

CHAPTER THREE

RESEARCH METHODOLOGY

The research adopted both Chekland's (1999) and Yusof Omar's (2001a & 2001b) Organizational Diagnostics Method for planning the whole framework of the study. The methodology involves two types of activities, which are the real world activities that involve people in the problem situation and the system thinking activities that may or may not involve those in the problem situation, depending upon the individual circumstances in the study (Checkland, 1999).

METHOD

This study primarily uses anthropological field study methods, including participant observation and interviews. The participant-observation technique and steps is directly based from the American Psychological Association (APA) Manual on conducting a research. The main rationale for choosing this technique is that it allows the researcher to gain understanding more deeply about the culture of the organization being studied (Bogdan, 1972). According to Bruyn (1966), participant observation emphasizes intersubjective understanding and empathy. He states that the method allows researcher to be more aware of the physical environment as well as social environment of the organization, more alert to contrasting experiences of the people being observed, and more conscious of the social openings and barriers of the organization being studied. In general, using the technique, the researcher seeks out the meaning of the experiences of the group being studied from each of the many different perspectives within the variables of the study.

The approach to participant observation emphasizes participation as an opportunity for in-depth systematic study of a particular group or activity. There are basically three core elements of this approach (Zelditch, 1962). First, it

involves enumeration of frequencies of various categories of observed behavior, as in interaction analysis. This means that the attempt to observe systematically on the variables being studied is an ongoing process and should be recorded strictly without any interpretation. Second, the technique involves informant interviewing to establish social rules, norms and statuses as well as collecting secondary data to establish evidence and to find facts on the organization. This means apart from unobtrusive observation, researcher also need to collect and inspect data from pertinent documents, archival records and physical artifacts as evidence to the conformity of the systems observation of the real-life activities. Lastly, the technique requires the researcher to participate actively in the group being studied in order to ensure total observation and detail of illustrative incidents.

The use of the methods and techniques are made possible in the study due to researcher direct involvement in the organization as an Assistant Secretary of the Ministry of Foreign Affairs. The biases towards observation were also reduced as the researcher has not only been trained in psychology but has also received proper training in the ISO 9000 auditing skills.

SAMPLING DESIGN

This study on ACD Wisma Putra involves all the 21 divisions/sections/units under the Department. The diagnosis on the individual members, however, was done only on 87 of 224 members of the Department (as at 16 April 2001), which include all 57 Group A officers and 30 randomly chosen staffs from other groups.

The study does not include all the members of the Department because of the timing constraints. However, members from the Group A officers is entirely included in the sample size because the members of the group are both important and influential in deciding and implementing new transformations to the organization. As such, it is important to evaluate their attitude and climate

towards change and process of transformation in order to come out with better intervention strategies.

The sample size of 30 members for staffs from other groups is being chosen in accordance to the smallest sample that is needed for a research's findings to be significance (Salkind, 1994). These sample size of 30 members were selected using the simple random sampling procedure. Salkind's (1994) Table of Random Numbers method is used for the purpose of selecting the sample of 30 members randomly.

INSTRUMENTS

The study utilizes five organizational diagnostics for assessing the variables being studied and observed. The first three diagnostics, namely Self-Actuation System Diagnostic, Actor System Diagnostic and Dissipative Structure System Diagnostic, are designed to assess the organization's viability and attitude towards change. On the other hand, the last two diagnostics, namely Six-Level Organizational Diagnostic and the ISO 9001:2000 Internal Quality Assessment, are used to assess the organizational performance level.

