CHAPTER 1
INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Ethiopia, with a total population of 73 918 505, is one of the poorest countries in sub-Saharan Africa. Although various development initiatives and strategies have been started and pursued during the past five decades, the country has been living in a perpetual poverty trap. Some of the major challenges facing Ethiopia include: the dynamics of population growth, very low productivity, infrastructural bottlenecks, dependency on unreliable rainfall and being land-locked (MOFED, 2005).

Since 1991, however, the government became determined to address the development issues, namely under a Plan for Accelerated and Sustained Development to End Poverty (PASDEP) guided or directed by the strategy of Agricultural Development Led Industrialization (ADLI). Public extension service has been seen as a main means of achieving these development initiatives and strategies.

The PASDEP has two phases: PASDEP I, which covered the first five years of the 10 year plan, focussed on expanding education, strengthening health services, capacity-building and decentralization, and the food security program. In PASDEP II (2006 – 2010), the strategy consists of eight elements (MOFED, 2005): (a) a massive push to accelerate growth - through promotion of commercialization of agriculture and non-farm private sector growth; (b) a geographically differentiated growth zones strategy – the country consists of at least three different sorts of economic and agro-ecological zones (such as the traditionally settled semi-arid highlands, potentially productive semi-tropical valley areas, and the hot semi-arid lowlands) each of which require different responses to maximize their potential – (Special effort will be made for pastoral areas in order to reach semi-nomadic people with tailored programs); (c) addressing the population challenge – by making available services for spacing births; (d) unleashing the potential of Ethiopia's women; (e) strengthening the infrastructure ; (f) managing risk and

volatility; (g) scaling up to reach the MDGs; and (h) creating jobs. While most of the initiatives are sector specific, civil service reform, capacity building, governance and decentralization are cross-cutting issues (MOFED, 2005).

The following is a historical overview of the public extension organization in Ethiopia as it evolved during the three main political systems, given to provide a better perspective of the background to the study.

1.2 HISTORICAL OVERVIEW OF THE PUBLIC EXTENSION ORGANIZATION IN ETHIOPIA

The history of agricultural extension in Ethiopia can be traced back to 1908, when Emperor Menelik II issued a decree to establish the Ministry of Agriculture (MoA, 1987). However, up to the 1950s, there was no formal national extension organization in the country. Ethiopia has moved, administratively or politically, from an imperial government with a feudalistic economy, since 1974 to a Marxist military regime that promoted a socialist economy, before finally moving to an ethnic-based federal system, advocating decentralization and a market economy. The following sub-sections review the evolution of public extension organization in Ethiopia during these three different political and economic eras.

1.2.1 The Imperial Era (Pre 1974)

It was only after the early 1950s that formal extension systems in Ethiopia began conducting large-scale activities aimed at transforming the traditional agriculture (Gryseels & Anderson, 1983). The period prior to 1953 was marked by sporadic activities of introducing exotic livestock breeds, vegetables, and fruit and fuel wood trees. Put simply, there was not a well-defined extension system with specific extension objectives, targets, extension contents and communication methods (Elias & Agajie, 2001; Tesfaye, 2003).

In 1953 the Alemaya College of Agriculture was established and given the responsibility of nationally coordinating and leading agricultural education, research and extension based on the Ethio-American Cooperation Agreement (Belay, 2003). According to Elias & Agajie (2001), the 1953-63 period was called the era of Alemaya College. The college initiated a number of research centres that also included satellite extension demonstration plots, namely Alemaya, Jimma, Debre-Zeit, Assela and Fitche. Demonstration plots were established with collaborating farmers. The extension agents, besides visiting and advising farmers, organized adult educational meetings and promoted the formation of agricultural youth clubs.

Youth clubs were used as major fora for technology popularization. The clients of the extension system were therefore youths organized in youth clubs, and not adult men and women. The number of trained personnel was inadequate, and institutions of technology generation, input delivery and credit provision remained extremely underdeveloped (MoA, 1992-93).

In October 1963, with the increasing number of sites and extension personnel, the then government saw the need for transferring the mandate of agricultural extension from Alemaya College to the Ministry of Agriculture (MoA). Since then, MoA has literally become the sole extension service provider in the country, and was given the national mandate to coordinate extension, set up a department to lead activities of planning and implementation of agricultural extension in the country, deploy provincial supervisors in all provinces, followed by assigning staff to Awraja and the districts (Belay, 2003).

Field level extension workers were assigned to work along the main roads and in a radius of about 25 to 30 km from their offices (Belay, 2003). Agricultural officers assigned at provincial level were accountable to the Agricultural Development Promotion Division of MoA for agriculture related matters, and to the provincial administration regarding administrative issues. Establishing youth clubs and tree nurseries were the two major national activities. Extension agents also established agricultural clubs in schools that were instrumental in promoting general agricultural practices and vegetable and poultry

production. Over time, the number and quality of staff grew, and the MoA employed various extension approaches and projects (MoA, 1993, 1994a).

Soon it was felt that spreading out efforts thinly throughout the country might not help achieve desired results of rapid increases in production and productivity. It was conceived that major changes had to include focusing on high potential areas with simultaneous involvement of research and extension, improving the credit schemes and marketing systems, and building institutions as well as social and physical infrastructure. This led to the adoption of the Comprehensive Package Program (MoA, 1993).

