*)
- Tidak (*No*)

4.6 Berapakah kadar faedah tahunan yang dikenakan?
 (What was the explicit annual rate of interest charged?)

- Percuma (*Free*)
- ≤ 10%
- > 10% ≤ 20%
- > 20% ≤ 30%
- > 30%

Bahagian (Section) 5

5.1 Selain daripada menggunakan pembiayaan daripada institusi kewangan atau agensi kerajaan, pernahkah firma anda mengguna atau mendapatkan pembiayaan daripada sumber-sumber lain seperti di bawah. Anda boleh menjawab lebih dari satu.
 (Beside using loan/credit from the financial institution or from governmental agencies, did your firm also utilise other sources of finance as enumerated below. You may tick more than one.)

- Tandakan (✓) pada kotak ini sekiranya tidak ada satu pun daripada sumber-sumber dibawah pernah digunakan dan sila terus ke Bahagian 6.
 (Please tick (✓) in the box if none of the following sources have been used and please proceed to Section 6)

-
- Wang simpanan sendiri (*Personal savings*)
 - Keuntungan perniagaan (*Profits saved*)
 - Pendahuluan/pinjaman daripada pengarah/pegawai syarikat (*Advances or borrowing from company directors/officers*)
 - Pinjam daripada peminjam wang (*Borrowing from moneylenders*)
 - Pinjam daripada saudara-mara atau rakan (*Borrowing from relatives or friends*)
 - Gunakan kredit pembekal (*Trade/suppliers' credit*)
 - Gunakan wang pendahuluan pelanggan (*Customers' advances/deposits*)
 - Lain-lain (*Others*)

Nyatakan (*Specify*): _____

5.2

Mengapakah firma anda menggunakan sumber-sumber pembiayaan diatas? Anda boleh menjawab lebih dari satu.

(Why did your firm utilise the above sources of financing? You may tick more than one)

- Mudah & senang diperolehi (*Easy access & general availability*)
- Perlukan wang dengan cepat (*Urgency in financial needs*)
- Gagal mendapatkan pinjaman dari institusi kewangan/agensi kerajaan (*Failure to secure financing from financial institution/governmental agencies*)
- Cagaran tidak diperlukan (*Less emphasis on collateral*)
- Prosidur yang mudah (*No bureaucratic procedures*)
- Pinjaman cepat dikeluarkan (*Fast delivery of credit*)
- Bayaran balik yg. fleksibel (*Flexible repayment scheme*)
- Kos pinjaman berpatutan (*Acceptable cost of loans*)
- Boleh meminjam berulang kali (*Opportunity to refinance*)
- Lain-lain (*Others*)

Nyatakan (*Specify*): _____

5.3

Berapa peratuskah kadar faedah yang dikenakan oleh sumber pembiayaan di atas? (*What was the rate of interest charged by the above source of fund?*)

- Percuma (*Free*) **Jika percuma, terus ke Bahagian 6 (*Go to Section 6*)**
- ≤ 10%
- > 10% ≤ 20%
- > 20% ≤ 30%
- > 30%

5.4

Adakah kadar faedah yang dikenakan berdasarkan _____? (*What is the basis/term for the rate charged?*)

- Tahun (*per year*)
- Bulan (*per month*)
- Minggu (*per week*)
- Hari (*per day*)
- Lain-lain (*others*)

Nyatakan (*Specify*): _____

Bahagian (Section) 6

6.1 Sila nyatakan kategori umur anda
(Please tell us your age group)

- Bawah 20 tahun (*Below 20 years old*)
- 20 - 29
- 30 - 49
- 50 -59
- 60 keatas (*60 and above*)

6.2 Sila nyatakan jantina anda
(Please indicate your sex)

- Lelaki (*Male*)
- Perempuan (*Female*)

6.3 Bangsa
(*Ethnicity*)

- Melayu (*Malay*)
- Cina (*Chinese*)
- India (*Indian*)
- Lain-lain (*Others*)

Nyatakan (*Specify*): _____

6.4 Sila nyatakan kelayakan akademik tertinggi anda.
(Please indicate your *highest academic qualifications*)

- Sekolah rendah (*Primary*)
- Sekolah menengah (*Secondary*)
- Lain-lain (*Others*)
- Ijazah sarjana muda (*Bachelor's degree*)
- Ijazah sarjana (*Master's degree*)
- Doktor falsafah (*Doctor of philosophy*)

6.5 Adakah anda mempunyai kelayakan profesyenal?
(Do you have any *professional qualifications*?)

- Ada (*Yes*) Nyatakan (*Specify*) _____
- Tiada (*No*)

Nota: Jika anda ingin memberikan cadangan atau saranan berkaitan dengan kajian ini, sila gunakan ruang dibawah.

(Note: If you have any comments and suggestions about this survey, please use the space provided below)

Cadangan atau Saranan (*Comments and Suggestions*)

Terima kasih kerana kerjasama dan sumbangan anda terhadap kajian ini. Sila masukkan dokumen kajian yang telah lengkap diisi ke dalam sampul surat beralamat yang telah disertakan dan poskan hari ini juga!

(Thank you for your cooperation and contribution to this survey. Please put the completed document into the self-addressed envelope and mail it today!)

PANDUAN MENGGISI SOALSELIDIK

- **SILA IKUT ARAHAN YANG MUDAH DENGAN TELITI**
- **SILA JAWAB SOALAN-SOALAN DENGAN SEBERAPA TEPAT YANG BOLEH**
- **MAJORITI SOALAN ADALAH BERBENTUK TANDAKAN (√) PADA KOTAK BERKAITAN ATAU BULATKAN NOMBOR SAHAJA**
- **TANDAKAN (√) SEKALI SAHAJA PADA SETIAP SOALAN KECUALI SOALAN MEMBENARKAN ANDA MENANDA LEBIH DARI SEKALI.**
- **SOALSELIDIK INI MENGANDUNGI 6 BAHAGIAN YANG RINGKAS**
- **SOALSELIDIK INI HANYA MENGAMBIL MASA TIDAK LEBIH DARI 20 MINIT UNTUK DIISI**

FILLING THE SURVEY QUESTIONNAIRE - A GUIDE

- *PLEASE FOLLOW THE EASY-TO-READ INSTRUCTIONS CAREFULLY*
- *PLEASE RESPOND TO THE QUESTIONS AS FRANKLY AS POSSIBLE*
- *MAJORITY OF QUESTIONS ARE EITHER TICK BOXES (√) OR CIRCLE NUMBERS*
- *TICK (√) ONLY ONCE FOR EACH QUESTION UNLESS THE QUESTION SPECIFIED OTHERWISE*
- *THIS QUESTIONNAIRE CONSISTS OF 6 SHORT SECTIONS*
- *IT WILL TAKE YOU NO MORE THAN 20 MINUTES TO COMPLETE*

LAIN-LAIN MAKLUMAT (OTHER INFORMATION)

- **Sekiranya anda memerlukan penerangan lanjut untuk mengisi soalselidik ini, sila hubungi no. tel 03-550-8566 atau kirimkan fax dengan menggunakan no. 03-559-8922.**
(If you have any difficulty in filling-up the questionnaire, please ring telephone no. 03-550-8566 or send fax to this no. 03-559-8922)
- **Sila alamatkan lain-lain pertanyaan kepada:**
(Please address all other enquiries to:)

Ketua
Pusat Pembangunan Usahawan Malaysia (MEDEC)
Institut Teknologi MARA
40450 Shah Alam
Selangor

PUSAT PEMBANGUNAN USAHA WAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

Tarikh: 18hb. March, 1996

Tuan/Puan

Kajiselidik Terhadap Amalan Penilaian Projek oleh Firma-Firma Pembuatan Bersaiz Kecil dan Sederhana (FPKS) Terpilih Di Malaysia

Berhubung dengan perkara di atas, sukacita dimaklumkan bahawa pihak MEDEC sedang menjalankan satu kajiselidik terhadap isu tersebut. Tujuan utama kajian ialah untuk mengumpulkan maklumat terhadap teknik-teknik penilaian projek yang telah atau sedang diamalkan oleh firma-firma pembuatan bersaiz kecil dan sederhana di Malaysia.

Penemuan daripada kajiselidik ini nanti akan dapat membantu pihak kami khususnya dalam mencadangkan teknik penilaian projek yang bersesuaian dengan sumber dan kepakaran yang dimiliki oleh FPKS. Penilaian projek adalah penting khususnya kepada pihak pengurusan firma sendiri kerana ia dapat membantu mereka membuat keputusan pelaburan dengan lebih yakin. Di samping itu, ia dapat juga membantu FPKS untuk mendapatkan bantuan kewangan dengan menyediakan maklumat-maklumat yang diperlukan oleh bakal pemiaya.

Firma anda telah terpilih untuk mewakili FPKS di lokasi perniagaan anda dengan mengikut kaedah persampelan bebas.

Oleh yang demikian, pihak kami amat berbangga sekiranya pihak tuan dapat meluangkan sedikit masa mengisi borang soalselidik yang disertakan ini serta mengembalikan semula borang soalselidik yang telah lengkap diisi ke dalam sampul surat yang telah disediakan sebelum atau pada 15hb. April, 1996. SETEM SUDAH DISEDIAKAN. Untuk memudahkan anda lagi soalselidik ini telah disediakan dalam dwibahasa. Kesemua respon yang anda berikan dalam borang soalselidik tersebut dijamin kerahsiaannya dan hanya akan digunakan bagi tujuan penyelidikan semata-mata.

Pihak kami memerlukan seberapa banyak firma yang telah terpilih memberikan respon masing-masing. Kejayaan penyelidikan amat bergantung kepada kerjasama anda.

Terima kasih sekali lagi di atas sumbangan dan kerjasama anda dalam menjayakan penyelidikan ini.

Yang benar,

Mohamed Dahlan Ibrahim
Ketua Penyelidik

PUSAT PEMBANGUNAN USAHAWAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

(ENGLISH TRANSLATION)

Date: 18 March, 1996

Dear Sir/Madam,

Questionnaire on Project Appraisal Practice by Small and Medium-Sized Manufacturing Companies (SMMCs) in Malaysia.

With regard to the above matter, we are conducting a study on the practice of project appraisal by the SMMCs in Malaysia. The main objective of the study is to examine the extent to which project appraisal methodologies and procedures has been adopted by the small and medium-sized companies in making their capital expenditure decisions.

The findings from this particular study will be used to assess the relevance of these practices for the SMMCs, especially in terms of their accessibility to banks and government agencies finances. It will also be used in formulating a practical approach towards project evaluation techniques that can be adopted by the SMMCs. Your firm will certainly benefit from these efforts.

Your firm has been chosen to represent SMMCs in your locality according to a stratified simple random sampling technique.

Therefore, we will be very grateful if you could respond to our questionnaire (enclosed) and return it back to us on or before 15 April, 1996. **NO STAMP IS NEEDED**. For your convenience, the questionnaire is printed in Malay and English languages. All information provided by you are strictly confidential and will only be used for the purpose of the study.

We need as many response as possible. The success of the study depends on your cooperation.

Thank you for participation and together we will make the present study a success.

