Chapter 2

Literature Review

How can we tell whether or not a system is successful? This is not an easy question to answer because not everyone may agree about the value or effectiveness of a particular information system. A system may be valued highly by an analytical, quantitatively oriented user but may be totally dismissed by an intuitive thinker who is more concerned with feelings and overall impressions.

2.1 The growth of User Satisfaction Approaches

The literature related to computer-based information systems use and acceptance is abundance and multidimensional. In addition, many studies have been conducted to reveal causes for the failure and success of IS(Laudon & Laudon, 1996, pg. 525).

Bailey and Pearson (1983) and Ives, et. al.(1983) studied the output of an IS from the user satisfaction perspective. They reviewed the MIS user involvement research literature and found that user information satisfaction as the dependent variable or indicator of the IS success. Bailey and Pearson(1983) developed a 39-items questionnaires for measuring perceived user satisfaction with IS, whereas Ives et al. reduced the instrument size to 33-items. They also produced a short-form of

the instrument with only 12-items, and a 4-items general scale for measuring user satisfaction.

However, there are no standard tools in IS success assessment. According to DeLone and McLean, the user information satisfaction has been the most widely used for measuring IS success. There were three main reasons for the wide use of this variable: (a) satisfaction has a high degree of face validity, (b) several reliable instruments have been developed for measuring satisfaction, and (c) most of the other measures such as of IS success are problematic.

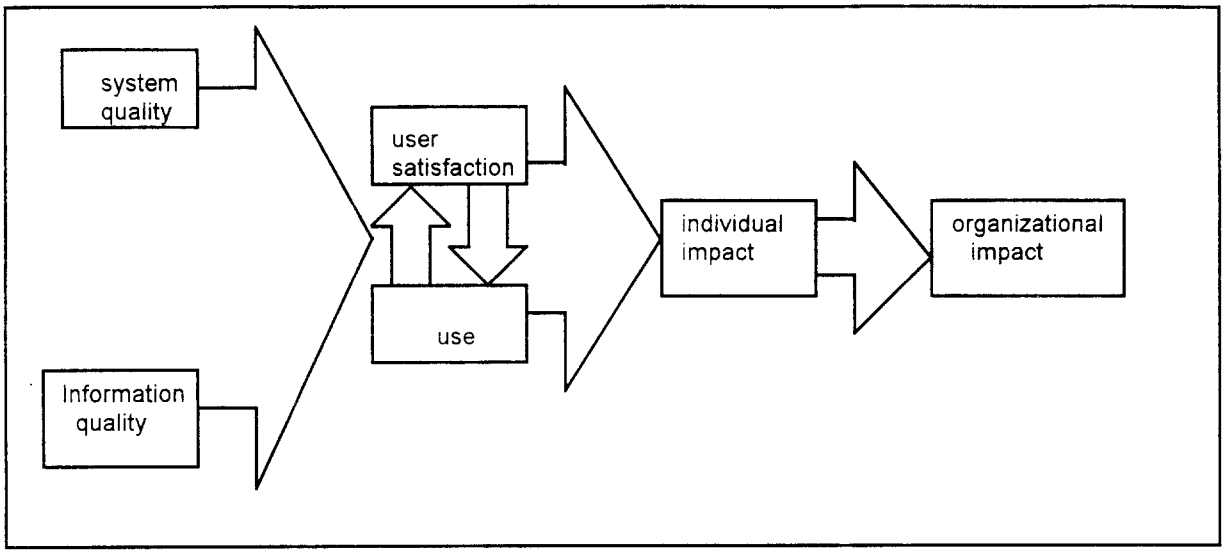
Their contribution to the resolution of this problem has been to introduce a taxonomy that presents researchers with an integrated view of the dependent variable for IS success. DeLone and McLean(1992) proposed six major dimensions for defining IS success: system quality; information quality; user satisfaction; system usage; individual impact and organizational impact.

Figure 2.1 depict DeLone and McLean(1992) IS success model. A growing part of the information systems field is concerned with behavioral problems and issues, such as system utilization, implementation, and creative design is clearly affected by the system quality and the information quality, and interrelated with the usage of the system. In Delone and McLean's(1992) model, the user domain is highly stressed upon the important of the user satisfaction which will further influence the individual impact and consequently to the organization. This is because a lot of systems which would successful technically but failed in the implementation process especially when they overlooked the user as the main contribution to IS success(Delone and McLean, 1992).