In 1967, through the Food and Agricultural Organization (FAO)-sponsored Freedom from Hunger campaign and with assistance from donor agencies, mainly Swedish International Development Agency (SIDA), the Comprehensive Package Program (CPP) began. CPP emphasized the need for focusing activities and bringing together the necessary elements in a project form in view of achieving a significant increase in production and income. The basic aim of the package program approach was, therefore, to promote agricultural development by concentrating inputs and activities in geographically delineated areas so that the results could have demonstrative effects. The intention was to cover 90% of the country in 15-20 years (MoA, 1994).

The first comprehensive package project, the Chilalo Agricultural Development Unit (CADU), was initiated in September 1967 in the then Arsi Province. CADU's office was in Assella and was accorded administrative and financial autonomy. It was relatively free from political interference (MoA, 1984, 1993). The organization did not follow political boundaries; but was organized according to development zones. The clientele was the smallholders with land holdings of fewer than 25 ha. Extension messages were mainly related to crop and livestock production, forestry, and farm implements. CADU was later upgraded to become the Arsi Rural Development Unit (ARDU) to be implemented in several districts of Arsi.

CADU and ARDU have been criticized for neglecting resource poor and dry land areas, and for not involving farmers in the planning and implementation of extension activities (MoA, 1993).

A slightly different model from ARDU was the Wolayita Agricultural Development Unit (WADU). Its focus was on highly populated areas, and its target was the relatively poor farmers. Besides promoting agricultural productivity by focusing on crop protection and development, WADU also included rural artisans in its programs and had settlement schemes for the landless. Other areas of focus were coffee development, small-scale rural industry, and cooperatives. It also focused on the promotion of one multipurpose cooperative at each of its development centres (MoA, 1992).

Then another five comprehensive package projects were initiated and a total of seven projects of different degrees of intensity planned. The remaining five were the Ada Development Unit (near Addis Ababa), the Thatai Adaibo and the Hedakti Agricultural Development Units (in North-western Tigray), the Southern Region Agricultural Development Unit (around Awassa), and the Humera Agriculture Development Unit (Belay, 2003). CADU and WADU were, however, the two most prominent ones.

The CPPs seem to have had noticeable influence on improving productivity and encouraging agricultural intensification and specialization in their immediate vicinities in Ethiopia. It was later realized that implementing CPPs through the whole country could not be feasible because of the high manpower requirements and costs involved. CPP benefited mainly landowners and commercial farmers as evidenced in the distribution of loans provided and accelerated eviction of tenants by facilitating mechanization on large farms (Betru, 1975 cited in Belay, 2003). The feudalistic mode of production limited the contact and the type of advice that these extension agents could give to smallholders (MoA, 1994a; Stommes and Sisaye, 1979 as quoted in Belay, 2003).

As a result, the Minimum Package Programs (MPPs) were initiated in 1971 in two phases (MPP I and MPP II). The idea of MPP was that farmers require integrated support

services, viz. extension advice, fertilizer, improved seeds, farm credits, better tools and implements. In 1971 the Extension and Project Implementation Development (EPID) was established under MoA with the aim of increasing peasant production by implementing the MPPs and following up CPPs and other related projects (Belay, 2003).

MPP I (1971-74) was envisaged to extend services only to habitations within 3-5Km on either side of a main road, covering only one-fifth of the productive land (Nair, 1984). It was designed to provide smallholder farmers with minimum essential services for agricultural development, i.e. extension of tested technologies, facilitating access to credit, and provision of marketing advice (MoA, 1993). To implement the program, EPID set up organizational cells called MIPP areas.

Unlike the CPP, MPP I used an individual farmer extension approach where both model farmers and extension agents demonstrate innovations that increase productivity and income (Belay, 2003). Nevertheless, like the CPP, MPP also employed the general extension model (Tesfaye, 2003). Using the MPP approach, EPID managed to provide extension services in close to half of the districts in the country. But before MPPs were widely implemented, the imperial Government was toppled by the military following the 1974 popular revolution (Belay, 2003).

The extension system during the Imperial Era had limited coverage, and its clients were mainly the better off farmers. Though the transfer of the extension mandate from the then Alemaya College to the Ministry of Agriculture had improved coverage and the launching of a number of donor-promoted projects, signs of improvements in terms of focus and quality of extension, linkages with research and the much needed complimentary services (credit, input, market, etc) were extremely weak (Belay, 2003). Besides, the land tenure system had a crippling effect on the contribution that the extension system could have made to the millions of smallholder farmers, as the aristocrats and the church owned most of the farmland. Consequently, the restrictive credit system discriminated against the landless tenants (MoA, 1994a; Belay, 2003).

1.2.2 Era of the Marxist Regime (1974 – 1991)

After the fall of Emperor Haile Selassie in September 1974, the Military Regime began taking some drastic measures. On March 4, 1975, the Land Reform Proclamation was issued which abolished private ownership of land, prohibited the transfer of land by sale, exchange or mortgage, and limited the maximum farm size of a farmer to 10 hectares. The extension program of EPID was decentralized in 1976 to facilitate implementation of the land reform. In 1977, the agricultural development department of MoA took over some of EPID's responsibilities. As this department was a crop department that was turned into an agricultural development department, it could not fully take over EPID's responsibility. As a result, there existed confusion regarding the management, coordination, and supervision of extension programs at field level (MoA, 1993).

In 1981 (with the financial assistance of SIDA, IFAD and the World Bank), MPP II was reinitiated (MoA, 1994a). Unlike MPP I, instead of working along roadsides, MPP II was set to work on selected districts. To this end, farmers' training centres were established to provide farmers with intensive training of several months. But MPP II was reportedly constrained by institutional changes and lack of support facilities and availability of appropriate technologies (MoA, 1992, 1994a).