All the instruments that are selected for assessing the organizational viability towards change, except the ISO 9001:2000 Internal Quality Assessment, is adopted from the Yusof Omar's organizational diagnostics model. The Self-Actuation System Diagnostic, the Actor System Diagnostic and the Dissipative Structure System Diagnostic are adopted from Yusof Omar's Viable System and Closure Diagnostic (Yusof Omar, 2001a) while the Six-Level Organizational Diagnostic is adopted from the Yusof Omar's Monograph (Yusof Omar, 2001b). The ISO 9001:2000 Internal Quality Assessment is adopted from the Quality Management System ISO 9000:2000 manual.

a. SELF-ACTUATION SYSTEM DIAGNOSTIC

The main objective of conducting the Self-Actuation System Diagnostic is to evaluate the ACD's system viability level. In specific, the diagnosis is aimed to assess the ability of the ACD's system to maintain its existence and stability under conditions of change. From the diagnosis, one will be able to measure ACD's propensity to survive in situation of change that will be useful in understanding how the organization responds to the environmental perturbations. Moreover, the diagnosis also helps in defining the set of boundaries against the environment that closes the system in respect of a particular actuation (Yusof Omar, 2001a). The Self-Actuation System Diagnostic includes diagnosis on the seven characteristics (variables) of self-actuation. Figure 3.1 shows the characteristics that define self-actuation while Table 3.1 shows the definition.

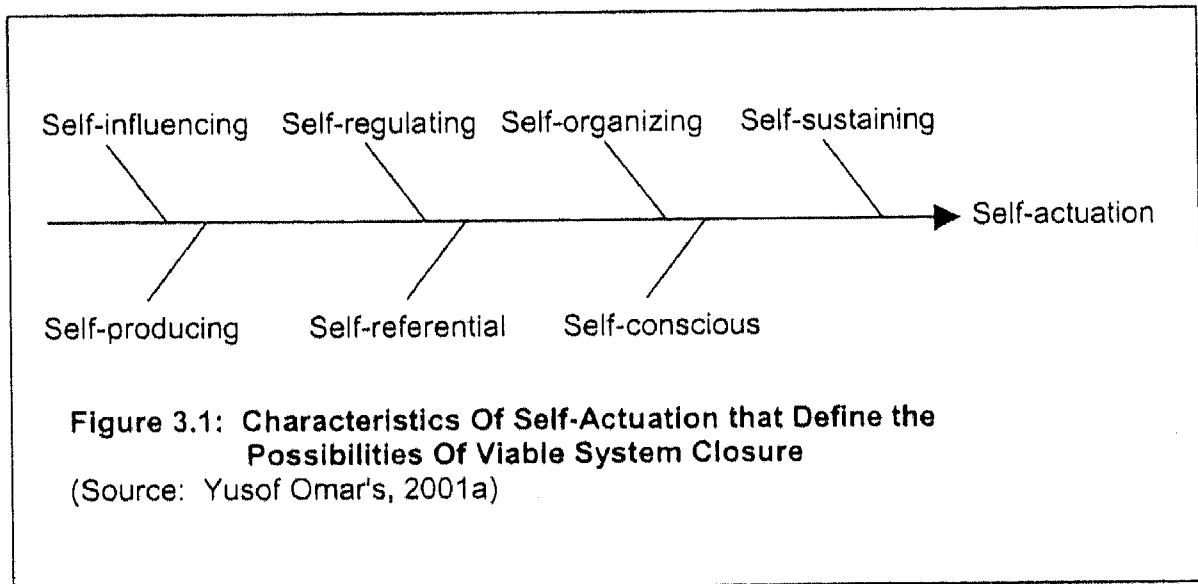


Table 3.1: Characteristics of Self-Actuation that Define the Possibilities of Viable System Closure

| Characteristic of Self-Actuation | Definition |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Self-influencing | Circular causality and causal loops - patterns of causation or influence that become circular, such as large population producing more offspring. |
| Self-regulating | Maintenance of a particular variable - organized so as to keep essential variables within definable limits. It relies on negative feedback and specified limits. |
| Self-organizing | The self-amplification of fluctuations generated in the system as a consequence of perturbations from the environment. |
| Self-sustaining | Self-sustaining operations are organizationally closed - when all possible states of activity must always lead to generate further activity within itself. Once an organizationally closed process is started, it is self-sustaining. |
| Self-producing | Autopoietic system self-produce both their component and their boundary. |
| Self-referential | Symbolic reference to the self. These systems refer to themselves in terms of themselves or their components through image, expressed symbolically. |
| Self-conscious | Able to interact with description of self. |

(Source: Yolles, 1999, pg. 142)

b. ACTOR SYSTEM DIAGNOSTIC

The main objective of conducting the Actor System Diagnostic is to evaluate the attitude and reaction of ACD's members, both as individual and as a whole, towards change or process transformation. The diagnosis provides a qualitative description of the members of the organization and provides a general expectation about their behavioral possibilities. It will also enable one to identify the level of change that the members of the organization can sustain.