Faithfully yours,

Mohamed Dahlan Ibrahim
Researcher.

PUSAT PEMBANGUNAN USAHAWAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

Tarikh: 18hb. April, 1996

Tuan/Puan

Kajiselidik Terhadap Amalan Penilaian Projek oleh Firma-Firma Pembuatan Bersaiz Kecil dan Sederhana (FPKS) Terpilih Di Malaysia

Berhubung dengan perkara di atas, kami ingin menarik perhatian tuan/puan sekali lagi terhadap kajiselidik yang sedang dilaksanakan oleh pihak MEDEC. Di dalam kesibukan tuan/puan menguruskan perniagaan, tuan/puan mungkin tidak teringat untuk memberikan respon terhadap borang soalselidik yang telah kami edarkan tempoh hari. Oleh kerana mustahaknya penyelidikan ini, pihak kami berharap agar pihak tuan/puan dapat meluangkan sedikit masa untuk mengisi borang soal-selidik tersebut dan mengembalikannya kepada pihak kami dengan kadar segera.

Sebagaimana yang telah dimaklumkan, pihak kami memerlukan seberapa banyak firma yang telah terpilih memberikan respon masing-masing supaya gambaran sebenar tentang masalah mendapatkan pembiayaan oleh FPKS dapat dianalisis. Kejayaan penyelidikan amat bergantung kepada kerjasama anda.

Untuk mengelakkan daripada pihak kami menghantar lagi pesanan selanjutnya, adalah diharapkan pihak tuan/puan dapat mengembalikan soalselidik yang telah lengkap sebelum atau pada 30hb. April, 1996.

Terima kasih di atas sumbangan dan kerjasama anda dalam menjayakan penyelidikan ini.

Yang benar,

Mohamed Dahlan Ibrahim
Ketua Penyelidik

PUSAT PEMBANGUNAN USAHAWAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

(ENGLISH TRANSLATION)

Date: 18 April, 1996

(Respondent's Address)

Dear Sir/Madam,

Questionnaire on Project Appraisal Practice by Small and Medium-Sized Manufacturing Companies (SMMCs) in Malaysia.

With regard to the above matter, we would like to call upon your attention to the study we are presently conducting. We understand that you are quite busy with daily chores and might have forgotten to respond to our questionnaire sent earlier. Due to its importance, we will appreciate very much if you could spare a moment of your precious time to fill-up the questionnaire.

As we have indicated earlier, we needed as many response as possible. The success of the study depends entirely on this.

Therefore, in order to avoid us sending you another reminder, we certainly hopeful that you can reply back our questionnaire on or before 30 April 1996. If you need a fresh questionnaire, please let us know.

Your cooperation in this study is very much appreciated.

Sincerely yours,

Mohamed Dahlan Ibrahim
Researcher

PUSAT PEMBANGUNAN USAHAWAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

Tarikh: 1hb May, 1996

Tuan/Puan

Kajiselidik Terhadap Amalan Penilaian Projek oleh Firma-Firma Pembuatan Bersaiz Kecil dan Sederhana (FPKS) Terpilih Di Malaysia

Sehingga ke tarikh hari ini, pihak kami masih belum lagi menerima borang soalselidk yang telah dilengkapi oleh pihak tuan. Bersama-sama ini disertakan satu lagi salinan soal selidik untuk kemudahan pihak tuan. Adalah diharapkan pihak tuan dapat mengembalikannya sebelum atau pada 10hb Mei, 1996 supaya kami dapat memproses dan menganalisis data dengan secepat mungkin.

Terima kasih di atas sumbangan dan kerjasama anda dalam menjayakan penyelidikan ini.

Yang benar,

Mohamed Dahlan Ibrahim
Ketua Penyelidik

PUSAT PEMBANGUNAN USAHAWAN MALAYSIA (MEDEC)

Aras 14, Bangunan Menara
Institut Teknologi MARA
40450 Shah Alam, Selangor

Tel: 03-5508566 Fax: 03-5598922

(ENGLISH TRANSLATION)

Date: 1 May, 1996

(Respondent's Address)

Dear Sir/Madam,

Questionnaire on Project Appraisal Practice by Small and Medium-Sized Manufacturing Companies (SMMCs) in Malaysia.

With regard to the above matter, we are quite concerned that until today, we have not yet received your the questionnaire that we sent to your company. We urgently request you to send back the completed questionnaire on or before 10 May 1996, so that we can proceed to processing the data. A set of questionnaire is enclosed.

Thank you for your concern to make the present study a success.

Sincerely yours,

Mohamed Dahlan Ibrahim
Researcher

Simplified Version of Questionnaire to Non-Respondents Via Telephone Survey

No Rujukan: _____

1. Bilakah anda menubuhkan perniagaan sekarang?
When did you first start your present business?

2. Berapa ramaikah bilangan pekerja anda?
How many employees does your firm employ currently?

1 hingga 25

26 hingga 50

51 hingga 75

76 hingga 100

3. Siapakah yang memegang sebahagian besar daripada ekuiti syarikat anda?
Who owns majority of the company's equity?

Bumiputera Non-bumiputera

4. Berapakah anggaran jualan syarikat setahun?
What is your firm's average annual sales turnover?

RM 1 juta (*million*) atau kurang (*or less*)

>RM 1 juta (*million*) hingga RM 1.5 juta (*million*)

>RM 1.5 juta (*million*) hingga RM 2 juta (*million*)

>RM 2 juta (*million*) hingga RM 2.5 juta (*million*)

>RM 2.5 juta (*million*) hingga RM 3 juta (*million*)

>RM 3 juta (*million*) atau lebih (*or more*)

5. Pernahkah syarikat anda membuat penilaian projek?
Have your firm adopted project appraisal practice?

Pernah (*Yes*) Tidak pernah (*No*)

6. Sekiranya pernah, apakah tujuan penilaian tersebut?
If yes, what is the purpose of the appraisal?
- Untuk memohon pinjaman (*to borrow money*)
- Untuk menganalisis risiko project (*to analyse the risk*)
- Untuk menganalisis daya maju project (*to ascertain viability*)
- Untuk menyaring projek (*to screen and select project*)
- Untuk membantu membuat keputusan (*to help decision-making*)
- Untuk panduan projek (*to guide implementation process*)
7. Pernahkah anda menghadiri kursus tentang penilaian projek?
Have you attended project appraisal training course before?
- Ya (*Yes*) Tidak (*No*)
8. Adakah anda mempunyai akaun syarikat di bank?
Do you have and account with any banks?
- Ada (*Yes*) Tiada (*No*)
9. Adakah anda mendapat pembiayaan kredit daripada bank?
Do you get any loans/credits from banks?
- Ada (*Yes*) Tiada (*No*)
10. Pernahkah anda menggunakan pembiayaan dari sumber informal?
Have you used any informal source of funds?
- Pernah (*Yes*) Tidak pernah (*No*)

SURVEY RESULTS - SINGLE FREQUENCY TABLES**SECTION 1: BACKGROUND OF THE FIRM**

Table 1.1. Size of Firm

<i>Size of firm</i>	<i>Frequency</i>	<i>%</i>
Small (1 to 50 employees)	78	57.8
Medium (51 to 100 employees)	57	42.2
<i>Total</i>	135	100.0

Table 1.2: Ownership Structure

<i>Ownership structure</i>	<i>Frequency</i>	<i>%</i>
100 % bumi owned	35	25.9
Mixed with bumi majority	19	14.1
100 % non-bumi, inclusive foreign owned	50	37.0
Mixed with non-bumi majority	31	23.0
<i>Total</i>	135	100.0

Table 1.3: Size of employment

<i>Size of employment</i>	<i>Frequency</i>	<i>%</i>
1 to 25 (small-sized firms)	41	30.4
26 to 50 (small-sized firms)	37	27.4
51 to 75 (medium-sized firms)	27	20.0
76 to 100 (medium-sized firms)	30	22.2
<i>Total</i>	135	100.0

Table 1.4: Age of the firm

<i>Age of the firm</i>	<i>Frequency</i>	<i>%</i>
1 to 5 years	28	20.7
6 to 10 years	37	27.4
11 to 15 years	29	21.5
16 to 20 years	24	17.8
21 years and more	17	12.6
<i>Total</i>	135	100.0

Table 1.5: Type of business location

<i>Business location</i>	<i>Frequency</i>	<i>%</i>
Urban industrial estate	86	63.7
Rural area/industries	35	25.9
Urban business centre/shopping complex	7	5.2
Residential business area	7	5.2
<i>Total</i>	135	100.0

Table 1.6: Type of business registration

<i>Business registration</i>	<i>Frequency</i>	<i>%</i>
Sole proprietorship	8	5.9
Partnership	7	5.2
Private limited company (subsidiary)	45	33.3
Private limited (non-subsidiary)	75	55.6
<i>Total</i>	135	100.0

Table 1.7: Type of business location

<i>Business location</i>	<i>Frequency</i>	<i>%</i>
Urban industrial estate	86	63.7
Rural area/industries	35	25.9
Urban business centre/shopping complex	7	5.2
Residential business area	7	5.2
<i>Total</i>	135	100.0

Table 1.8: Type of market classification

<i>Market classification</i>	<i>Frequency</i>	<i>%</i>
Local markets only	48	35.6
Export markets only	9	6.7
Both local and export markets	78	57.8
<i>Total</i>	135	100.0

Table 1.9: Type of industry classification

<i>SIC code</i>	<i>Business location</i>	<i>Frequency</i>	<i>%</i>
381-383	Electrical & electronic products and machinery's	17	12.6
311	Food products/manufacturing	18	13.3
321-322	Textile and apparel	8	5.9
331-332	Wood and wood products	7	5.2
355	Rubber-based products	6	4.4
371-372	Iron and steel and metal products	20	14.8
369	Non-metallic mineral products	9	6.7
351-356	Chemicals, petrochemicals and plastic products	26	19.3
390	Other manufactured products	24	17.8
	<i>Total</i>	135	100.0

Table 1.10: Average annual sales turnover

<i>Average sales turnover</i>	<i>Frequency</i>	<i>%</i>
RM 1 million or less	18	13.3
>RM 1 million to RM 1.5 million	18	13.3
>RM 1.5 million to RM 2 million	12	8.9
>RM 2 million to RM 2.5 million	12	8.9
>RM 2.5 million to RM 3 million	12	8.9
>RM 3 million and more	63	46.7
<i>Total</i>	135	100.0

SECTION 2: INFORMATION ON PROJECT APPRAISAL PRACTICES

Table 2.1: Aware about project appraisal?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	106	78.5
No	29	21.5
<i>Total</i>	135	100.0

Table 2.2: Aware & actually perform project appraisal?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	88	65.2
No	47	34.8
<i>Total</i>	135	100.0

Table 2.3: Do project appraisal as loan requirement?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	45	51.1
No	43	48.9
<i>Total</i>	88	100.0

Table 2.4: Types of appraisal (n=88)

<i>Types of appraisal</i>	<i>Frequency</i>	<i>%</i>
All of the following	49	55.7
Financial appraisal	38	43.2
Commercial appraisal	32	36.4
Technical appraisal	30	34.1