It is worth emphasizing that both MPPI and MPPII were not given sufficient time of implementation in wider areas, nor were adequate evaluation studies carried out allowing lessons to be drawn from the experiences.

In 1986, the Peasant Agricultural Development and Extension Project (PADEP) was introduced as a follow-up and replacement of MPPII to be implemented in surplus producing districts (Tesfaye, 2003). It also gave attention to lowlands through specifically designed livestock development projects. PADEP aimed at increasing national food production, promoting cash crops production, expanding rural cooperatives and employment opportunities, and preventing soil erosion. Funds for the implemented

programs were obtained from IDA, IFAD, EEC and USAID. PADEP employed a modified T&V system (Tesfaye, 2003).

The modified T & V system was said to have a clear line of command, and was able to build accountability into the system. It also significantly improved the capacity of the MoA in the form of offices, staff residences, transportation and finances. The links with creditors were established but accessing credits by farmers and collection of loans from farmers proved difficult. To strengthen the research link, national and zone level Research-Extension Liaison Committees (RELCs) were formed.

Nevertheless, RELCs were not firmly anchored in specific institutions and had no budget and no officer in charge. Many zones also did not have research centres nearby (Belay, 2003). Lack of institutional, home-based, dependable funding mechanism weakened RELCs. Further, donors required policy changes on the part of the then Military socialist government, especially in liberalizing the agricultural marketing systems, giving emphasis to individual farms rather than collective and state farms. In January 1988, the government announced policy changes, which lifted price controls, allowed free movement of goods, and provided farmers with better security of tenure. This led to approval of PADEP I, and implementation began in 1989 (World Bank, 1993).

To sum up, the contribution that agricultural extension could make to agricultural development during the 1974-91 period was seriously undermined by such factors as giving priority to state and collective farms at the expense of smallholder individual farmers; extension workers being involved in many other tasks in addition to extension; extension burdened with political objectives; and highly centralized, less flexible, and top-down extension planning.

1.2.3 The Post 1991 Era of decentralization

The period after 1991 is characterized as the era of institutional pluralism in the history of extension in Ethiopia (Elias & Agajie, 2001). That means the beginning of involvement

of farmers, NGOs (particularly Agri-Service Ethiopia, FARM Africa, and SOS Sahel in on-farm research) and other institutions in extension processes. The National Agricultural research system had become the main source of technology.

The modified T&V system continued to be the national extension system in the early 1990s as well. The newly established Regional National states were given full autonomy in the planning, execution, monitoring and evaluation of extension programs. In the meantime, Saskawa Global 2000 (also known as SG-2000), after having made inventory of available technologies with the support of the national agricultural research and extension systems, initiated an extension strategy in 1993, which was later known as Participatory Demonstration and Training Extension System (PADETES).

PADETES was proposed as a remedy to rectify drawbacks observed during the implementation of package programs. It emphasized better research-extension linkage, encouraged aggressive work in technology transfer to smallholders, and made efforts to strengthen the capacity of the extension system to disseminate research-proven pre-and post-harvest technologies mainly in food crops (Quinones *et al.,* 1997). The on-farm demonstration plot size was 0.5 ha (called extension management training plots) so as to show the farmer on a larger scale the advantages of using high yielding varieties (HYVs) along with recommended fertilizer levels and management practices. Model farmers were provided with a 25% down payment credit to cover the cost of improved seeds and fertilizers and with effective technical assistance from governmental extension agents.

In 1995 the rural centred agricultural development program, using PADETES and modified SG-2000 approaches, came into being under the name of the new extension intervention program (Tasfaye, 2003). Core features of PADETES include clear objectives and implementation strategies, selection of technologies suitable to the specific agro-ecological zones, use of a wide range of communication methods and media, emphasis on participation through a large number of demonstration plots on farmers' fields, credit provision by local government, collateral arrangement, and systematic inclusion of women and the youth (MoA, 1994b). The role of DAs in the PADETES

revolves around training and organizing farmers to have access to and make use of inputs, mainly technological innovations and inputs such as chemical fertilizers and seeds of improved varieties (MoA, annual performance reports).

The post 1991 period is marked by the devolution of power from the central to regional governments. Regional bureaus of agriculture are responsible for the planning and implementation of agricultural extension. Since 2002, the decentralization process was taken one step further to the district level (Habtemarium, 2005). The current emphasis is on respecting the commands and building amicable relationships with the district administration that can hire and fire extension staff. The influence of this current restructuring on extension delivery is not known, which is the focus of this study.

1.3 STATEMENT OF THE PROBLEM

In order to regain the capability to feed the rapidly growing population, Ethiopian agriculture will have to address challenges such as natural resource degradation, increasing frequency of drought, worsening state of poverty, and the HIV/AIDS pandemic that is decimating the productive youth (Habtamarium, 2005). A thriving agricultural economy is critical for reducing poverty, ensuring food security and for proper management of natural resources. In this regard, public extension services have historically been the primary vehicle of Ethiopian development policies and strategies of various former and current governments, which clearly underpins the importance of extension and properly functioning extension organisations.