The Actor System Diagnostic consists of two level of diagnosis, namely the Individual Level and the Generic Level. The Individual Level is associated with three features (variables), namely self-referencing closure, altruism, and self-reflective evolution. On the other hand, the Generic level is associated with six features (variables), namely wholeness, propositional, normative, extension, qualities, and generic identity. Figure 3.2 and 3.3 shows the characteristics of the Actor System - Individual Level and Actor System - Generic Level. The definitions of the characteristics are as in Table 3.2 and Table 3.3.

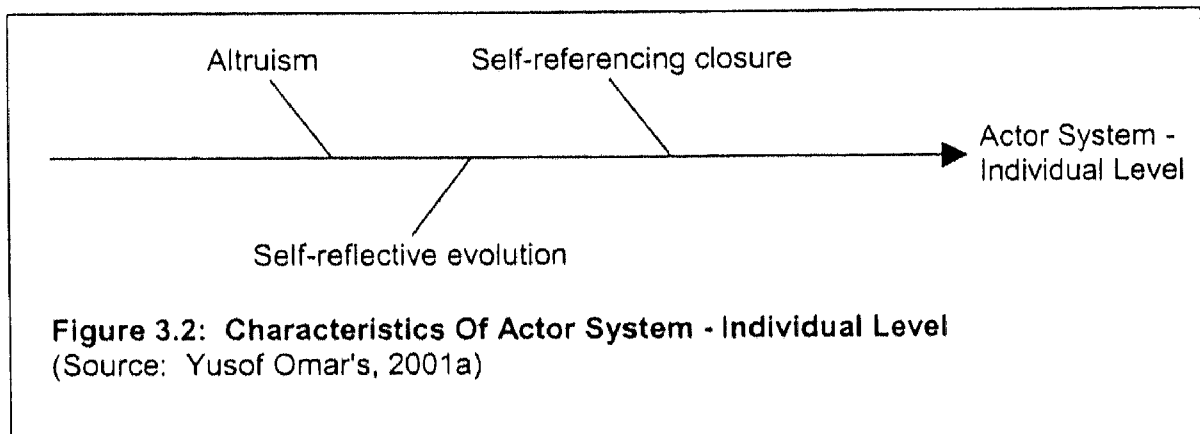


Table 3.2: Characteristics of Actor System - Individual Level

| Characteristic of Actor System - Individual Level | Definition |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Self-referencing closure | The attempt by the organization to interact with their environment as a projection of itself (organization wants to be part of it - easier if an organization is a joiner). |
| Altruism | The opposite of egocentrism - the attempts by the organization to try to maintain their own identity against a threatening outside world. |
| Self-reflective evolution | Subscribing to the process of organizational change as an evolution of self identity in relation to the wider world. |

(Source: Yusof Omar, 2001a & Yolles, 1999, pg. 151)