Table 2.5: Who did the appraisal? (n=88)

<i>Who did the appraisal</i>	<i>Frequency</i>	<i>%</i>
Internal management	60	68.2
The owner himself	26	29.5
Accounting firm	16	18.2
In-house consultant	15	17.0
External consultant	13	14.8
Government's consultant	1	1.1

Table 2.6: Reasons for appraisal (n=88)

<i>Reasons</i>	<i>Frequency</i>	<i>%</i>
To ascertain the risk of the project	47	53.4
To ascertain the viability of the project	75	85.2
To rank and select projects	16	18.2
To help management make decision	59	67.0
To guide the implementation process	29	33.0

Table 2.7: Will do project appraisal even not borrowing?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	76	86.4
No	12	13.6
<i>Total</i>	88	100.0

Table 2.8: Methods of appraisal used (n=88)

Methods of appraisal	Always used (%)	Very often used (%)	Often used (%)	Used occasionally (%)	Never used (%)
Payback period	50.0	26.1	4.5	11.4	8.0
Accounting rate of return	27.3	35.2	11.4	14.8	11.4
Net present value	27.3	29.5	13.6	15.9	13.6
Internal rate of return	23.9	29.5	15.9	14.8	15.9
Sensitivity analysis	20.5	19.3	22.7	23.9	13.6
Qualitative measures	10.2	22.7	21.6	27.3	18.2

Table 2.9: Usage of software packages?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	32	36.4
No	56	63.6
<i>Total</i>	88	100.0

Table 2.10: Project appraisal methods too complicated?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	33	37.5
No	55	62.5
<i>Total</i>	88	100.0

Table 2.11: Project appraisal documented?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	75	85.2
No	13	14.8
<i>Total</i>	88	100.0

Table 2.12: Information contained in PA document (n=75)

<i>Types of information</i>	<i>Frequency</i>	<i>%</i>
Financial analysis	69	92.0
Marketing analysis	63	84.0
Technical/Operational analysis	60	80.0
Project's location	58	77.3
Company's history & background	57	76.0
Key owner's/shareholders background	51	68.0
Management's structure	48	64.0
Company's strength	37	49.3
Description of the proposed collateral	34	45.3
Limitations of the company	32	42.1
Others	1	1.3

Table 2.13: Extent information considered by lender (n=75)

<i>Extent information considered</i>	<i>Frequency</i>	<i>%</i>
All information are considered	18	24.0
Most of it	42	56.0
Undecided/not sure	10	13.3
A little of it	4	5.3
Not considered at all	1	1.3

Table 2.14: Reasons for not doing project appraisal (n=47)

<i>Reasons</i>	<i>Frequency</i>	<i>%</i>
Borrowing is not required	24	51.1
Lack of knowledge & experience	24	51.1
Amount of investment is too small	20	42.6
PA not required by lender	14	29.8
Too expensive & time consuming	12	25.5
Lack of time & energy	7	5.2
Not practical for SMIs	2	4.3
Others	2	4.3

SECTION 3: FIRM-BANK RELATIONSHIPS

Table 3.1: Account relationship with banks?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	134	99.2
No	1	0.8
<i>Total</i>	135	100.0

Table 3.2: Have multiple accounts?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Have more than one account	110	81.5
Have single account only	25	18.5
<i>Total</i>	135	100.0

Table 3.3: Multiple accounts with a single bank?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
With a single bank	25	22.7
With different banks	85	77.3
<i>Total</i>	110	100.0

Table 3.4: Age of account relationship with banks

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
1 to 5 years	32	23.7
6 to 10 years	36	26.7
11 to 15 years	31	23.0
16 to 20 years	20	14.8
21 years and more	16	11.9
<i>Total</i>	135	100.0

Table 3.5: Get credit from banks?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	112	83.0
No	23	17.0
<i>Total</i>	135	100.0

Table 3.6: Types of credit given (*n=112*)

<i>Types of credit</i>	<i>Frequency</i>	<i>%</i>
Overdraft	99	88.4
Term loan	67	59.8
Working capital loan	56	50.0
Hire-purchase	49	43.8
Import-export financing	37	33.0
Others	13	11.6

Table 3.7: Get credit from banks where firms have account(s) with?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	100	89.3
No	12	10.7
<i>Total</i>	112	100.0

Table 3.8: Frequency of application before it is approved for the first time.

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
First time application approved	82	73.2
After 2 to 3 times	27	24.1
4 times and more	3	2.7
<i>Total</i>	112	100.0

Table 3.9: Age of credit relationship with banks

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
1 to 5 years	36	32.1
6 to 10 years	31	27.7
11 to 15 years	25	22.3
16 to 20 years	13	11.6
21 years and more	7	6.3
<i>Total</i>	112	100.0

Table 3.10: PA was required by lender?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
PA was required	48	42.9
PA was not required	64	57.1
<i>Total</i>	112	100.0

Table 3.10b: Rate of interest charged

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Interest free	0	0.0
Less than or equal to 10%	66	58.9
More than 10% but less than or equal to 20%	46	41.1
More than 20% but less than or equal to 30%	0	0.0
More than 30%	0	0.0
<i>Total</i>	112	100.0

Table 3.11: Utilise other services?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	78	57.8
No	57	42.2
<i>Total</i>	135	100.0

Table 3.12: Know the bank manager personally?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	87	64.4
No	48	35.6
<i>Total</i>	135	100.0

Table 3.13: Rating on bank services

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Excellent	13	9.6
Good	55	40.7
Satisfactory	58	43.0
Poor	7	5.2
Very poor	2	1.5
<i>Total</i>	135	100.0

SECTION 4: CREDIT FROM GOVERNMENTAL AGENCIES

Table 4.1: Get credit from governments' agencies?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	21	15.6
No	114	84.4
<i>Total</i>	135	100.0

Table 4.2: Credit from which governments' agencies?

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
MARA	6	28.6
Ministry of Youth & Sports	4	19.0
PUNB	2	9.5
Others	9	42.9
<i>Total</i>	21	100.0

Table 4.3: Frequency of application before it is approved for the first time.

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
First time application approved	14	66.7
After 2 to 3 times	7	33.3
4 times and more	0	0.0
<i>Total</i>	21	100.0

Table 4.4: Age of credit relationship with govt. agencies

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
1 to 5 years	11	52.4
6 to 10 years	7	33.3
11 to 15 years	3	14.3
16 to 20 years	0	0.0
21 years and more	0	0.0
<i>Total</i>	21	100.0

Table 4.5: PA was required by govt. agency

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
PA was required	10	47.6
PA was not required	11	52.4
<i>Total</i>	21	100.0

Table 4.6: Rate of interest charged

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Interest free	5	23.8
Less than or equal to 10%	16	76.2
More than 10% but less than or equal to 20%	0	0.0
More than 20% but less than or equal to 30%	0	0.0
More than 30%	0	0.0
<i>Total</i>	21	100.0

SECTION 5: INFORMAL SOURCES OF FINANCE

Table 5.1: Use informal sources

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Yes	112	83.0
No	23	17.0
<i>Total</i>	135	100.0

Table 5.2: Types of informal sources (*n=112*)

<i>Types of informal sources</i>	<i>Frequency</i>	<i>%</i>
Profits saved	82	73.2
Trade or suppliers' credit	73	65.2
Advances/loan from company directors/officers	44	39.3
Personal savings	41	36.6
Customers' advances or deposits	30	26.8
Loan from relatives & friends	25	22.3
Loan from moneylenders	11	9.8
Others	6	5.4

Table 5.3: Reasons for using informal sources (*n=112*)

<i>Reasons</i>	<i>Frequency</i>	<i>%</i>
Easy access and general availability	82	73.2
Less emphasis on collateral	70	62.5
Urgency in financial needs	68	60.7
No bureaucratic procedures	52	46.4
Flexible repayment scheme	33	29.5
Fail to secure financing from banks & govt. agencies	28	25.0
Fast delivery of credit	24	21.4
Acceptable cost of loans	17	15.2
Opportunity to refinance	12	10.7
Other reasons	2	1.8

Table 5.4: Rate of interest charged

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
Interest free	79	70.5
Less than or equal to 10%	23	20.5
More than 10% but less than or equal to 20%	7	6.3
More than 20% but less than or equal to 30%	2	1.8
More than 30%	1	0.9
<i>Total</i>	112	100.0

Table 5.4: Basis for rate of interest charged

<i>Value Label</i>	<i>Frequency</i>	<i>%</i>
per year	14	42.4
per month	15	45.5
per day	2	6.1
others	2	6.1
<i>Total</i>	33	100.0

SECTION 6: BACKGROUND OF RESPONDENTS

Table 6.1: Age of respondents (Entrepreneurs)

<i>Age group</i>	<i>Frequency</i>	<i>%</i>
Below 20 years old	1	0.7
20 to 29 years old	15	11.1
30 to 49 years old	93	68.9
50 to 59 years old	25	18.5
60 years old and above	1	0.7
<i>Total</i>	135	100.0

Table 6.2: Sex of respondents

<i>Sex</i>	<i>Frequency</i>	<i>%</i>
Male	99	73.3
Female	36	26.7
<i>Total</i>	135	100.0

Table 6.3: Ethnic groups

<i>Ethnic groups</i>	<i>Frequency</i>	<i>%</i>
Malay	49	36.3
Chinese	73	54.1
Indian	9	6.7
Others (<i>include foreigners</i>)	4	3.0
<i>Total</i>	135	100.0

Table 6.4: Highest qualification

<i>Level of education</i>	<i>Frequency</i>	<i>%</i>
Primary education	6	4.4
Secondary	46	34.1
Diplomas	21	15.5
Bachelors degree	46	34.1
Masters' degree	12	8.9
Ph.D.	4	3.0
<i>Total</i>	135	100.0

Table 6.5: Have professional qualification

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	49	36.3
No	86	63.7
<i>Total</i>	135	100.0

Table 6.6: Have attended business mgmt. courses

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	86	63.7
No	49	36.3
<i>Total</i>	135	100.0

Table 6.7: Have attended formal training on project appraisal

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	29	21.5
No	107	78.5
<i>Total</i>	135	100.0

Table 6.8: Wanted to attend formal training

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	89	83.2
No	18	16.8
<i>Total</i>	107	100.0

Table 6.9: Will attend formal training even intend not to borrow

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	88	82.2
No	19	17.8
<i>Total</i>	107	100.0

Table 6.10: Have done part-time business before

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	29	21.5
No	106	78.5
<i>Total</i>	135	100.0

Table 6.11: Have worked in other organisation before

<i>Value label</i>	<i>Frequency</i>	<i>%</i>
Yes	82	60.7
No	53	39.3
<i>Total</i>	107	100.0

Table 6.12: Business experience

<i>Length in business</i>	<i>Frequency</i>	<i>%</i>
1 to 5 years	45	33.3
6 to 10 years	36	26.7
11 to 15 years	23	17.0
15 to 20 years	22	16.3
21 years and more	9	6.7
<i>Total</i>	135	100.0

