CHAPTER 2: LITERATURE REVIEW

Lucas (1981) defined IT project implementation as 'an ongoing process which includes the entire development of the IT project from the original suggestion through the feasibility study, system analysis and design, programming, training, conversion, installation, and evaluation of the system of the project'.

What is a successful project? Mcleod and Smith (1996) define that a successful project shall satisfy the triple constraints:cost, quality and time. It shall meet requirements (of functionality, reliability, maintainability, portability, efficiency, integration and operability); delivered on time and within budget.

There is no common frame of reference regarding the constituent components of a success or failure, Keil (1994) contending that the definition of success or failure depends on whom you ask. Consequently, the literature shows a very inconsistent IT project's failure rate. DeMarco (1982) suggests that that there is a 15% failure rate of IS projects. Lyytinen and Hirschheim (1987) and then Crescenzi (1989) report failure rates of 60% and 80% respectively. Hochstrasser and Griffiths (1991) report that 70% of IS project fail to deliver the benefits sought, and in many cases, provide no measurable gains at all. Phan et al (1995) presented the results of a survey that showed 25% of the 143 projects surveyed did not meet user requirements. In the same year, Johnson reported a survey results that from a sample of 365 companies' IT project, 31% were cancelled before completion, and 53% overran, with overrun costs and budget impairing functionality. Guinan, et al. (1997), found that almost 75% of all IT projects are never completed, while between one-third and one-half of all IT projects never reach the implementation stage. Remenyi (1991) claimed that there are as many failed information system as there are successful ones appear to remain valid.

A number of studies have been examined on the factors and related issues that have contributed to the success and failure of IT project implementation. Swanson (1988) has formulated a collection of nine factors that are critical to the success or failure of an IT implementation. The factors are : user involvement, management commitment, user basis (users' perceptions of a system's value), mutual understanding between user and system provider, design quality (example system flexibility), performance level (such as reliability and responsiveness), project management (scheduling and resource allocations), resource adequacy and situational stability. Rainer and Watson (1995) highlighted that the most important factors affecting information system success are : system quality, information quality, ease of use, user satisfaction, impact on executive work and organization aspect. Wilson (1991) identified barriers such as insufficient user education, unsuitable technology, difficulties of measuring benefits, management's attitude and resistance to change are crucial to the failure of IT project implementation. Sharif (2001) has conducted a case study on an IT project of a small-medium size manufacturing enterprise in USA related to its Manufacturing Resource Planning information system. He found that project management such as proper planning and scheduling, company culture (employees' resistance to change), user involvement or participation, workforce (includes management level) education and training, technical support of consultants and periodical project review are the key factors of the success of the IT project. Tan (1993) identified that top management commitment, skills and expertise or knowledge of both vendors/consultants and users, commitment of vendors in providing training and education are important factors for success of IT project . In the study conducted by Salleh Yahya and Ho (2000) on shipping and a telecommunication consortiums located in Klang Valley, Malaysia, active user participation, system that enhance decision making and senior management commitment are the top three key success factors of IT projects implementation.

How is the successfulness or effectiveness of an IT project been measured? Meryn & Parkinson (1994) suggest that success measures of

information system are user satisfaction and user acceptance. Other researcher who has relied on user satisfaction in measuring information system success are Delone and Mclean (1992), Ives and Olson (1984). In fact, there are series of studies regarding measures of information quality focused on the output produced by a system and the value, usefulness or relative importance attributed to it by the user. Swanson (1974) suggests to measure system effectiveness through reliability, response time, ease of terminal use. Gallagher and Zmud (1978) measures system success with system respond time and presentation. Other measurements are data currency, response time, turnaround time, data accuracy, reliability, completeness, system flexibility and ease of use by Hamilton and Chervany (1981). Bailey and Pearson (1983) identified nine characteristics of information quality. They are accuracy, precision, currency, output timeliness, reliability, completeness, conciseness, format and relevance. Other researchers have added criteria such as sufficiency, freedom from bias, comparability and quantitativeness by King and Epstein (1983), understandability by Srinivasan (1985), report usefulness by Mahmood and Medewitz (1985), ease of use of system by Davis (1989).