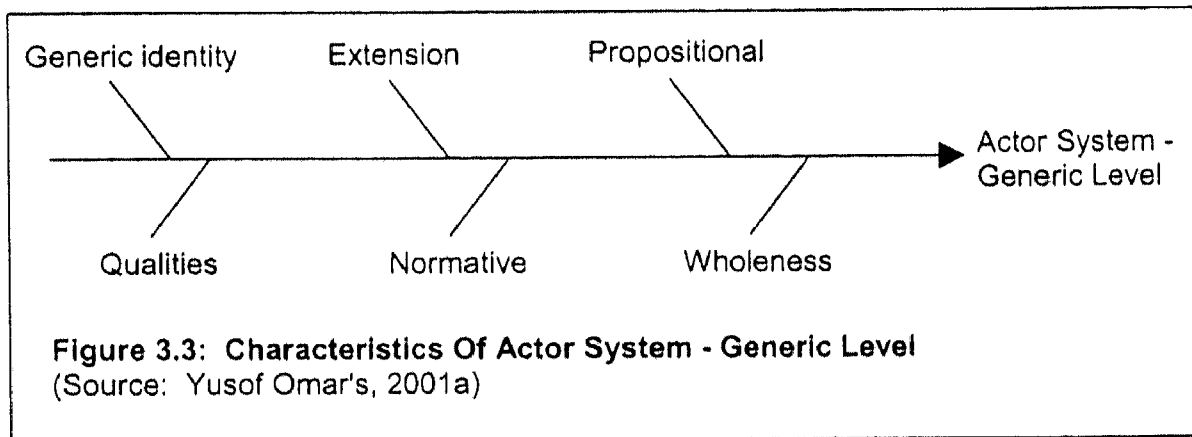


Table 3.3: Characteristics of Actor System - Generic Level

| Characteristic of Actor System - Generic Level | Definition |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wholeness | Works as a whole and in connection with the cognitive purposes that derive from the metasytem (cohesiveness). |
| Propositional | The characteristic of the profile are determined by metasytem proposition - basic set of assumptions, logic and orientation for organized activity (has direction). |
| Normative | The set of characteristics are normatively agreed to define distinct classes of behavior (strong discernible shared values). |
| Extension | The set of characteristics enabling the similarity or commensurability between systems to be evaluated (their presence establish a space of extension that identifies a system generically - there's room to maneuver). |
| Qualities | Evaluation of qualities in a given extension will enable similarity between theoretical generic class and system classification. Lack of this qualities hamper the evaluation of similarities - there is pattern distinction between fixed and variable. |
| Generic identity | High scores means there is no loss of generic identity. This implies that the generic characteristics have not lost their normative coherence. |

(Source: Yusof Omar, 2001a & Yolles, 1999, pg. 152)

c. DISSIPATIVE STRUCTURE SYSTEM DIAGNOSTIC

The main objective of conducting the Dissipative Structure System Diagnostic is to evaluate the dynamics of ACD's system, which will be useful in explaining the ACD's characteristic of survivability as well as stability towards the changing environment. The diagnosis will also distinguish the relationship between the parts of the ACD systems and classify whether the ACD's system structure is a conservative system or dissipative system.

The Dissipative Structure System Diagnostic involves the comparison of eight characteristics of conservative system as opposed to the dissipative system. A low score (score of 1 and 2 on the scale) on the characteristic indicates the system is conservative while a high score (score of 4 and 5 on the scale) indicates the system is dissipative. The characteristics of dissipative system are shown in Figure 3.4 while the comparison of conservative system's characteristics versus the dissipative system's characteristics is shown in Table 3.4.