SUMMARY OF DESCRIPTIVE STATISTICS FOR KEY VARIABLES

Variable' name	Description of variable	N	Mean	S.E mean	Std. dev.
F_SIZE	<i>Size of company</i>	135	1.42	0.04	0.50
OWNSTRUC	<i>Ownership Structure</i>	135	1.60	0.04	0.49
AGEFIRM	<i>Age of company</i>	135	11.99	0.66	7.67
BUSLOCA	<i>Business location</i>	135	1.52	0.07	0.82
REGTYPE	<i>Entity registration</i>	135	3.39	0.07	0.84
MKTCLASS	<i>Market classification</i>	135	2.22	0.08	0.94
INDCLASS	<i>Industry calssification</i>	135	6.04	0.30	3.52
ANNSALES	<i>Annual sales turnover</i>	135	4.27	0.17	1.93
AWAREPA	<i>Awareness of project appraisal</i>	135	1.21	0.04	0.41
PURPOSE	<i>Purpose of appraisal</i>	88	1.49	0.02	0.22
TYPEPA	<i>Types of appraisal</i>	88	4.16	0.31	3.56
METHOD	<i>Methods of appraisal</i>	88	4.86	0.27	3.10
DOCPA	<i>Project appraisal documented</i>	88	3.88	0.32	3.77
INFOTYPE	<i>Type of info. documented</i>	88	4.83	0.34	3.93
NEEDPA_B	<i>PA required by banks</i>	112	1.57	0.05	0.50
NEEDPA_G	<i>PA required by goverments agency</i>	21	1.52	0.11	0.51
ACCSHIP	<i>Existence of account relationship</i>	135	1.01	0.01	0.09
S_MACC	<i>Single or multiple accounts</i>	134	1.19	0.03	0.39
S_MBANK	<i>Single or multiple banks</i>	109	1.22	0.04	0.42
AGEACC2	<i>Length of account relationship</i>	112	11.48	0.91	10.62
CRTYPE	<i>Types of credit</i>	112	1.52	0.02	0.20
CRSAME_B	<i>Credit from house bank</i>	112	1.11	0.03	0.31
AGECRI_B	<i>Length of credit relationship</i>	112	9.53	0.61	6.48
OTHER_B	<i>Non-financial relationships</i>	135	1.42	0.04	0.50
KNOW_B	<i>Personalised relationship</i>	135	1.36	0.04	0.48
AGE_R	<i>Age of entrepreneur</i>	135	3.07	0.05	0.59
GENDER	<i>Gender</i>	135	1.27	0.04	0.44
ETHNIC	<i>Ethnic groups</i>	135	1.76	0.06	0.70
EDUCATE	<i>Level of education</i>	135	3.18	0.10	1.21
PROF_Q	<i>Professional qualifications</i>	135	1.64	0.04	0.48
TRAINED	<i>Business management training</i>	135	1.36	0.04	0.48
PATRAN	<i>Project appraisal training</i>	135	1.79	0.04	0.41
WORKEXP	<i>Previous working experience</i>	135	1.39	0.04	0.49
BUSEXP2	<i>Business experience</i>	135	2.36	0.11	1.28
ADOPTPA	<i>Adopt project appraisal</i>	88	1.35	0.04	0.48
ACCESS_B	<i>Access to banks finance</i>	112	1.17	0.03	0.38
ACCESS_G	<i>Access to govt. finance</i>	21	1.84	0.03	0.36
INFORM_S	<i>Use of informal sources</i>	112	1.17	0.30	0.38

CORRESPONDING TABLES FOR CHAPTER 7**Table 7.1: Size of company by Size of employment***

Size of employment	1 to 25	26 to 50	51 to 75	76 to 100	Total
Size of company	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Small-sized	41 (52.6)	37 (47.4)	- (0.0)	- (0.0)	78 (57.8)
Medium-sized	- (0.0)	- (0.0)	27 (47.7)	30 (52.6)	57 (42.2)
Total	41 (30.4)	37 (27.4)	27 (20.0)	30 (22.2)	135 (100.0)

(Percentage in parentheses) * Statistically significant at 0.0001 level

Table 7.2: Size of company by Ownership structure

Ownership structure	100% bumiputera	Mixed with bumi majority	100% non-bumiputera	Mixed with non-bumi majority	Total
Size of company	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Small	26 (33.3)	8 (10.3)	26 (33.3)	18 (23.1)	78 (57.8)
Medium	9 (15.8)	11 (19.3)	24 (42.1)	13 (22.8)	57 (42.2)
Total	35 (26.0)	19 (14.0)	50 (37.0)	31 (23.0)	135 (100.0)

(Percentage in parentheses)

Table 7.3: Size of company by Annual sales turnover*

Annual sales turnover (RM) ^a	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM 2 million	>RM 2 million to RM 2.5 million	>RM 2.5 million to RM 3 million	>RM 3 million and more	Total
Size of company	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
Small	17 (21.8)	15 (19.2)	11 (14.1)	8 (10.3)	5 (7.4)	22 (28.2)	78 (57.8)
Medium	1 (1.8)	3 (5.3)	1 (1.8)	4 (7.0)	7 (12.3)	41 (71.9)	57 (42.2)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (47.7)	135 (100.0)

^a RM = Ringgit Malaysia (Exchange rate: 1 pound is equivalent to RM5.00)

* Statistically significant at 0.0001 level

(Percentage in parentheses)

Table 7.4: Age of company by Size of company

Size of company	Small ^b		Medium ^c		Total	
Age of company ^a	Frequency	%	Frequency	%	Frequency	%
1 - 5 yrs	18	23.1	10	17.5	28	20.7
6 - 10 yrs	20	25.6	17	29.8	37	27.4
11 - 15 yrs	21	26.9	8	14.0	29	21.5
16 - 20 yrs	14	17.9	10	17.5	24	17.8
21 yrs & over	5	6.4	12	21.1	17	12.6
Total	78	57.8	57	42.2	135	100.0

^a The mean for age for all companies = 11.99 years.

^b The mean for small-sized companies = 10.98 years.

^c The mean for medium-sized companies = 13.36 years.

Table 7.5: Age of company by Ownership structure

Ownership structure	Bumi-controlled companies ^b		Nonbumi-controlled companies ^c		Total	
Age of company ^a	Frequency	%	Frequency	%	Frequency	%
1 - 5 yrs	15	27.8	13	16.0	28	20.7
6 - 10 yrs	17	31.5	20	24.7	37	27.4
11 - 15 yrs	11	20.4	18	22.2	29	21.5
16 - 20 yrs	9	16.7	15	18.5	24	17.8
21 yrs & over	2	3.7	15	18.5	17	12.6
Total	78	57.8	57	42.2	135	100.0

^a The mean for age for all companies = 11.99 years

^b The mean for bumi-controlled companies = 9.53 years.

^c The mean for nonbumi-controlled companies = 13.62 years.

Table 7.6: Age of company by Annual sales turnover

Annual sales turnover (RM) ^a	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM2 million	>RM2 million to RM2.5 million	>RM2.5 million to RM3 million	>RM3 million and more	Total
Age of company ^b	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
1 - 5 yrs	6 (21.4)	4 (14.3)	4 (14.3)	2 (7.1)	- (0.0)	12 (42.9)	28 (20.7)
6 - 10 yrs	5 (13.5)	7 (18.9)	4 (10.8)	3 (8.1)	3 (8.1)	15 (40.5)	37 (27.4)
11 - 15 yrs	5 (17.2)	3 (10.3)	3 (10.3)	2 (6.9)	4 (13.8)	12 (41.4)	29 (21.5)
16 - 20 yrs	2 (8.3)	4 (16.7)	1 (4.2)	4 (16.7)	2 (8.3)	11 (45.8)	24 (17.8)
21 yrs & over	- (0.0)	- (0.0)	- (0.0)	1 (5.9)	3 (17.6)	13 (76.5)	17 (12.6)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

^a RM = Ringgit Malaysia (Exchange rate: 1 pound is equivalent to RM5.00)

^b Mean = 11.99 years

(Percentage in parentheses)

Table 7.7: Ownership Structure by Annual sales turnover*

Annual sales turnover (RM) ^a	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM2 million	>RM2 million to RM2.5 million	>RM2.5 million to RM3 million	>RM3 million and more	Total
Ownership structure	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Bumi-controlled	11 (20.4)	11 (20.4)	7 (13.0)	4 (7.4)	3 (5.6)	18 (33.3)	54 (40.0)
Nonbumi-controlled	7 (8.6)	7 (8.6)	5 (6.2)	8 (9.9)	9 (11.1)	45 (55.6)	81 (60.0)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

^a RM = Ringgit Malaysia (Exchange rate: 1 sterling pound is equivalent to RM5.00)
(Percentage in parentheses)

* Statistically significance at 0.05 level

Table 7.8: Business location by Size of company

Size of company Business location	Small		Medium		Total	
	<i>Frequency</i>	%	<i>Frequency</i>	%	<i>Frequency</i>	%
Urban industrial estates	45	57.7	41	71.9	86	63.7
Rural industrial sites	21	27.9	14	24.6	35	25.9
Urban business centre	7	9.0	-	-	7	5.2
Residential business area	5	7.4	2	3.5	7	5.2
Total	78	57.8	57	42.2	135	100.0

Table 7.9: Business location by Ownership Structure

Ownership structure Business location	Bumi-controlled companies		Nonbumi-controlled companies		Total	
	<i>Frequency</i>	%	<i>Frequency</i>	%	<i>Frequency</i>	%
Urban industrial estates	35	64.8	51	63.0	86	63.7
Rural industrial sites	12	22.2	23	28.4	35	25.9
Urban business centre	5	9.3	2	2.5	7	5.2
Residential business area	2	3.7	5	6.2	7	5.2
Total	54	40.0	81	60.0	135	100.0

Table 7.10: Business location by Age of company

Age of company	1 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 yrs and more	Total
Business location	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Urban industrial estates	20 (71.4)	22 (59.5)	13 (44.8)	18 (75.0)	13 (77.5)	86 (63.7)
Rural industrial sites	6 (21.4)	11 (29.7)	13 (44.8)	2 (8.3)	3 (17.6)	35 (25.9)
Urban business centre	1 (3.6)	2 (5.4)	2 (7.9)	2 (8.3)	- (0.0)	7 (5.2)
Residential business area	1 (3.6)	2 (5.4)	1 (3.4)	2 (8.3)	1 (5.9)	7 (5.2)
Total	28 (20.7)	37 (27.4)	29 (21.5)	24 (17.8)	17 (12.6)	135 (100.0)

(Percentage in parentheses)

Table 7.11: Type of entity registration by Size of company*

Size of company	Small		Medium		Total	
Type of registration	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Sole proprietorship	7	9.0	1	1.8	8	5.2
Partnership	6	7.7	1	1.8	7	5.2
Private limited (subsidiary)	18	23.1	27	47.4	45	33.3
Private limited (non-subsidiary)	47	60.3	28	49.1	75	55.6
Total	78	57.8	57	42.2	135	100.0