Public extension organizations in many developing countries have shortcomings with regard to effectiveness, efficiency and accountability (Habtamarium, 2005). Assessing the impact of extension is known to be inherently difficult, and critical reviews of extension programs and projects are lacking in Ethiopia. Adoption studies covering wider areas are few, and organizational or managerial efficiency related studies are scant. Thus, extension remains an under-researched area making it even more difficult to assess its successes or failures (Habtamarium, 2005). Useful efforts in this regard include studies

by Gebre-Selassie (2001), Habtemarium (2005), Belay (2003) and Fasil & Habtemarium (2006), but they did not look at organizational efficiency holistically, or make a comparative study of the situation before and after the changes had been implemented.

Although there has not been a well-defined agricultural extension policy and implementation strategy, the public extension organization kept on changing in Ethiopia. The historical review of public extension in Ethiopia indicates that extension projects have nearly always been top down in nature and heavily influenced by donor agencies and politicians. There have been frequent changes in approach, focus and organizational structure, but there is literally no systematic assessment of past performance to design future intervention strategies, and enough time is not being given to draw lessons from changing approaches and changing organizational structures (Habtamarium, 2005). In fact, it seems as if changes, and they are not infrequent, occur arbitrarily and spontaneously.

Since the mid 1970s, the ministry of agriculture has undergone at least ten major restructuring processes as far as the focus of extension delivery is concerned. In none of the cases is there evidence of such restructuring decisions being based on feasibility studies or systematic evaluation of the effect of such changes. And if these changes coincide with or are the result of the intuitions or personal incentives of a newly appointed leader, there is no assurance of a systematic improvement over time. This has negatively affected continuity of programs and staff stability in the past and will continue to do so in the future, unless corrective measure is taken in this regard (Habtamarium, 2005).

Currently, against the backdrop of declining public resources, economic changes, globalization and sustainable development issues, extension organizations have been undergoing considerable re-examination and change (Thompson & Strickland, 2001; Swanson, *et. al.,* 2003). Downsizing and restructuring are the most common changes implemented in extension organizations (Swanson, *et. al.,* 2003).

There is growing literature showing the varying effects of these intervention efforts on the effectiveness of organizations. There are only a few developing countries claiming general successes, such as Morocco, Thailand, Papua New Guinea and Botswana (Crook & Manor, 1994; Hope, 2000; Guislain, 1997; Shirley, 1999). Even in these countries there is much variation between and within the countries (Crook & Manor, 1994).

Similarly, there is adequate evidence in Africa, Latin America and Asia where decentralization, down-sizing and merger efforts have produced little results (Sarker, 2003; Flint, 2003; Turner & Hume, 1997). Decentralization efforts, for example, in Africa have fostered control of rural area by deconcentration, in Latin America created centralist attitude and interests from both politicians and bureaucrats, and in Asia politicians and bureaucrats were found to be reluctant to devolve power to local authorities rather than creating effective organization (Turner & Hume, 1997). Such unstable states affect organizational coping strategies and can negatively impact work performance and, sometimes, causing the best employees to emigrate (White, 1999; Cunningham; 1987; Jayaratne, 2003).

In Ethiopia, large-scale structural changes were undertaken in 1991 with the devolution of power from the central Government to Regional States Governments and in 2002 the decentralization process was taken further to district level. The intention was to improve the accountability of public service organizations, focusing on a more "private businesslike" management system. This new public management system has focused on more "accountable management" or "businesslike" control based on formal performance agreements.

In this context, continuous systematic evaluation and monitoring are essential for an extension system to function efficiently as intended, and to determine if modifications are needed to meet changing conditions or demands. According to Bembridge (1980) much of the evaluation research in extension has been focused on behavioural change on the part of the farmer. By focussing on the farmer, the most important factor in the process

and the one that can most easily be adjusted, namely the extension organization itself, has been neglected (Röling, 1970).

The purpose of this study is to contribute towards these challenges by investigating the current efficiency level of the Oromia Bureau of Agricultural and Rural Development (OBARD) in regard to extension management and organizational efficiency.

1.4 RESEARCH OBJECTIVES AND QUESTIONS

The specific objectives of the study were to examine the:

1. Current situation of overall organizational and managerial functioning,
2. Impact or influence of the 2002 organizational interventions, and
3. Determinants of organizational effectiveness.

In order to achieve these objectives, the study was guided by the following research questions:

1. How efficiently is the OBARD organization currently functioning?
2. What is the current situation of OBARD regarding managerial efficiency level and the application of improved management practices?
3. Are there any differences between before and after the 2002 organizational restructuring in terms of improvements in organizational performance?
4. What are the factors that currently influence, (enhance or restrain) the organizational and managerial functioning of OBARD?
5. Are there any variations regarding assessed organizational and managerial performance between various categories of respondents?

1.5 SIGNIFICANCE OF THE STUDY

The extension organization is one of the most important government institutions responsible for agricultural development in Ethiopia. The findings of this study will

contribute towards effectiveness and efficiency of extension management and the subsequent extension service provision. In addition, this study is useful for higher education curriculum development of extension department by providing information regarding the training needs of organizations. The study is also expected to contribute towards a better and common understanding among policy makers, researchers and extension workers of the concepts of extension in Ethiopia. This understanding is critical if the future policy decisions implemented by the government are to complement the knowledge, attitude and values of extension workers and managers for effective extension organization.

1.6 THESIS OVERVIEW

This thesis is divided into twelve chapters. Following the introduction in chapter one, in chapter two various theories of management and effectiveness measurement models that cover essential themes of the study are briefly reviewed, leading to the theoretical and conceptual framework of the study. Chapter three outlines and briefly discusses the research methodology used regarding the study population, instruments and study design, in order to answer research questions.

