CHAPTER 3 RESEARCH METHODOLOGY

This chapter presents the establishment of research hypotheses, sampling design that including sector of industry, unit of analysis, and the instrumentation used for the survey. Pre-test of the instrument was being conducted and the alpha value is at acceptable level. Further, this chapter explains about the dependent and independent variables, data collection methodology, and a general analytical framework of the research.

3.1 RESEARCH HYPOTHESES

Nonaka (1994) argued that features of Japanese culture operate which makes innovation easier than in the U.S. There are enough cultural differences even between the U.K and the U.S organizations to have resulted already in a distinct approach to the learning organization, based loosely around principles of Action Learning and this has been matched by distinct centers of interest elsewhere in Europe (Easterby-Smith et al., 1999). This lead to the following hypotheses:

H 1: Asian- and Western-base of Malaysian organizations do not differ in term of organizational culture

Findings by Antonacopoulou (1999) supported the observations of Pedler and Boydell (1980), Temporal (1984), Williams (1987), Mumford (1989), Salaman and Butler (1990) and others, namely that the organizational cultures are significant obstacles determining whether learning take place. Yeung (1999) also found that business cultures appear to have a strong influence on the development of learning abilities. He discovered that cultures focus on employees (clan culture), customers and market competition (market culture) are most the effective in reducing learning disabilities. This finding echoed the research findings of Kotter and Heskett that companies focusing on employees, customers and shareholders developed a strong capacity for change and, as a result, enjoyed higher business performance. Hedlund and Nonaka (1993) and Hedlund (1994) also raise the possibility that different national business cultures and traditions may lead to different learning processes. It seems that if the field is to develop over the next few years in parallel with the globalization of business
and economic affairs, then substantial efforts should be made to 'ground' theories of organizational learning on the context of different national business cultures (Easterby-Smith et al., 1999). Marquardt believes that a learning organization should have the following dimensions of learning capability – learning dynamics, organizational transformation, people empowerment, knowledge management, and technology application. If any dimension is weak or absent, the effectiveness of the other dimension is significantly weakened. With the support of empirical evidence, the research is looking at how the different kinds of business cultures influence the learning capability dimensions as proposed by Marquardt. Hence, the following hypotheses emerge:

H2: Organization culture does not influence significantly the learning disciplines and learning types of Malaysian organizations

H3: Organization culture does not have significant influence on the ability of organization to transform itself into learning organization

H4: Organization culture does not have significant effect on empowerment of leaders, customers, suppliers and community group to learn

H5: Organization culture does not affect significantly organization's knowledge management

H6: Organization culture does not have significant effect on the application of technology in learning activities

Findings by Tannenbaum (1997) exhibited that respondents tended to attribute more of their learning to informal learning than formal methods. Significant differences reported that the relative mix of learning opportunities can vary from organization to organization depended on the cultural aspect of the organization. This proposes the below hypotheses:

H7: There is no significant relationship between organization culture and the organization's learning opportunity

Yeung et al. (1999) demonstrated that learning styles significantly affect organization performance, such as organizational competitiveness and innovativeness. He found that experimentation and competence acquisition learning styles are significantly related with the organizational innovativeness. For
that reason, executives need to identify the dominant learning style in their company and to determine whether that style is a good match for their business cultures.

Research by Tannenbaum (1997) showed that learning opportunities have the impact on individuals' self-competence and satisfaction with development across organizations. Individuals with greater awareness of the big picture (e.g.: clear about the company goals and direction; understand how their job and unit relates to those goals) reported higher levels of self-competence and satisfaction with development. In addition, individuals who felt their organization provided people with greater opportunities to learn; had supportive training policies and practice and were more open to new ideas and change reported greater satisfaction with their development since joining the company. Antonacopoulou (1999) found that the managers who are encouraged by the organization to take responsibility for their learning and self-development tend to be more self-reliant and are more likely to pursue learning regardless of the organization's requirements.

Looking at the organizational learning process, it became obvious that indicators need to be developed, so that progress along this process can be evaluated and that learning can be managed (Finger and Brand, 1999). Hence, the research will look at the influence of organizational learning capability and learning opportunity on individual aspect – self-rated competency and satisfaction with development, and organization aspect – innovativeness. This suggests the following hypotheses:

H 8: Learning disciplines / types do not affect significantly individuals' self-rated competency, satisfaction with development and organizational innovativeness

H 9: Ability of organization to transform itself do not influence significantly individuals' self-rated competency, satisfaction with development and organizational innovativeness

H 10: People that organization empowered to learn do not affect significantly individuals' self-rated competency, satisfaction with development and organizational innovativeness
H 11: Knowledge management of organization does not have significant effect on individuals' self-rated competency, satisfaction with development and organizational innovativeness

H 12: Technology applications for learning activities do not influence significantly individuals' self-rated competency, satisfaction with development and organizational innovativeness

H 13: There is no significant relationship between learning opportunities and self-rated competency, satisfaction with development and organizational innovativeness

3.2 SAMPLING DESIGN

3.2.1 SECTOR

The key focus of this study is the manufacturing firms in Malaysia due to the following reasons:

1. The manufacturing sector is a major industry in Malaysia and it contributes to 29.9%, 27.9% and 29.2% of the GDP of Malaysia in year 1997, 98 and 99 respectively (Bank Negara Malaysia, 1999)

2. The manufacturing sector consists of a lot of foreign companies that helping the country in its technology development and enhancement. As a result, approximately 80% of gross exports mainly consisted of increased exports of higher technology products, particularly electronics and electrical goods, chemical products and optical and scientific equipment. This was aided by sustained export performance of low to medium technology products, including textiles and clothing, rubber products, metal products and furniture. By 1998, manufactured exports contributed 82.9% of total gross exports and increased to 83.5% by September 1999 (Bank Negara Malaysia, 1999).