* Statistically significant at 0.01 level

Table 7.12: Type of entity registration by Ownership structure*

Ownership Structure	Bumi-controlled companies		Nonbumi-controlled companies		Total	
Type of registration	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Sole proprietorship	7	13.0	1	1.2	8	5.2
Partnership	3	5.6	4	4.9	7	5.2
Private limited (subsidiary)	16	29.6	29	35.8	45	33.3
Private limited (non-subsidiary)	28	51.8	47	58.1	75	55.6
Total	54	40.0	81	60.0	135	100.0

* Statistically significant at 0.05 level

Table 7.13: Type of entity registration by Age of company*

Age of company	1 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 yrs and more	Total
Type of registration	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Sole proprietorship	3 (10.7)	1 (2.7)	3 (10.3)	1 (4.2)	- (0.0)	8 (5.9)
Partnership	- (0.0)	3 (8.1)	3 (10.3)	1 (4.2)	- (0.0)	7 (5.2)
Private limited (subsidiary)	15 (53.6)	9 (24.3)	4 (13.8)	7 (29.2)	10 (58.8)	45 (33.3)
Private limited (non-subsidiary)	10 (35.7)	24 (64.9)	19 (65.5)	15 (62.5)	7 (41.2)	75 (55.6)
Total	28 (20.7)	37 (27.4)	29 (21.5)	24 (17.8)	17 (12.6)	135 (100.0)

(Percentage in parentheses) * Statistically significant at 0.01 level

Table 7.14: Type of market classification by Size of company*

Size of company	Small		Medium		Total	
	<i>Frequency</i>	%	<i>Frequency</i>	%	<i>Frequency</i>	%
Local markets only	38	48.7	10	17.5	48	35.6
Export markets only	3	3.8	6	10.5	9	6.7
Both markets	37	47.4	41	71.9	78	57.8
Total	78	57.8	57	42.2	135	100.0

* Statistically significant at 0.001 level

Table 7.15: Type of market classification by Ownership structure*

Ownership structure	Bumi-controlled companies		Nonbumi controlled companies		Total	
	<i>Frequency</i>	%	<i>Frequency</i>	%	<i>Frequency</i>	%
Local markets only	29	60.4	19	23.5	48	35.6
Export markets only	-	0.0	9	11.1	9	6.7
Both markets	25	39.6	53	65.4	78	57.8
Total	54	40.0	81	60.0	135	100.0

* Statistically significant at 0.001 level

Table 7.16: Type of market classification by Age of company

Age of company	1 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 yrs and more	Total
Market classification	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Local markets only	12 (42.9)	10 (27.0)	13 (44.8)	7 (29.2)	6 (35.3)	48 (35.6)
Export markets only	2 (7.1)	3 (8.1)	1 (3.4)	2 (8.3)	1 (5.9)	9 (6.7)
Both markets	14 (50.0)	24 (64.9)	15 (51.7)	15 (62.5)	10 (58.8)	78 (57.8)
Total	28 (20.7)	37 (27.4)	29 (21.5)	24 (17.8)	17 (12.6)	135 (100.0)

(Percentage in parentheses)

Table 7.17: Type of industry classification by Size of company

SIC Code	Size of company	Small		Medium		Total	
	<i>Industry classification</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
381-383	Electrical, electronic products & machinery	9	11.5	8	14.0	17	12.6
311	Food products/manufacturing	11	14.1	7	12.3	18	13.3
321-322	Textile and apparel	7	9.0	1	1.8	8	5.9
331-332	Wood and wood products	4	5.1	3	5.3	7	5.2
355	Rubber-based products	3	3.8	3	5.3	6	4.4
371-372	Iron & steel and metal products	7	9.0	13	22.8	20	14.8
369	Non-metallic mineral products	8	10.3	1	1.8	9	6.7
351-356	Chemicals, petrochemicals and plastic products	16	20.5	10	17.5	26	19.3
390	Other manufactured products	13	16.7	11	19.3	24	17.8
	Total	78	57.8	57	42.2	135	100.0

Table 7.18: Accessibility to banks by Annual sales turnover*

Annual sales turnover (RM) ^a	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM 2 million	>RM 2 million to RM 2.5 million	>RM 2.5 million to RM 3 million	>RM 3 million and more	Total
Accessibility to banks	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Have access	7 (6.3)	13 (11.6)	11 (9.8)	11 (9.8)	12 (10.7)	58 (51.8)	112 (83.0)
No access	11 (47.8)	5 (21.7)	1 (4.3)	1 (4.3)	- (0.0)	5 (21.7)	23 (17.0)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

^a RM = Ringgit Malaysia (Exchange rate: 1 sterling pound is equivalent to RM5.00)

(Percentage in parentheses.) * Statistically significant at 0.0001 level

Table 7.19: Accessibility to banks by Type of entity registration*

Type of entity registration	Sole proprietor	Partnerships	Private limited (subsidiary)	Private limited (non-subsidiary)	Total
Accessibility to banks	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Have access	1 (0.9)	6 (5.4)	40 (35.7)	65 (58.0)	112 (83.0)
No access	7 (30.4)	1 (4.3)	5 (21.7)	10 (43.5)	23 (17.0)
Total	8 (5.9)	7 (5.2)	45 (33.3)	75 (55.6)	135 (100.0)

(Percentage in parentheses) * Statistically significant at 0.0001 level

Table 7.20: Accessibility to banks by Market classification*

Market classification	Local markets only	Export markets only	Both local and export markets	Total
Accessibility to banks	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Have access	36 (32.1)	6 (5.4)	70 (62.5)	112 (83.0)
No access	12 (52.2)	3 (13.0)	8 (34.8)	23 (17.0)
Total	48 (35.6)	9 (6.7)	78 (57.8)	135 (100.0)

(Percentage in parentheses) * Statistically significant at 0.05 level

Table 7.21: Accessibility to banks by Size of company*

Size of company	Small		Medium		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Have access	60	76.9	52	91.2	112	83.0
No access	18	23.1	5	8.8	23	17.0
Total	78	57.8	57	42.2	135	100.0

* Statistically significant at 0.05 level

Table 7.22: Accessibility to government finance by Size of company*

Size of company	Small		Medium		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Have access	18	85.7	3	14.3	21	15.6
No access	60	52.6	54	47.4	114	84.4
Total	78	57.8	57	42.2	135	100.0

* Statistically significant at 0.01 level

Table 7.23: Accessibility to government finance by Ownership structure*

Ownership structure	Bumi-controlled companies		Nonbumi controlled companies		Total	
	Frequency	%	Frequency	%	Frequency	%
Have access	17	81.0	4	19.0	21	15.6
No access	37	32.5	77	67.5	114	84.4
Total	54	40.0	81	60.0	135	100.0

* Statistically significant at 0.0001 level

Table 7.24: Accessibility to government finance by Type of entity registration*

Type of entity registration	Sole proprietor	Partnerships	Private limited (subsidiary)	Private limited (non-subsidiary)	Total
Accessibility to banks	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Have access	4 (19.0)	1 (4.8)	5 (23.8)	11 (52.4)	21 (15.6)
No access	4 (3.5)	6 (5.3)	40 (35.1)	64 (56.1)	114 (84.4)
Total	8 (5.9)	7 (5.2)	45 (33.3)	75 (55.6)	135 (100.0)

(Percentage in parentheses) * Statistically significant at 0.05 level

Table 7.25: Accessibility to government finance by Annual sales turnover*

Annual sales turnover (RM) ^a	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM2 million	>RM2 million to RM2.5 million	>RM2.5 million to RM3 million	>RM3 million and more	Total
Accessibility to govt. finance	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Have access	6 (28.6)	4 (19.0)	5 (23.8)	1 (4.8)	1 (4.8)	4 (19.0)	21 (15.6)
No access	12 (10.5)	14 (12.3)	7 (6.1)	11 (9.6)	11 (9.6)	59 (51.8)	114 (84.4)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

^a RM = Ringgit Malaysia (Exchange rate: 1 sterling pound is equivalent to RM5.00)

(Percentage in parentheses.) * Statistically significant at 0.01 level

Table 7.26: Awareness on project appraisal practices by Size of company

Size of company	Small-sized		Medium-sized		Total	
	Frequency	%	Frequency	%	Frequency	%
Aware about project appraisal?						
Aware	59	55.7	47	44.3	106	78.5
Do not aware	19	65.5	10	34.5	29	21.5
Total	78	57.8	57	42.2	135	100.0

(Percentage in parentheses)

Table 7.27: Awareness on project appraisal practices by Ownership structure

Size of company	Bumi-controlled		Nonbumi-controlled		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Aware about project appraisal?						
Aware	43	40.6	63	59.4	106	78.5
Do not aware	11	37.9	18	62.1	29	21.5
Total	54	40.0	81	60.0	135	100.0

Table 7.28: Awareness on project appraisal practices by Type of entity registration*

Type of registration	Sole proprietors	Partnerships	Private limited (subsidiary)	Private limited (non-subsidiary)	Total
Aware project appraisal?	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Aware	4 (3.8)	3 (2.8)	38 (35.8)	61 (57.5)	106 (78.5)
Not aware	4 (13.8)	4 (13.8)	7 (24.1)	14 (48.3)	29 (21.5)
Total	8 (5.9)	7 (5.2)	45 (33.3)	75 (55.6)	135 (100.0)

(Percentage in parentheses) * Statistically significance at 0.01 level

Table 7.29: Awareness on project appraisal practices by Market classification*

Market classification	Local only	Export only	Both	Total
Aware project appraisal?	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>	<i>Freq. (%)</i>
Aware	32 (30.2)	9 (8.5)	65 (61.3)	106 (78.5)
Not aware	16 (55.2)	- (0.0)	13 (44.8)	29 (21.5)
Total	48 (35.6)	9 (6.7)	78 (57.8)	135 (100.0)

(Percentage in parentheses) * Statistically significance at 0.05 level

Table 7.30: Awareness on project appraisal practice by Annual sales turnover*

Annual sales turnover	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM2 million	>RM2 million to RM2.5 million	>RM2.5 million to RM3 million	>RM3 million and more	Total
Aware project appraisal?	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Aware	10 (9.4)	13 (12.3)	12 (11.3)	9 (8.5)	7 (6.6)	55 (51.9)	106 (78.5)
Not aware	8 (27.6)	5 (17.2)	- (0.0)	3 (10.3)	5 (17.2)	8 (27.6)	29 (21.5)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

(Percentage in parentheses) * Statistically significance at 0.01 level

Table 7.31: Results from the Kruskal-Wallis test by [AWAREPA-dependent]

Ind. Variables	Mean	Std. deviation	χ^2 - value	P - value
REGTYPE	3.385	.837	10.3474 (d.f.= 3)	.0158*
MKTCLASS	2.222	.944	7.4759 (d.f.= 2)	.0238*
ANNSALES	4.267	1.932	15.0889 (d.f.= 5)	.0100**

* Significant at $p \leq 0.05$ ** Significant at $p \leq 0.01$

Table 7.32: Awareness by Level of education*

Awareness	Aware of project appraisal		Not aware of project appraisal		Total	
	<i>Frequency</i>	%	<i>Frequency</i>	%	<i>Frequency</i>	%
Primary	4	3.8	2	6.9	6	4.4
Secondary	27	25.5	19	65.5	46	34.1
Diploma	20	18.9	1	3.4	21	15.6
Bachelors degree	39	36.8	7	24.1	46	34.1
Masters degree	12	11.3	-	0.0	12	8.9
Ph.D.	4	3.8	-	0.0	4	3.0
Total	106	78.5	29	21.5	135	100.0

* Statistically significant at 0.001 level.