The next nine chapters (4-11) present the findings of the research. Chapter four presents the profile of the respondents. The current state organizational effectiveness of the Oromia Bureau of Agricultural and Rural Development (OBARD) is presented in chapter five; while chapter six evaluates the extent of alignments or fits between the organization's strategy, its capability and its environment. Chapter seven through eleven provide the current efficiency levels of the organization in terms of the five management functions, namely, planning, organizing, human resources management, leadership and controlling, respectively.

Finally, chapter twelve will present the summaries or main findings and their implication for policy, research and future extension service provision and managerial interventions.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of this chapter is to review various management theories and organizational/ managerial performance measurement models, in order to identify a theoretical and conceptual framework for this study.

Organized endeavours directed by people responsible for planning, organizing, leading and controlling activities have existed for thousands of years (Mescon *et al.,* 1981). According to Wren (1979), the use of organization can be traced back even further through archaeological evidence, indicating that prehistoric peoples often lived in organized groups. The Hanging Gardens of Babylon, the Ice City of Machu Piccu, and the pyramids of Egypt could only have been built through coordinated organized endeavour (Robbins & Coulter, 1999). The pyramids are a particularly interesting example; the construction of a single pyramid occupied more than 100,000 people for 20 years (George, 1972).

There also were large political organizations long before the birth of Christ. Those of the Macedonians under Alexander the Great, the Persians, and later the Romans stretched from Asia to Europe (Mescon *et al.,* 1981). Kings and generals were managers, of course; so were the lieutenants, slave drivers, territorial governors, and keepers of the treasury who helped to keep these early organizations operating (Wren, 1979). The accomplishments of larger organizations clearly indicate that they were managed formally and had levels of management (Mescon *et al.,* 1981). These examples from the past demonstrate that organizations have been around for thousands of years, and that management has been practiced for an equivalent period (Mescon *et al.,* 1981).

Although organization and the practices of management may be as old as humanity, before the twentieth century hardly anyone thought systematically about them (Wren,

1979). In the view of Wren (1979), the main reason is that people were interested in using organizations to acquire money or political power, but not in managing them. For example, during the early nineteenth century, Robert Owen gave a great deal of thought to attaining organizational objectives through other people. He provided workers with adequate housing and safer conditions, developed a system for fairly and openly evaluating employees, and paid incentives for better performance Wren (1979). These reforms, phenomenally innovative for the time, showed insight into human nature and the manager's role. But other businessmen of that time saw little practical value in Owen's reforms, and no single one is known to have followed his lead (Mescon *et al.,* 1981).

The first genuine burst of interest in management came in 1911 (Mescon *et al.,* 1981). The major force that first spurred serious interest in management was the Industrial Revolution, which began in England. But the idea that management could in itself make a major contribution to organizations first arose in America (Mescon *et al.,* 1981).

These evolutions of management thought and concepts emerged over the years, and are categorized as: the pre- classic school of management theories (1776-1886), classic school of management theories (1898-present), processes approach of management thought, and contemporary (modern) management thought (Mescon *et al.,* 1981).

However, the evolution of the development of management theories did not consist of a series of distinct steps (Wren, 1979). Rather, the pattern has been one of varying approaches which have often overlapped chronologically in development. Consequently, advances in management theory have always been dependent on advances in many supporting disciplines, such as mathematics, engineering, psychology, sociology, and anthropology (Wren, 1979).

To date, there have been four major approaches that have contributed significantly to management thought and practice. Namely:

1. The schools approach views management from four distinct perspectives.

2. The process approach views management as a forgoing series of interrelated management functions.
3. The systems approach stresses that managers should view an organization as a number of interrelated parts, such as people, structure, tasks, and technology that try to attain diverse objectives in a changing environment , and
4. The contingency approach stresses that the appropriateness of various management techniques is determined by the situation.

The following four sections trace developments in management thought according to these four approaches, in order to select the theoretical framework of this study. The final section concludes the review of literature by reviewing various models of organizational and managerial performance measurement for the purpose of identifying the conceptual model of this study.

2.2 THE SCHOOLS APPROACH TO MANAGEMENT THOUGHT

The twentieth century witnessed a period of tremendous management theory ferment and activity. Calls were heard for the development of a comprehensive management theory. The classical school of management was primarily concerned with developing such a theory to improve management effectiveness in organizations. However, the theorists went a step further. Not only did they seek to develop a comprehensive theory of management, but they also wanted to provide the tools managers required for dealing with their organizational challenges. Within the schools approach there are the scientific management, administrative management, human relations management, behavioural science management, quantitative management and Japanese school of management branches.

2.2.1 Scientific Management School (1885 - 1920)

The scientific management approach emphasized empirical research for developing a comprehensive management solution (Mescon *et al.,* 1981). The major representatives of

this school of thought are Frederick Winslow Taylor (1856-1915), Frank Gilbreth (1868-1924) and Lillian Gilbreth (1878-1972). A fundamental implication of scientific management is that the manager is primarily responsible for increasing an organization's productivity. Taylor is known as the father of scientific management (Mescon *et al.,* 1981).

Taylor sought to create a mental revolution among both the workers and managers by defining clear guidelines for improving production efficiency. He defined four principles of management (Box 1), and argued that following these principles would result in the prosperity of both managers and workers (Robbins & Coulter, 1999). Workers would earn more pay and managers would earn more profits (Robbins & Coulter, 1999).