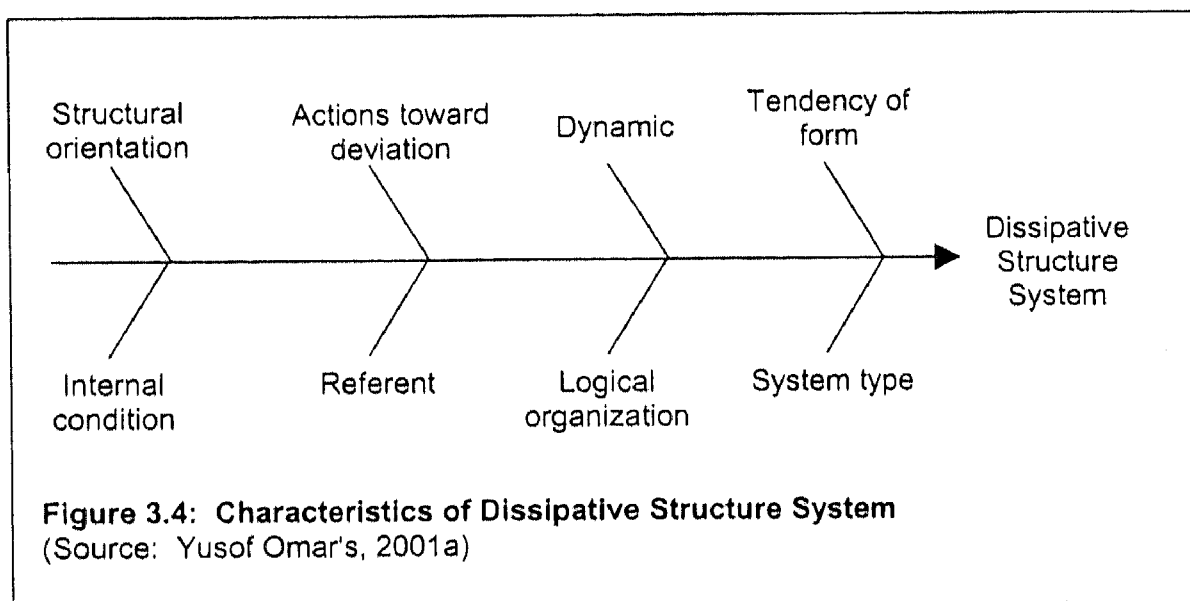


Table 3.4: Differences Between Conservative and Dissipative System

| Characteristic | Conservative System | Dissipative System |
|--------------------------|---------------------------------------------------------------------|---------------------------------------------------|
| Structural orientation | Structure preserving | Structure changing (evolutionary) |
| Action towards deviation | Counteracting | Amplification |
| Dynamic | Close to zero energy changes and steady state with changes in time. | Far from zero energy change with changes in time. |
| Tendency of form | Morphostasis (negative feedback) | Morphogenesis (positive Feedback) |
| Internal condition | Near to steady state | Far from steady state |
| Referent | Reference to steady state | Self-reference |
| Logical organization | Irreversible process towards steady state | Cyclical irreversible process |
| System type | Open, with possible growth | Open, continuous, balanced energy exchange |

(Source: Yusof Omar, 2001a & Yolles, 1999, pg. 171)

d. SIX-LEVEL ORGANIZATIONAL DIAGNOSTICS

The main objectives of conducting the Six-Level Organizational Diagnostics are to analyze the functioning of the Ministry of Foreign Affairs of Malaysia and to determine the sources of problems and areas for improvement. From the diagnosis, one can understand how the Ministry is currently functioning that will

provides vital information for designing the necessary change interventions. The Six-Level Organizational Diagnostics includes diagnosis on the environment (First Level), diagnosis on the industry (Second Level), diagnosis on the strategic orientation (Third Level), diagnosis on the group level (Fourth Level), diagnosis on the personal characteristics (Fifth Level) and the diagnosis on the individual effectiveness (Sixth Level).

i) Diagnosing the General Environment (First Level)

The general environment represents the external elements and forces that can effect the attainment of the organizational objectives. It can be described in terms of the amount of uncertainty present in social, economics, honesty, technological, ecological, and political. The more uncertainty there is in how the environment will affect the organization, the more difficult it is to design an effective strategic orientation. On the other hand, pleasant manifestations of the organization's environment make it more conducive to design effective strategic orientations.

In general, the diagnosis on the social variable assesses the manifestation of free movement, peace, harmony and tolerance in the society. For ACD Wisma Putra, the diagnosis on social variable assesses how the social environment, including those of international social environment, would effect the functions and activities of the ACD Wisma Putra. The diagnosis on the economic variable evaluates how the current economic conditions affect the attainment of the ACD Wisma Putra goals and objectives. Diagnosis on honesty evaluates whether jobs were done according to agreed specifications and obligations. Assessment on this variable will diagnose the involvement of both the public and private agencies in the activities of ACD Wisma Putra and its effect on the attainment of ACD Wisma Putra's goals and objectives. The diagnosis on the technological variable assesses the level of technological usage in the general populace as well as its usage in the organization. The diagnosis on ecological evaluates

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whether the general populace view and practice on ecological issues effect the attainment of the organization's goals and objectives. Lastly, diagnosis on political variable evaluates the political level of support it receives, internal as well as external, and how its effect on the attainment of the organization's goals and objectives.

ii) Diagnosing the Industry (Second Level)

An organization's industry structure or task environment is another important input into strategic orientation. As defined by Michael Porter, an organization's task environment consists of five forces, namely; supplier power, buyer power, threats of substitutes (including threats of complementary), threats of entry, and rivalry among competitors.