Table 7.33: Awareness by Training on project appraisal*

Awareness	Aware of project appraisal		Not aware of project appraisal		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Have attended	28	96.6	1	3.4	29	21.5
Have not attended	78	73.6	28	26.4	106	78.5
<i>Total</i>	106	78.5	29	21.5	135	100.0

* Statistically significant at 0.01 level

Table 7.34: Adoption of project appraisal practices by Size of company

Size of company	Small-sized		Medium-sized		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
Adopt project appraisal?						
Adopt	47	53.4	41	46.6	88	65.2
Do not adopt	31	66.0	16	34.0	47	34.8
<i>Total</i>	78	57.8	57	42.2	135	100.0

Table 7.35: Adoption of project appraisal by Ownership structure

Size of company	Bumi-controlled		Nonbumi-controlled		Total	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Adopt project appraisal?						
Have adopted	36	40.9	52	59.1	88	65.2
Have not adopted	18	38.3	29	61.7	47	34.8
<i>Total</i>	54	40.0	81	60.0	135	100.0

Table 7.36: Results from the Kruskal-Wallis Test by [ADOPTPA-dependent]

Ind. Variables	Mean	Std. deviation	χ^2 - value	P - value
AGEFIRM	2.741	1.316	10.0265 (d.f.= 4)	.0400*
BUSLOCA	1.519	.818	9.1566 (d.f.=3)	.0273*
REGTYPE	3.385	.478	13.3764 (d.f.= 3)	.0039**
ANNSALES	4.267	1.932	18.0425 (d.f.= 5)	.0029**

* Significant at $p \leq .05$ ** Significant at $p \leq .01$

Table 7.37: Adoption of project appraisal by Age of firm*

Age of firm	1 to 5 yrs	6 to 10 yrs	11 to 15 yrs	16 to 20 yrs	21 yrs and more	Total
Adopt project appraisal?	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Have adopted	22 (25.0)	25 (28.4)	12 (13.6)	17 (19.3)	12 (13.6)	88 (65.2)
Have not adopted	6 (12.8)	12 (25.5)	17 (36.2)	7 (14.9)	5 (10.6)	47 (34.8)
Total	28 (20.7)	37 (27.4)	29 (21.5)	24 (17.8)	17 (12.6)	135 (100.0)

(Percentage in parentheses) *Statistically significant at 0.05 level

Table 7.38: Adoption of project appraisal by Business location*

Business location	Urban industrial estates	Rural industrial sites	Urban business centres	Residential business area	Total
Adopt project appraisal?	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Have adopted	64 (72.7)	17 (19.3)	3 (3.4)	4 (4.5)	88 (65.2)
Have not adopted	22 (46.8)	18 (38.3)	4 (8.5)	3 (6.4)	47 (34.8)
Total	86 (63.7)	35 (25.9)	7 (5.2)	7 (5.2)	135 (100.0)

(Percentage in parentheses) *Statistically significant at 0.05 level

Table 7.39: Adoption of project appraisal by Type of entity registration*

Type of registration	Sole proprietors	Partnerships	Private limited (subsidiary)	Private limited (non-subsidiary)	Total
Adopt project appraisal?	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Have adopted	2 (2.3)	3 (3.4)	37 (42.0)	46 (52.3)	88 (65.2)
Have not adopted	6 (12.8)	4 (8.5)	8 (17.0)	29 (61.7)	47 (34.8)
Total	8 (5.9)	7 (5.2)	45 (33.3)	75 (55.6)	135 (100.0)

(Percentage in parentheses) *Statistically significant at 0.01 level

Table 7.40: Adoption of project appraisal by Annual sales turnover*

Annual sales turnover	RM 1 million and less	>RM 1 million to RM 1.5 million	>RM 1.5 million to RM2 million	>RM2 million to RM2.5 million	>RM2.5 million to RM3 million	>RM3 million and more	Total
Adopt project appraisal?	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
Have adopted	6 (6.8)	9 (10.2)	11 (12.5)	8 (9.1)	6 (6.8)	48 (54.5)	88 (65.2)
Have not adopted	12 (25.5)	9 (19.1)	1 (2.1)	4 (8.5)	6 (12.8)	15 (31.9)	47 (34.8)
Total	18 (13.3)	18 (13.3)	12 (8.9)	12 (8.9)	12 (8.9)	63 (46.7)	135 (100.0)

(Percentage in parentheses) *Statistically significant at 0.01 level

Table 7.41: Purpose of appraisal by Ownership structure (n=88)

Ranking of purpose	Overall (percent) ^a	Bumi-controlled	Nonbumi-controlled
[PURPOSE3] To ascertain the viability of the project	75 (85.2)*	34 (45.3)	41 (54.7)
[PURPOSE5] To help management make decision	59 (67.0)	27 (45.8)	32 (54.2)
[PURPOSE2] To ascertain the risk of the project	47 (53.4)*	25 (53.2)	22 (46.8)
[PURPOSE1] To comply with lenders requirement for finance	45 (51.1)	22 (48.9)	23 (51.1)
[PURPOSE6] To guide in the implementation process	29 (33.0)*	17 (58.6)	12 (41.4)
[PURPOSE4] To rank and select projects	16 (18.2)	8 (50.0)	8 (50.0)

^a Percentage (in parantheses) does not add-up to 100 percent due to multiple responses by respondents.

* Statistically significant at 0.05 level.

Table 7.42: Results from the Mann-Whitney test by [OWNSTRUC-independent]

Ind. Variables	Mean	Std Dev	z-score	2-tailed p
[PURPOSE3]	1.148	.357	-2.0160	.0438*
[PURPOSE2]	1.466	.502	-2.4948	.0126*
[PURPOSE6]	1.670	.473	-2.3557	.0185*

* Significant at $p \leq 0.05$

Table 7.43: Methods of appraisal in terms of percentage used by companies

Methods of appraisal	Always used (%)	Very often used (%)	Often used (%)	Used occasionally (%)	Never used (%)
[METHOD1] Payback period	50.0	26.1	4.5	11.4	8.0
[METHOD2] Accounting rate of return	27.3	35.2	11.4	14.8	11.4
[METHOD3] Net present value	27.3	29.5	13.6	15.9	13.6
[METHOD4] Internal rate of return	23.9	29.5	15.9	14.8	15.9
[METHOD5] Sensitivity analysis	20.5	19.3	22.7	23.9	13.6
[METHOD6] Qualitative methods	10.2	22.7	21.6	27.3	18.2

Table 7.44: Means and standard deviations for methods of appraisals

Ranking of Variables	N	Mean*	Std. dev.*
[METHOD1] Payback period	88	2.011	1.317
[METHOD2] Accounting rate of return	88	2.477	1.339
[METHOD3] Net present value	88	2.591	1.395
[METHOD4] Internal rate of return	88	2.693	1.401
[METHOD5] Sensitivity analysis	88	2.909	1.345
[METHOD6] Qualitative methods	88	3.205	1.270

* Mean and standard deviation are based on a continuum scale of 5.

Table 7.45: Documentation of project appraisal by Size of firm (n=75)

Size of firm	Small-sized		Medium-sized		Total	
	Frequency	%	Frequency	%	Frequency	%
Documentation of appraisal						
Yes	39	52.0	36	48.0	75	85.2
No	8	61.5	5	38.5	13	14.8
Total	47	53.4	41	46.6	75	100.0

Table 7.46: Ranking of information contained in appraisal document (n=75)

Types of information	Frequency	Percentage*
[INFO7] Financial analysis	69	92.0
[INFO4] Marketing analysis	63	84.0
[INFO5] Technical/Operational analysis	60	80.0
[INFO3] Project's location	58	77.3
[INFO1] Company's history & background	57	76.0
[INFO2] Key owners' or shareholders' background	51	68.0
[INFO6] Management's structure	48	64.0
[INFO8] Company's strength	37	49.3
[INFO10] Description of the proposed collateral	34	45.3
[INFO9] Limitations of the company	32	42.1
[INFO11] Others	1	1.3

* Percentage does not add-up to 100 percent due to multiple responses by respondents.

Table 7.47: Adoption of project appraisal by Level of education*

Adoption	Adopt of project appraisal		Do not adopt project appraisal		Total	
	Frequency	%	Frequency	%	Frequency	%
Primary	3	3.4	3	6.4	6	4.4
Secondary	21	23.9	25	53.2	46	34.1
Diploma	15	17.0	6	12.8	21	15.6
Bachelors degree	33	37.5	13	27.7	46	34.1
Masters degree	12	13.6	-	0.0	12	8.9
Ph.D.	4	4.5	-	0.0	4	3.0
Total	88	65.2	47	34.8	135	100.0

* Statistically significant at 0.01 level

Table 7.48: Adoption of project appraisal by Training on project appraisal*

Adoption of project appraisal	Adopt project appraisal		Do not adopt project appraisal		Total	
	Frequency	%	Frequency	%	Frequency	%
Training on project appraisal						
Have attended PA training	28	96.6	1	3.4	29	21.5
Have not attended PA training	60	56.6	46	43.4	106	78.5
Total	88	78.5	47	21.5	135	100.0

* Statistically significant at 0.001 level

Table 7.49: Adoption of project appraisal by Accessibility to banks finance*

Adoption	Adopt of project appraisal		Do not adopt project appraisal		Total	
	Frequency	%	Frequency	%	Frequency	%
Accessibility to banks						
Have access	80	90.9	32	68.1	112	83.0
No access	8	9.1	15	31.9	23	17.0
Total	88	65.2	47	34.8	135	100.0

* Statistically significant at 0.001 level

Table 7.50: Adoption of project appraisal by PA required by banks*

Adoption of project appraisal	<i>Adopt of project appraisal</i>		<i>Do not adopt project appraisal</i>		<i>Total</i>	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Appraisal required?						
Yes	41	51.3	7	21.9	48	42.9
No	39	48.7	25	78.1	64	57.1
Total	80	71.4	32	28.6	112	100.0

* Statistically significant at 0.01 level

Table 7.51: Requirement for project appraisal by Ownership structure*

Ownership structure	Bumi-controlled		Nonbumi-controlled		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
PA was required?						
Yes	24	54.5	24	35.3	48	42.9
No	20	45.5	44	64.7	64	57.1
Total	44	39.3	68	60.7	112	100.0

* Statistically significant at 0.05 level

Table 7.52: Requirement for project appraisal by Term loan*

Credit type	Term-loan [CRTYPE3]		Non term-loan		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
PA was required?						
Yes	38	56.7	10	22.2	48	42.9
No	29	43.3	35	77.8	64	57.1
Total	67	59.8	45	40.2	112	100.0

* Statistically significant at 0.01 level

Table 7.53: Adoption of project appraisal by Accessibility to government's agency finance

Adoption of project appraisal	<i>Adopt of project appraisal</i>		<i>Do not adopt project appraisal</i>		<i>Total</i>	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
Accessibility to govt. agency						
Have access	15	17.0	6	12.8	21	15.6
No access	73	83.0	41	87.2	114	84.4
Total	88	65.2	47	34.8	135	100.0

Table 7.54: Adoption of project appraisal by PA required by govt. agency

Adoption	Adopt of project appraisal		Do not adopt project appraisal		Total	
	Frequency	%	Frequency	%	Frequency	%
Project appraisal required?						
Yes	9	42.9	6	28.6	15	71.4
No	1	4.8	5	23.8	6	28.6
Total	10	47.6	11	52.4	21	100.0

Table 7.55: Ranking of reasons for not adopting formal project appraisal practices

Reasons	Frequency	Percentage*
[NONEPA1] Borrowing/external finance is not required	24	51.1
[NONEPA4] Lack of knowledge & expertise	24	51.1
[NONEPA7] Amount of investment is too small	20	42.6
[NONEPA2] Project appraisal is not required by lender	14	29.8
[NONEPA6] Too expensive & time consuming	12	25.5
[NONEPA5] Lack time and energy	7	5.2
[NONEPA3] Not practical for SMMCs	2	4.3
[NONEPA8] Others	2	4.3

* Percentage does not add-up to 100 percent due to multiple responses by respondents.