Box 1: Taylor's four principles of management

1. Develop a science for each element of an individual's work, which will replace the old rule-of-thumb method.
2. Scientifically select and then train, teach, and develop the worker. (Previously, workers chose their own work and trained themselves as best they could.)
3. Heartily cooperate with the workers so as to ensure that all work is done in accordance with the principles of the science that has been developed.
4. Divide work and responsibility almost equally between management and workers. Management takes over all work for which is better fitted than the workers. (Previously, almost all the work and the greater part of the responsibility were thrown on the workers.)

The scientific management school is contrasted sharply from the old system in which workers had to plan their work themselves. According to Robbins & Coulter (1999), scientific management, in sum, was a major conceptual breakthrough. Largely because of it, management became widely recognized as a distinct field of scholarly inquiry. For the first time, managers and scholars recognized that the methods and approaches of science

and engineering could be applied with equal effectiveness to facilitate the attaining of organizational objectives (Robbins & Coulter, 1999). Further, Mescon *et al.* (1981) summarized the contribution of this school of thought as follows.

The contributions of scientific management school:

1. application of scientific analysis to determine the best way of performing a task
2. selection of workers best suited to the task and provision for training them
3. providing workers with the resources required to perform their tasks efficiently
4. systematic, fair use of pay incentives to improve productivity
5. separation of planning and thinking from the actual work

The other important thing to recognize about the scientific management approach is that many of the techniques developed by Taylor, the Gilbreths and others are still used in organizations today (Robbins & Coulter, 1999).

But current management practice is not restricted to the scientific management approach. The other areas of its methodology have proven to be flawed (Robbins & Coulter, 1999). For example, the piece rate system all too often is either inapplicable in today's computerized assembly lines or is compromised by management continually raising the quota (Robbins & Coulter, 1999). Scientific management writers focused on what is called shop management (Mescon *et al.,* 1981). They concentrated on improving efficiency below the managerial level. It was not until the rise of the administrative school that writers systematically approached making the management of the overall organization more effective (Mescon *et al.,* 1981).

2.2.2 Administrative Management School (1920 - 1950)

Another group of writers who looked at the subject of management, but focused on the entire organization, were called the general administrative theorists (Robbins & Coulter, 1999). They developed more general theories of what managers do, and what constitutes good management practice (Robbins & Coulter, 1999). The most prominent of these general administrative theorists were Henri Fayol, Max Weber, and Ralph Davis.

Unlike Taylor and Gilbreths, who began their job as common labourers, which doubtless influenced their thinking about managing organizations, the major contributors to administrative management had more direct experience with top-level management in big business (Mescon *et al.,* 1981). Consequently, their primary concern was the broader problem of efficiently administrating the overall organization. They were focusing on administrative management, the study of how to create an organizational structure that leads to high efficiency and effectiveness (Mescon *et al.,* 1981). Organizational structure is the system of task and authority relationships that controls how employees use resources to achieve the organization's goals (Robbins & Coulter, 1999).

Two of the most influential views regarding the creation of efficient systems of organizational administration were developed by Max Weber (1864–1920) and Henri Fayol (1841–1925). Weber developed the principles of bureaucracy (Box 2) - a formal system of organization and administration designed to ensure efficiency and effectiveness. A bureaucratic system of administration is based on five principles (Robbins & Coulter, 1999).

Box 2 Weber's five principles of bureaucracy

Principle 1:	In a bureaucracy, a manager's formal authority derives from the position he or she holds in the organization.
Principle 2:	In a bureaucracy, people should occupy positions because of their performance, not because of their social standing or personal contacts.
Principle 3:	The extent of each position's formal authority and task responsibilities, and its relationship to other positions in an organization, should be clearly specified.
Principle 4:	So that authority can be exercised effectively in an organization, positions should be arranged hierarchically, so employees know whom to report to and who reports to them.
Principle 5:	Managers must create a well-defined system of rules, standard operating procedures and norms, so that they can effectively control behaviour within an organization.

Weber believed that organizations that implement all five principles, will establish a bureaucratic system that will improve organizational performance (Robbins and Coulter,

1999). The specification of positions and the use of rules to regulate how tasks are performed, make it easier for managers to organize and control the work of subordinates. Similarly, fair and equitable selection and promotion systems improve managers' feelings of security, reduce stress, and encourage organizational members to act ethically and further promote the interests of the organization (Robbins and Coulter, 1999).

On the other hand, working at the same time as Weber but independently of him, Henri Fayol identified 14 principles (Box 3) that he believed to be essential to increasing the efficiency of the management process (Robbins and Coulter, 1999). Some of the principles that Fayol outlined, have faded from contemporary management practices, but most have endured (Mescon et al., 1981).

Box 3 Fayol's 14 principles of management

1. *Division of Labour* Job specialization and the division of labour should increase efficiency, especially if managers take steps to lessen workers' boredom.
2. *Authority and Responsibility* Managers have the right to give orders and the power to exhort subordinates for obedience.
3. *Unity of Command* An employee should receive orders from only one superior.
4. *Line of Authority* The length of the chain of command that extends from the top to the bottom of an organization should be limited.
5. *Centralization* Authority should be concentrated at the top of the chain of command.
6. *Unity of Direction* The organization should have a single plan of action to guide managers and workers.
7. *Equity* All organizational members are entitled to be treated with justice and respect.
8. *Order* The arrangement of organizational positions should maximize organizational efficiency and provide employees with satisfying career opportunities.
9. *Initiative* Managers should allow employees to be innovative and creative.
10. *Discipline* Managers need to create a workforce that strives to achieve organizational goals.
11. *Remuneration of Personnel* The system that managers use to reward employees should be equitable for both employees and the organization.
12. *Stability of Tenure of Personnel* Long-term employees develop skills that can improve organizational efficiency.
13. *Subordination of Individual Interests to the Common Interest* Employees should understand how their performance affects the performance of the whole organization.
14. *Esprit de Corps* Managers should encourage the development of shared feelings of comradeship, enthusiasm, or devotion to a common cause.