3. The manufacturing sector consists of a lot of foreign companies also expose Malaysian to the foreign management style and with these different nation-base of organizations in Malaysia, it is expected that the business culture and management style will be different. Consequently, the learning process in these organizations might be varied.
3.2.2 UNIT OF ANALYSIS

Since the research is to gauge the perception of individuals about their organization's culture, learning capability and opportunity, hence an individual is used as the unit of analysis. The targeted group in the selected organizational unit is those personnel who hold the position as executive and above, where their valuable perception is gathered.

3.2.3 INSTRUMENTATION

Based on the literature review, a set of questionnaires were adopted. The set of questionnaires can be divided into 5 parts:

(1) Business cultures

Sixteen questions are used to measure four culture types as developed by Quinn. Likert-type scale ranging from "not valued" (1) to "extensively valued" (5) is used.

(2) Organizational learning capability

The questionnaires used to assess the learning capability of the organization was developed by Marquardt based the "System-Linked Organization Model" that incorporate five interrelated subsystems – learning, organization, people, knowledge and technology. Minor alteration had been made to suit the purpose of this research and avoiding overlapping questions with the first part. Likert-type scale ranging from "applies to no extent" (1) to "applies fully" (5) is applied.

(3) Learning opportunity

Twenty-five questions are utilized to measure the three types of learning opportunity. The original set of questionnaire comprises 31 items and was developed by Watkins and Cervero. After reviewing, only 25 of the questions are adopted for the purpose of this study. Likert-type scale ranging from "never" (1) to "always" (5) is used.

(4) Consequences of learning

Ten questions are generated to measure the consequences of organization learning – self-rated competency, satisfaction with development and organization's innovativeness. Likert-type scale ranging from "applies to no extent" (1) to "applies fully" (5) is applied.
(5) Individual personal data and industry characteristics

3.2.4 DEPENDENT AND INDEPENDENT VARIABLES

For Hypotheses 2 till 7, the first two blocks of the model as shown in Figure 2 will be considered. Thus, organizational learning capability and learning opportunity are dependent variables and different kinds of business cultures are independent variables.

For Hypotheses 8 till 13, we are looking at how organizational learning capability and learning opportunity affect the learning consequences. Hence, individuals' self-rated competency and satisfaction with development, and organizational innovativeness are dependent variables. The dimensions of organizational learning capabilities — learning disciplines, learning types, organizational transformation, and people empower to learn, knowledge management and technology applied for learning activities, and learning opportunity are independent variables.

3.2.5 PRE-TESTING OF INSTRUMENT

Pre-test had been performed before the official issuance of the finalized set of questionnaires. The main concern of pre-test in this study was to determine the reliability of the instruments based on Cronbach's coefficient alpha. A total of eleven samples were collected. Cronbach's alpha for pre-testing indicated that the instruments were acceptable in terms of the reliability.

3.2.6 DATA COLLECTION METHODOLOGY

The goal of this study is to collect data from a range of manufacturing companies. The survey form was distributed through mail or e-mail to about 75 companies with clear guidelines given. The expected sample size to obtain is about 300. The form was collected from the respondents after a time frame of about 1-month.

3.3 ANALYTICAL FRAMEWORK

The primary purpose of this research effort is to investigate whether organizations with different business cultures affect the organizational learning
capability and the learning opportunity. Since the scale used to measure organizational culture results in “ipsative” data, regression based techniques are unable to be utilized. "Ipsative" measurement is a type of item format, such as forced choice or ranking, in which the variables (options or items) are compared with each other. Ipsative comparisons are not appropriate for normative interpretation (Jerrie). Therefore, the framework will be as followed: (1) reliability test and (2) adding up the scores of four items for each of the four different culture types and performing the related statistical testing. Basically, by adding up the scores for the four appropriate scenarios across the four areas, one is able to arrive at the extent to which the respondent feels that a particular organizational culture exists in his / her firm (Thomas and Jon, 1995).

The alphas for the four culture types were within the acceptable range and either close to, or higher than the coefficient alphas reported by Despande, Farley, and Webster (Thomas and Jon, 1995). The alphas for the four types were (alpha reported by Deshpande, Farley, and Webster (1993) in parentheses):

1. Clan: alpha = 0.83 (0.82)
2. Adhocracy: alpha = 0.70 (0.77)
3. Hierarchy: alpha = 0.69 (0.71)
4. Market: alpha = 0.84 (0.82)

In addition, to assess the complexity of the relationships among business cultures, organizational learning capability, learning opportunity and consequences of learning, a variety of statistical techniques are exercised, including descriptive statistics, ANOVA, bivariate correlations and multiple regressions.