Table 7.56: Single or multiple accounts with single or multiple bank relationships

Single or multiple accounts [S_MSHIP]	Frequency	%
Single account	25	18.7
Multiple accounts	109	81.3
Total	134	100.0
Multiple accounts with single or multiple banks [S_MBANK]	Frequency	%
Single/same bank	85	78.0
Multiple/different banks	24	22.0
Total	109	100.0

Table 7.57: Multiple bank relationship by Size of company* (n=109)

Size of company	Small-sized		Medium-sized		Total	
	Freq.	%	Freq.	%	Freq.	%
Multiple bank relationship						
Single bank	42	49.4	43	50.6	85	78.0
Multiple bank	18	75.0	6	25.0	24	22.0
Total	60	55.0	49	45.0	109	100.0

* Statistically significant at 0.05 level

Table 7.58: Length of account relationship by Age of company* (n=134)

Age of firm ^a	1-5 yrs	6-10 yrs	11-15 yrs	16-20 yrs	21 yrs or more	Total
Length of account relationship ^b	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
1-5 yrs	28 (20.9)	3 (2.2)	1 (0.7)	- (0.0)	- (0.0)	32 (23.9)
6-10 yrs	- (0.0)	33 (24.6)	1 (0.7)	1 (0.7)	- (0.0)	36 (26.1)
11-15 yrs	- (0.0)	- (0.0)	27 (20.1)	3 (2.2)	1 (0.7)	31 (23.1)
16-20 yrs	- (0.0)	- (0.0)	- (0.0)	20 (14.9)	- (0.0)	20 (14.9)
21 yrs or more	- (0.0)	- (0.0)	- (0.0)	- (0.0)	16 (11.9)	16 (11.9)
Total	28 (20.9)	36 (26.9)	29 (21.6)	24 (17.9)	17 (12.7)	134 (100.0)

^a Mean = 11.99 yrs

^b Mean = 11.48 yrs

* Statistically significant at 0.001 level

Table 7.59: Length of account relationship by Ownership structure* (n=134)

Ownership structure	Bumi-controlled companies		Nonbumi-controlled companies		Total	
	Frequency	%	Frequency	%	Frequency	%
1 to 5 years	18	34.0	14	17.3	32	23.9
6 to 10 years	15	28.3	20	24.7	36	26.1
11 to 15 years	11	20.8	20	24.7	31	23.1
16 to 20 years	8	15.1	12	14.8	20	14.9
21 years & more	1	1.9	15	18.5	16	11.9
Total	53	39.6	81	60.4	134	100.0

Note: Mean for total sample = 11.48 years

Mean for bumi-controlled companies = 8.85 years

Mean for nonbumi-controlled companies = 13.17 years

* Statistically significant at 0.05 level

Table 7.60: Types of credits received (n=112)

Types of credits	Frequency	Percentage*
Short-term:		
[CRTYPE5] Overdraft	99	88.4
[CRTYPE1] Working capital loans	56	50.0
[CRTYPE2] Import-export financing	37	33.0
[CRTYPE6] Others (e.g. factoring etc.)	13	11.6
Long-term:		
[CRTYPE3] Term loan	67	59.8
[CRTYPE4] Hire-purchase	49	43.8

*Percentage does not add up to one hundred due to multiple responses

Table 7.61: Types of credit by Size of firm (n=112)

Size of firm	Small-sized		Medium-sized		Total	
Types of credit	<i>Freq.</i>	%	<i>Freq.</i>	%	<i>Freq.</i>	%
Working capital loan*	24	42.9	32	57.1	56	50.0
Import-export financing	18	48.6	19	51.4	37	33.0
Term loan	32	47.8	35	52.2	67	59.8
Hire-purchase	25	51.0	24	49.0	49	43.8
Overdrafts	53	53.5	46	46.5	99	88.4
Other types	5	38.5	8	61.5	13	11.6
<i>Total</i>	60	53.6	52	46.4	112	100.0

* Statistically significant at 0.05 level

Table 7.62: Types of credit by Ownership structure (n=112)

Ownership structure	Bumi-controlled firms		Nonbumi-controlled firms		Total	
Types of credit	<i>Freq.</i>	%	<i>Freq.</i>	%	<i>Freq.</i>	%
Working capital loan	18	32.1	38	67.9	56	50.0
Import-export financing	10	27.0	27	73.0	37	33.0
Term loan	31	46.3	36	53.7	67	59.8
Hire-purchase	19	38.8	30	61.2	49	43.8
Overdrafts	38	38.4	61	61.6	99	88.4
Other types	3	23.1	10	76.9	13	11.6
<i>Total</i>	44	39.3	68	60.7	112	100.0

Table 7.63: Frequency of credit application (n=112)

Outcome	No of successful applications		No of prior unsuccessful applications		Total no of applications	
Frequency of application (a)	<i>Freq.</i> (b)	%	<i>Freq.</i> [(a*b)-b]	%	<i>Freq.</i> (a*b)	%
1 time	82	73.2	0	0.0	82	52.2
2 times	24	21.4	24	53.3	48	30.6
3 times	3	2.7	6	13.3	9	5.7
4 times	1	0.9	3	6.7	4	2.5
6 times	1	0.9	5	11.1	6	3.8
8 times	1	0.9	7	15.6	8	5.2
<i>Total</i>	112	100.0	45	100.0	157	100.0

Table 7.64: Length of credit relationship by Age of firm* (n=112)

Age of firm	1 - 5 yrs	6 - 10 yrs	11 - 15 yrs	16 - 20 yrs	21 yrs or more	Total
Length of credit relationship ^a	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)	<i>Freq.</i> (%)
1 - 5 yrs	22 (61.1)	10 (33.3)	2 (8.3)	2 (8.3)	- (0.0)	36 (32.1)
6 - 10 yrs	- (0.0)	20 (66.7)	6 (25.0)	2 (9.5)	3 (20.0)	31 (27.7)
11 - 15 yrs	- (0.0)	- (0.0)	16 (66.7)	8 (38.1)	1 (6.7)	25 (22.3)
16 - 20 yrs	- (0.0)	- (0.0)	- (0.0)	9 (69.2)	4 (30.8)	13 (11.6)
21 yrs or more	- (0.0)	- (0.0)	- (0.0)	- (0.0)	7 (100.0)	7 (100.0)
Total	22 (19.6)	30 (26.8)	24 (21.4)	21 (18.8)	15 (13.4)	112 (100.0)

^a Mean = 9.52 years * Statistically significant at 0.001 level
(Percentage in parentheses)

Table 7.65: Length of credit relationship by Interest rate charged* (n=112)

Interest rate	10% or less		more than 10%		Total	
	<i>Freq.</i>	%	<i>Freq.</i>	%	<i>Freq.</i>	%
1 to 5 years	24	36.4	12	26.1	36	32.1
6 to 10 years	18	27.3	13	28.3	31	27.7
11 to 15 years	15	22.7	10	21.7	25	22.3
16 to 20 years	3	4.5	10	21.7	13	11.6
21 years & more	6	9.1	1	2.2	7	6.3
Total	66	58.9	46	41.1	112	100.0

* Statistically significant at 0.05 level

Table 7.66: Type of credit by Interest rate charged (n=112)

Interest rate	10% or less		more than 10%		Total	
	<i>Freq.</i>	%	<i>Freq.</i>	%	<i>Freq.</i>	%
Overdraft*	54	81.8	45	97.8	99	88.4
Term loan	38	57.6	29	63.0	67	59.8
Working capital loan	35	53.0	21	45.7	56	50.0
Hire-purchase	33	50.0	16	34.8	49	43.8
Import-export finance	23	34.8	14	30.4	37	33.0
Other types	12	18.2	1	2.2	13	11.6
Total	66	58.9	46	41.1	112	100.0

Note: Percents and totals based on respondents responses. * Statistically significant at 0.05 level

Table 7.67: Personalised relationship by Business location*

Status of Relationship	Have personal relationship		Do not have personal relationship		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
Urban industrial estates	62	71.3	24	50.0	86	63.7
Rural industrial areas	18	20.7	17	35.4	35	25.9
Urban business centres	2	2.3	5	10.4	7	5.2
Residential business areas	5	5.7	2	4.2	7	5.2
Total	87	64.4	48	35.6	135	100.0

* Statistically significant at 0.001 level

Table 7.68: Personalised relationship by Annual sales turnover*

Relationship	Have personal relationship		Do not have personal relationship		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
RM 1 million or less	5	5.7	13	27.1	18	13.3
>RM1 mil to RM 1.5 mil	13	14.9	5	10.4	18	13.3
>RM1.5 mil to RM 2 mil	9	10.3	3	6.3	12	8.9
>RM 2 mil to RM 2.5 mil	7	8.0	5	10.4	12	8.9
>RM 2.5 mil to RM 3 mil	7	8.0	5	10.4	12	8.9
>RM 3 million	46	52.9	17	35.4	63	46.7
Total	87	64.4	48	35.6	135	100.0

* Statistically significant at 0.001 level

(Exchange rate: 1 pound sterling is equivalent to RM5.00)

Table 7.69: Accessibility to bank credits by Existence of an account relationship*

Accessibility	Have access		Do not have access		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
Have account(s)?						
Yes	112	100.0	22	95.7	134	99.3
No	0	0.0	1	4.3	1	0.7
Total	112	83.0	23	17.0	135	100.0

*Statistically significant at 0.05 level

Table 7.70: Accessibility to bank credits by Single or Multiple accounts*

Accessibility	Have access		Do not have access		Total	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
Single or multiple accounts						
Single	15	13.4	10	43.5	25	18.5
Multiple	97	86.6	13	56.5	110	81.5
Total	112	83.0	23	17.0	135	100.0

*Statistically significant at 0.0001 level

Table 7.71: Wilcoxon Signed-Rank Test with Dependent Variable [ACCESS_B]