The principles that Fayol and Weber set forth still provide a clear and appropriate set of guidelines that managers can use to create a work setting that makes efficient and effective use of organizational resources (Robbins & Coulter, 1999). These principles remain the bedrock of modern management theory. Recent researchers have refined or developed them to suit modern conditions (Mescon *et al.,* 1981). For example, Weber's and Fayol's concerns for equity and for establishing appropriate links between performance and reward are central themes in contemporary theories of motivation and leadership (Donnelly *et al.,* 1995).

In general, administrative management theorists' contributions relied heavily on personal observation rather than scientific methodology (Robbins & Coulter, 1999). They tried to look at organizations from a broad perspective to determine what all had in common. The administrative management school's objective was to identify universal principles of management applicable to all organizations. The underlying idea was that following these principles would invariably lead to organizational success (Robbins & Coulter, 1999).

The contributions of the administrative management school are: development of principles of management, description of the functions of management, and systematic approach to management of overall organization (Mescon *et al.,* 1981). Some of our current management ideas and practices can be directly traced to the contributions of the general administrative theorists (Robbins and Coulter, 1999).

2.2.3 Human Relations School (1930 – 1950)

Human relations writers brought to managers' attention the important role played by individuals in determining the success or failure of an organization (Donnelly, et al., 1995). Basically accepting the major premises of the administrative school, the human relations school showed how these premises should be modified in view of differences in individual behaviour and the influence of work groups on the individual and vice verse. Thus, the formulators of human relations theories are concerned with the social

environment surrounding the job, while administrative school writers were concerned mainly with the physical environment (Donnelly et al., 1995). The human relations school has produced a wealth of important ideas, research findings, and values about the role of the individual in an organization (Mescon et al., 1981). Human dignity, individual self-esteem, and relationship are important considerations when effective managers make decisions. Exploitation, manipulation, and insensitivity toward people are not accepted in organizations with people-oriented management (Donnelly et al., 1995).

Two particularly influential contributors to the human relations movement were Mary Parker Follett and Elton Mayo (Mescon et al., 1981). It was Miss Follett who originally defined management as "getting work done through others". Elton Mayo's famous experiments, particularly those conducted at Western Electric's Hawthorne plant, opened a new dimension of management thought. Mayo found that an efficiently designed job and adequate pay would not always lead to improved productivity, as the scientific management school believed (Mescon et al., 1981). Forces arising from interaction between people could and often did override managerial efforts. People sometimes responded more strongly to pressure from others in the work group than to management's desires and incentives. Later researches conducted by Abraham Maslow and other behavioural scientists helped explain why. Human beings, Maslow learned, are motivated not by economic forces, as the scientific management writers believed, but by various needs that money only partially and indirectly fulfils (Robbins & Coulter, 1999).

Based on these findings, writers of the human relations school believed that if management showed more concern for their employees, employee satisfaction should increase, which would lead to an increase in productivity (Donnelly, et al., 1995). They recommended the use of human relation techniques such as more effective supervision, employee counselling, and giving workers more opportunities to communicate on the job.

The work of Mary Parker Follett, the Hawthorne experiments and the criticism of the Classical School by Herbert Simon led to a deeper consideration of the needs of the employees and the role of management as a provider for these needs. The two major

organizational theorists in the human relations movement are Abraham H. Maslow (1908-1970) and Douglas McGregor (1906-1964).

Maslow was the first psychologist to develop a theory of motivation based upon a consideration of human needs (Mescon et al., 1981). Maslow's theory of human needs has three assumptions (Donnelly, et al., 1995): (1) human needs are never completely satisfied, (2) human behaviour is purposeful and is motivated by need satisfaction, and (3) needs can be classified according to a hierarchical structure of importance from the lowest to highest.

Maslow believes the needs hierarchy can be classified into five specific groups (Donnelly, et al., 1995). To reach successive levels of the hierarchy required the satisfaction of the lower level needs. They are: (1) Physiological needs; (2) Safety needs; (3) The belongingness and love needs; (4) The esteem needs; and (5) The need for self-actualization. Maslow's hierarchy of needs theory helps the manager to visualize employee motivation. It helps in understanding the motivations and needs employees have and the requirement to satisfy basic needs in order to achieve higher level motivation (Donnelly, et al., 1995).

McGregor is the other major theorist associated with the Human Relations School of management. McGregor believes there are two basic kinds of managers. One type of manager, Theory X, has a negative view of employees assuming they are lazy, untrustworthy and incapable of assuming responsibility, while the other type of Manager, Theory Y, assumes employees are trustworthy and capable of assuming responsibility and have high levels of motivation (Donnelly, et al., 1995).

The contributions of the human relations school are related to the application of human relations techniques to increase satisfaction and productivity (Mescon et al., 1981).