Adopting Porter's view, ACD Wisma Putra strategic orientation must be aligned and sensitive to the suppliers who can pressures the organization to pay more attention to the supplier's needs than to the organization's needs. ACD Wisma Putra strategic orientation must also be sensitive to the powerful buyers. The buyers of ACD Wisma Putra, may include all the stakeholders of the services receiver, internally or externally. Assessment on the rivalry among competitors evaluates the level of competition from other government departments as well as from the internal of the Ministry in competing the resources and its effect on ACD Wisma Putra. Assessment on threats of substitutes as well as threats of complementary will evaluate whether services offered by the ACD Wisma Putra are unique or distinctive to the organization alone. In other words, the diagnosis evaluates whether the stakeholders have any choice in getting the similar services offered by ACD Wisma Putra from other organizations. Lastly, diagnosis on threats of entry evaluates whether there is probability that the current service given by ACD Wisma Putra will be or can be offered by other government departments, internally or externally, or even by the private sector.

iii) Diagnosing the Strategic Orientation (Third Level)

A strategic orientation composed of five major design components and an intermediate output, which is the culture. The third level diagnosis will assess on these five major design components of the strategic orientation as well as its intermediate output. The five major design components are strategy, core activity systems, human resources systems, structural systems, and measurement systems.

Diagnosis on strategy assesses whether there is lucid description of the organization's missions, goals and objectives, strategic intent, and functional policies. Diagnosis on the core activity system evaluates if present process or activity systems are technically stable, tested, formalized, and fully supported manually as well as electronically. It also assesses whether the product realization system (process methods, workflow, and equipment) is dependable, reliable and safe. Diagnosis on the human resources systems assesses if there is mechanism for selecting, developing, appraising and rewarding the organization members that is aimed at influencing the mix of skills, personalities and behaviors of the members of ACD Wisma Putra. Diagnosis on the structural systems evaluates if there is transparent division and coordination of work through differentiation, integration, and matrix structures. Diagnosis on the measurement systems evaluates if the provision of accurate, understandable and timely information exists. It also assesses whether current systems monitor the organizational operations and feed data about work activities to managers as well as members in the manner that they can better understand current performance and coordinate their work more effectively and efficiently. Lastly, diagnosis on culture evaluates if there is sufficient understanding of the current culture that is well enough to determine its alignment with other design factors.

iv) Diagnosing the Group Level Design Component (Fourth Level)

A group has five major design components. They are goal clarity, task structure, group composition, group functioning, and performance norms. Diagnosis on the Group Level evaluates all the five design components of the 21 departments/sections/units under the ACD Wisma Putra .

Diagnosis on goal clarity evaluates if the goals are clearly understood by all members. It also evaluates whether there are methods for measuring, monitoring and feeding back information about goal achievement. Assessment on task structure evaluates the degree to which group tasks are structured to promote effective interaction among group members. It also assesses to what degree can the members control their own tasks, behaviors and relatively free from external control. Diagnosis on group functioning assesses the commitment to help work group members develop healthy interpersonal relationships, including an ability and willingness to share feelings and perceptions about members' behaviors so that interpersonal problems and task difficulties can be resolved. Diagnosis on performance norms evaluates if there is agreement among members on the performance norms and to what extent the members routinely perform tasks according to the norms. Finally, diagnosis on group composition evaluates if there is balanced of demographic and psychographics amongst the group members to meet the job requirements.

v) Diagnosing the Personal Characteristics (Fifth Level)

Personal characteristics of individuals occupying jobs include their age, experience, abilities, growth need, education, skills, needs and expectations, as well as the family needs. Diagnosis on these eight variables is important as all of the characteristics can affect job performance as well as how people react to job designs.