Variable	Variable Description	Z-score	2-Tailed P
CRTYPE	Types of credit enjoyed	-9.185	.0000
CRSAME_B	Credits from house bank	-3.059	.0022
FREAPP	Frequency of credit application	-4.782	.0000
AGECR2_B	Age of credit relationship	-7.574	.0000
NEEDPA_B	Project appraisal was required	-6.955	.0000
INRATE_B	Interest rate charged on credit	-9.185	.0000

Table 7.72: Friedman Two-Way Anova test for Related Samples

Mean Rank	Variable	Variable Description
2.04	CRSAME_B	Credit from house bank
2.52	FREQAPP1	Frequency of credit application
3.38	CRTYPE	Type of credits enjoyed
3.47	NEEDPA_B	Project appraisal was required
4.34	AGECR2_B	Age of credit relationships
5.26	INRATE_B	Interest rate charged on credits

($n=112$; $\chi^2=221.794$; $d.f=5$; $p=.0000$)

Table 7.73: Accessibility to bank credits by Utilisation of auxiliary services

Auxiliary services	Utilised		Do not utilised		Total	
	Freq.	%	Freq.	%	Freq.	%
Have access	73	65.2	39	34.8	112	83.0
Do not have access	5	21.7	18	78.3	23	17.0
Total	78	57.8	57	42.2	135	100.0

($\chi^2 = 14.759$; $p = .000$)

Table 7.74: Accessibility to bank credits by Personalised relationship

Have personal relationship?	Yes		No		Total	
	Freq.	%	Freq.	%	Freq.	%
Have access	80	71.4	32	28.6	112	83.0
Do not have access	7	30.4	16	69.6	23	17.0
Total	87	64.4	48	35.6	135	100.0

Table 7.75: Utilisation of informal finance by Size of company and Ownership structure

Size of company	Small		Medium		Total	
Ownership structure	Frequency	%	Frequency	%	Frequency	%
Bumi-controlled	32	28.6	15	13.4	47	42.0
Nonbumi-controlled	34	13.4	31	27.7	65	58.0
<i>Total</i>	66	58.9	46	41.1	112	100.0

Table 7.76: Utilisation of informal finance by accessibility to formal finance

Accessibilty	Have access to		No access to	
Use informal finance?	ACCESS_B	ACCESS_G	ACCESS_B	ACCESS_G
Yes	94 (83.9)	20 (95.2)	18 (78.3)	92 (80.7)
No	18 (16.1)	1 (4.8)	5 (21.7)	22 (19.3)
Total	112 (100.0)	21 (100.0)	23 (100.0)	114 (100.0)

(Percentage in parentheses)

Table 7.77: Profit saved [SOURCE2] by Size of company and Ownership structure*

Size of company	Small		Medium		Total	
Ownership structure	Frequency	%	Frequency	%	Frequency	%
Bumi-controlled	25	30.5	9	11.0	34	41.5
Nonbumi-controlled	22	26.8	26	31.7	48	58.5
<i>Total</i>	47	57.3	35	42.7	82	100.0

* Statistically significant at 0.05 level.

Table 7.78: Personal savings [SOURCE1] by Size of company and Ownership structure

Size of company*	Small		Medium		Total	
Ownership structure*	Frequency	%	Frequency	%	Frequency	%
Bumi-controlled	24	58.5	4	9.8	28	68.3
Nonbumi-controlled	11	26.8	2	4.9	13	31.7
<i>Total</i>	35	85.4	6	14.6	41	100.0

* Statistically significant at 0.0001 level.

Table 7.79: Borrowings from relatives and friends [SOURCE5] by Size of company and Ownership structure

Size of company*	Small		Medium		Total	
Ownership structure**	Frequency	%	Frequency	%	Frequency	%
Bumi-controlled	13	52.0	5	20.0	18	72.0
Nonbumi-controlled	6	24.0	1	4.0	7	28.0
<i>Total</i>	19	76.0	6	24.0	25	100.0

* Statistically significant at 0.05 level. ** Statistically significant at 0.001 level.

SUMMARY OF THE EXPLANATORY/INDEPENDENT VARIABLES

<i>No</i>	<i>Original variable</i>	<i>Logit variable</i>	<i>Description</i>
1.	ACCESS_B	X1	Accessibility to bank finance
2.	ACCESS_G	X2	Accessibility to government finance
3.	AGEFIRM	X3 to X6	Age of firms (categorical)
4.	ANNSALES	X7 to X11	Average annual sales turnover (categorical)
5.	REGTYPE	X12 to X14	Type of entity registration (categorical)
6.	BUSEXP2	X15 to X18	Length of business experience (categorical)
7.	EDULEVEL	X19	Entrepreneur's level of education
8.	ETHNIC	X20 to X22	Entrepreneur's ethnic composition (categorical)
9.	F_SIZE	X23	Size of firm
10.	GENDER	X24	Gender of the entrepreneur
11.	INDCLASS	X25 to X32	Industry classification
12.	INFORM_S	X33	Accessibility to informal sources (categorical)
13.	MKTCLASS	X34 to X35	Market classification (categorical)
14.	OWNSTRUC	X36	Ownership structure
15.	PATRAN	X37	Have attended project appraisal training/course
16.	PROF_Q	X38	Have professional qualifications
17.	TRAINED	X39	Have attended business management training
18.	WORKEXP	X40	Previous working experience

CODING OF DEPENDENT AND INDEPENDENT VARIABLES

Total number of cases: 135 (Unweighted)
 Number of selected cases: 135
 Number of unselected cases: 0

Number of selected cases: 135
 Number rejected because of missing data: 0
 Number of cases included in the analysis: 135
 Type of contrast: Indicator (First)

Dependent Variable Encoding [ADOPTPA]:

Label	Original Value	Internal Value
Adopt PA	1	0
Do not adopt PA	2	1

	Value	Freq	Parameter Coding	
			(1)	(2)
INDCLASS				
electrical, electronic & machinery	1	17	.000	.000
food products & manufacturing	2	18	1.000	.000
textile & apparel	3	8	.000	1.000
wood & wood products	4	7	.000	.000
rubber-based products	5	6	.000	.000
iron, steel & metal products	6	20	.000	.000
non-metallic mineral products	7	9	.000	.000
chemicals, petrochemicals & plastic prod	9	26	.000	.000
other manufactured products	11	24	.000	.000

		(3)	(4)	(5)
INDCLASS				
electrical, electronic & machinery	1	.000	.000	.000
food products & manufacturing	2	.000	.000	.000
textile & apparel	3	.000	.000	.000
wood & wood products	4	1.000	.000	.000
rubber-based products	5	.000	1.000	.000
iron, steel & metal products	6	.000	.000	1.000
non-metallic mineral products	7	.000	.000	.000
chemicals, petrochemicals & plastic prod	9	.000	.000	.000
other manufactured products	11	.000	.000	.000

		(6)	(7)	(8)
INDCLASS				
electrical, electronic & machinery	1	.000	.000	.000
food products & manufacturing	2	.000	.000	.000
textile & apparel	3	.000	.000	.000
wood & wood products	4	.000	.000	.000
rubber-based products	5	.000	.000	.000
iron, steel & metal products	6	.000	.000	.000
non-metallic mineral products	7	1.000	.000	.000
chemicals, petrochemicals & plastic prod	9	.000	1.000	.000
other manufactured products	11	.000	.000	1.000

	Value	Freq	Parameter Coding	
			(1)	(2)
ANNSALES				
1 million or less	1	18	.000	.000
> 1 million to 1.5 million	2	18	1.000	.000
> 1.5 million to 2 million	3	12	.000	1.000
> 2 million to 2.5 million	4	12	.000	.000
> 2.5 million to 3 million	5	12	.000	.000
> 3 million and more	6	63	.000	.000

		(3)	(4)	(5)
ANNSALES				
1 million or less	1	.000	.000	.000
> 1 million to 1.5 million	2	.000	.000	.000
> 1.5 million to 2 million	3	.000	.000	.000
> 2 million to 2.5 million	4	1.000	.000	.000
> 2.5 million to 3 million	5	.000	1.000	.000
> 3 million and more	6	.000	.000	1.000

	Value	Freq	Parameter Coding	
			(1)	(2)
AGEFIRM				
1 to 5 years	1	28	.000	.000
6 to 10 years	2	37	1.000	.000
11 to 15 years	3	29	.000	1.000
16 to 20 years	4	24	.000	.000
21 years or more	5	17	.000	.000

		(3)	(4)
AGEFIRM			
1 to 5 years	1	.000	.000
6 to 10 years	2	.000	.000
11 to 15 years	3	.000	.000
16 to 20 years	4	1.000	.000
21 years or more	5	.000	1.000

	Value	Freq	Parameter Coding	
			(1)	(2)
BUSEXP2				
1 to 5 years	1	45	.000	.000
6 to 10 years	2	36	1.000	.000
11 to 15 years	3	23	.000	1.000
16 to 20 years	4	22	.000	.000
21 years or more	5	9	.000	.000

		(3)	(4)
BUSEXP2			
1 to 5 years	1	.000	.000
6 to 10 years	2	.000	.000
11 to 15 years	3	.000	.000
16 to 20 years	4	1.000	.000
21 years or more	5	.000	1.000

	Value	Freq	Parameter Coding	
			(1)	(2)
REGTYPE				
sole proprietor	1	8	.000	.000
partnership	2	7	1.000	.000
private ltd. subsidiary	3	45	.000	1.000
private ltd. nonsubsidiary	4	75	.000	.000

(3)

REGTYPE				
sole proprietor	1		.000	
partnership	2		.000	
private ltd. subsidiary	3		.000	
private ltd. nonsubsidiary	4		1.000	

	Value	Freq	Parameter Coding	
			(1)	(2)

ETHNIC				
malay	1	49	.000	.000
chinese	2	73	1.000	.000
indian	3	9	.000	1.000
others	4	4	.000	.000

(3)

ETHNIC				
malay	1		.000	
chinese	2		.000	
indian	3		.000	
others	4		1.000	

	Value	Freq	Parameter Coding	
			(1)	(2)

MKTCLASS				
local markets only	1	48	.000	.000
export markets only	2	9	1.000	.000
both	3	78	.000	1.000

WORKEXP				
yes	1	82	.000	
no	2	53	1.000	

ACCESS_G				
yes	1	21	.000	
no	2	114	1.000	

EDULEVEL				
low	1	52	.000	
high	2	83	1.000	

F_SIZE				
small	1	78	.000	
medium	2	57	1.000	

GENDER				
male	1	99	.000	
female	2	36	1.000	

	Value	Freq	Parameter Coding (1)
TRAINED			
yes	1	86	.000
no	2	49	1.000
PROF_Q			
yes	1	49	.000
no	2	86	1.000
PATRIN			
yes	1	29	.000
no	2	106	1.000
OWNSTRUC			
Bumi-controlled	1	54	.000
Nonbumi-controlled	2	81	1.000
INFORM_S			
yes	1	112	.000
no	2	23	1.000
ACCESS_B			
have access	1	112	.000
no access	2	23	1.000

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