Prior to that, DeLone and McLean's model also pointed-out the impact of an IS on the individual and organization level, the link to real success or failure at the level of the business decisions in the IS investment. McLean(1990) also pointed out the relationship between individual perceptions of success and IS effectiveness in the business is complex. In order to avoid the complexities of the study, this research work is confined to the users' perception of success. The study is to

identify the elements which the end users were the most concerned when making their personal judgment about the systems success.

Figure 2.1: DeLone & McLean's IS Success Model



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Another study has been conducted by John S Chandler(1982) whereby he divided the evaluation of IS into 2 perspective, that is the computer system domain and the user domain. In the computer system domain, performance were measured in terms of resources utilization, cost and efficiency while in the user domain, throughput, reliability, and response time were the common measures.

As computer networks allowed people to communicate quickly, share ideas, and transfer information without regard to physical locations, or to a reasonable extent, this will improve the organization's effectiveness and efficiency. However, the efficiency gained from technology and associated information systems will generally serve to reduce the number of people in an organization(Verner M. Kiernan,1995). As such, downsizing of the organization will occurred, the end-user as an employee will feel the uncertainty of their job, this consequently will affect the information system's success.

The study conducted by Miller and Doyle(1987), Rockert(1982), Baroudi and Orlikowski(1988) had obtained similar results whereby the user satisfaction will be influenced by 3 factors. First, the systems quality, which include timeliness, accuracy, availability and tasks speed, will affect a person's attribute toward the system. Second, communication with EDP staff and involvement in the systems development. This is important as the user must be motivated to use the new systems. In order to optimize the performance of the system, the individuals must be changed through training and learning to adapt to the new systems. The training and involvement for the systems include the learning time and retention of acquired knowledge which are associated with how effectively a system can be used. User acceptance of a system (i.e. Subjective satisfaction) is also critical. Third, output quality, that is the final results of the process, which was important as the report should be no further manually touch-up required.

The study done by J. Miller and B.A.Doyle(1987) had discovered that there are significant relationship between IS success and the end-user satisfaction. These factors are:

- functioning of existing transaction/reporting systems
- linkage to strategic processes of firm
- amount and quality of user involvement
- responsiveness to new systems needs
- ability to respond to end-user computing needs
- IS staff quality
- reliability of services

J.Miller (1987) also mapped his factors to Rockert's(1982) study in Critical Success Factors which consisted of four main factors: such as the service management; IS human resources; communication between users and IS staff and repositioning of IS function.

Whereas Baroudi et. al. (1988) used 3 factors for a short-form measure of user information satisfaction. The factors used were information product; EDP(Electronics Data processing) staff and services; knowledge and involvement.

The above studies by different literate used different methodologies and national, however, obtained the similar factors. The validity of the basic construct was strengthened.

In the 1970s, Management of Information System(MIS) researchers believed that introducing a new IS would entail dissatisfied users and large volumes of complaints. However, in a study done in 1982, Cheney and Dickson found that the overall job satisfaction and systems related job satisfaction increased after the installation of a new information system. This decrepancy in research is probably due to the gradual acceptance of computer technology within our society rather than due to satisfaction or dissatisfaction with a particular MIS system design.

Furthermore, Cheney et .al. (1986) identified a set of potential organizational factors that affect the success or failure of end-user computing in an organization. In their study, they did not agree that there is a relationship between job satisfaction and information system. However, they conclude that the assessment of MIS systems must be related to the characteristics of the system and the variable used should be user information satisfaction.

Some researches such as Kappelman & McLean(1991) argued that item heterogeneity remains a problem, the summing of detailed and that independent item to obtain user satisfaction is invalid. Building on the measurement scales of Bailey and Pearson(1983), Ives et al (1983), as well as other researchers in this area, they tested a multi-item instrument against single-item instrument. They found that in the composite scale there are problems of item heterogeneity and that the single scale is "the most reliable and valid way to operationalize the user satisfaction construct" (Kappelman & McLean,1991).