Diagnosis on age assesses if the person has high energy level and healthy to perform the job effectively. Assessment on the experience evaluates if the person know the ropes and has the capabilities to perform the job and diagnosis on abilities evaluates if the person has pronounced intellectual abilities or physical abilities that may help the person to perform the job effectively. Evaluation on the growth need assesses the person manifestation of self-direction, learning and personal accomplishment. While the assessment on education evaluates if the person's level of education suits to the current job, the diagnosis on skills evaluates if the person has certain professional skills or abilities that may help in the person performing his/her job better. Evaluation on needs and expectation assesses if the person is generally satisfied with current job. Lastly, diagnosis on family needs evaluates if there is stability, peace, and harmony in the person's family life.

vi) Diagnosing the Job Level – Individual Effectiveness (Sixth Level)

Individual jobs have five key dimensions, namely; skill variety, task identity, autonomy, task significance, and feedback about results. Diagnosis on the job level aimed at calibrating the overall manifestation of job enrichment of an organization. Diagnosis on skill variety evaluates the degree to which a person has a range of activities and abilities to perform the work. It assesses whether the job entails diverse activities and several different skills in performing the work. Assessment on task identity measures the degree to which the job requires the completion of a relatively whole identifiable piece of work and whether the jobholder is able to see the job from the beginning to end. Evaluation on autonomy indicates the degree to which the job provides freedom and discretion in scheduling the work and determining appropriate work methods. Diagnosis on the task significance identifies the degree to which a job has a significant impact on other people's lives. Lastly, diagnosis on feedback about results involves the degree to which the job provides employees with direct and clear information about the effectiveness of task performance.

e. ISO 9001:2000 Internal Quality Assessment

The main objective of conducting the ISO 9001:2000 Internal Quality Assessment is to compare the existing ACD's quality system with the requirements of the ISO 9001:2000 Standard. This self-assessment not only gives the evaluation on the need for improvement of the current system but also provides information in determining what is missing for the system-wide structure of documented procedures. In other words, the methodology is intended to determine the relative degree of maturity of ACD's quality system and to identify areas for improvement.

The ISO 9001:2000 Internal Quality Assessment involves audit on the ACD's system in comparison to the twenty-one quality system requirements of the ISO 9001:2000. These twenty-one quality system requirements are grouped under four main elements of ISO 9001:2000, namely (i) management responsibility, (ii) resource management, (iii) measurement, analysis and improvement, and (iv) product realization. The quality system requirements of ISO 9001:2000 are shown in Table 3.5.

Table 3.5: Quality System Requirements of ISO 9001:2000

| ELEMENTS | SYSTEM REQUIREMENTS |
|----------------------------------|----------------------------|
| Management Responsibility | Management commitment |
| | Customer focus |
| | Quality policy |
| | Planning |
| | Administration |
| | Management review |

Table 3.5: Quality System Requirements of ISO 9001:2000 (continue)

| ELEMENTS | SYSTEM REQUIREMENTS |
|------------------------------------------------|---------------------------------------|
| Resource Management | Provision of resources |
| | Human resources |
| | Facilities |
| | Work environment |
| Product Realization | Planning of realization processes |
| | Customer related process |
| | Design and/or development |
| | Purchasing |
| | Production and service operation |
| | Control of measurement devices |
| Measurement, Analysis & Improvement | Planning |
| | Measurement and monitoring of product |
| | Control of nonconformity |
| | Analysis of data |
| | Improvement |

(Source: ISO 9001:2000 Manual by Department of Standard, Malaysia)

SELECTIONS OF MEASURES

The scale measurement of each diagnostics follows the summated rating method or the Likert Scale. The items or variables of each diagnostic are measured based on the Likert Scale, with score of one for very poor, two for poor, three for

average, four for good, and five for excellent. Based on this scale, researcher records a score for the variables of each diagnostics that is being observed in comparison to the specified standard of the desired level for each variable, which is based on the term of reference by the Yusof Omar's SSM Diagnostics and the ISO 9000:2000 Manual.

DATA ANALYSIS TECHNIQUE

The study main objective is to assess whether the organization and its members score below or above the desired level for attitude towards change or transformation and to identify its level of performance in comparison to the desired or optimum level of performance. In this connection, the data is thus being analyzed through the use of descriptive statistical technique. Summation of the data obtained from the observation, including means and frequency of the distribution, is done through the computer program of Microsoft Office Excel 97.