2.2.4 Behavioural Science School (1950 - present)

The behavioural science approach to the study of management can be defined as the study of observable and verifiable human behaviour in organizations, using scientific procedures. It is largely inductive and problem centered, focusing on the issue of human behaviour, and drawing from any relevant literature, especially psychology, sociology, and anthropology (Donnelly, et al., 1995). Its theorists include Mary Parker Follett (1868-1933) and Herbert Simon, as well as numerous psychologists who turned from studying individual behaviour to organizational behaviour (Mescon et al., 1981).

The behavioural science school departed significantly from the human relations movement's emphasis on human relations techniques (Robbins & Coulter, 1999). The behavioural science school was more concerned with helping employees to realize their full potential, by applying the behavioural science concept to the design and management of organizations (Mescon et al., 1981). In basic terms, the aim of the behavioural science school was to increase organizational effectiveness by increasing the effectiveness of its human resources. This could be accomplished by using scientific analysis to describe, explain and predict human behaviour in the workplace (Mescon et al., 1981).

Both scientific management advocates and the general administrative theorists viewed organizational employees as machines (Robbins & Coulter, 1999). Managers were the engineers. They ensured that the inputs were available and that the machine was properly maintained. Any failure by employees to generate the desired output was viewed as an engineering problem (Robbins & Coulter, 1999). Contributors to the organizational behaviour approach forced managers in many organizations to reassess this simplistic machine-model view (Mescon et al., 1981).

However, like earlier approaches, it advocated a "one best way" approach (Donnelly, et al., 1995). Its contention was that the correct application of behavioural science would always improve individual and organizational effectiveness (Robbins & Coulter, 1999).

However, techniques such as job redesign and participation are only appropriate for certain individuals and situations. Thus, despite its many important contributions, the behavioural approach was sometimes found wanting in situations different from those studied by its researchers (Mescon et al., 1981).

2.2.5 Quantitative or Management Science School (1950 - present)

After World War II, many quantitative techniques that had been used for military problems were applied to the business sector (Robbins & Coulter, 1999). The quantitative approach to management includes applications of statistics, optimization models, information models, and computer simulations (Robbins & Coulter, 1999). Linear programming, for instance, is a technique that managers can use to improve resource allocation decisions, while critical-path scheduling analysis can be used for more efficient work scheduling (Mescon et al., 1981).

In general, management science theory is a school of management thought that focuses on the use of rigorous quantitative techniques to help managers make maximum use of organizational resources to produce goods and services (Mescon et al., 1981). Perhaps the biggest boost of all to the application of quantitative techniques to management was the development of the computer (Robbins & Coulter, 1999). The computer enabled operations researchers to construct mathematical models of increasingly greater complexity that more closely approximated reality and were therefore more accurate.

The two main contributions of the management science school are:

1. Improved understanding of complex management problems through development and application of models, and
2. Development of quantitative techniques to help managers make decisions in complex situations (Mescon et al., 1981).

However, the quantitative approach has not influenced management practice for a number of reasons including that many managers are unfamiliar with the quantitative

tools; behavioural problems are more widespread and visible; and it is easier for most students and managers to relate to real day-to-day people problems than to the more abstract activity of constructing quantitative models (Robbins & Coulter, 1999). Yet the quantitative approach and the wide spread availability of sophisticated computer software programs to aid in developing models, equations, and formulas have added another dimension to the evolution of management practice and thinking (Robbins & Coulter, 1999).

2.2.6 The Japanese Management School (1970 – present)

A great deal has been written in recent years about the Japanese style of management. One of the principal writers is William Ouchi, through his books Theory Z and The M-Form Society. Japanese management has achieved respect because of its ability to increase productivity (Ouchi, 1981). America's productivity increase has seriously underperformed Japan's (Ouchi, 1981). This raises the question of why Japanese management has been so successful (Ouchi, 1981).

Fundamental elements of the Japanese management system, namely the focus on human resources, such as recruitment and selection, the Ringi system of decision making, the lifelong employment system, the harmonious relationship between unions and management, are all-too-well known (Khan, 1991). The Ringi system, i.e. the Japanese decision-making process, differs significantly from that practiced in the West. It is built on a bottom-up approach, and the basic steps in the process are: (1) origination of proposal; (2) research and horizontal coordination; (3) approval and vertical coordination; and (4) action (Khan, 1991).

According to Ouchi (1981) this level of trust permits Japanese employees to have a great deal of decision-making authority and also stresses the concept of intimacy in its managerial relationships where personal relationships are highly valued, respected and rewarded.

In organizational terms, the large Japanese company has a balance between teamwork and individual effort. Ouchi calls this the M Form organization (Ouchi, 1981). It is a combination of a large decentralized organization where each unit competes with every other unit, in order to obtain budgetary resources based upon earnings, while at the same time having to draw upon the same centralized corporate services (Ouchi, 1981). It is essentially a "loose-tight organization" where individual initiative is rewarded, while still being controlled through centralized corporate management systems (Kono & Clegg, 2001).

However, there are basic drawbacks of the Japanese management system. A closer examination reveals that while Japan has achieved unparalleled economic success, it pays a toll in human and social terms (Khan, 1991). According to Khan (1991) the level of frustration of Japanese workers expresses itself in many forms today (i.e. emotional breakdowns, alcoholism, and increased divorce rate). Moreover, the overwhelming emphasis on conformity, group orientation and the concept of lifelong employment demanding unquestioning obedience and loyalty, borders on servitude (Khan, 1991).

Concluding Remark

The schools based theories of management efforts to systematize management tended to approach it from a single perspective.

Scientific management concentrated on redesigning work to improve efficiency at the non-managerial task level. The administrative management school tried to identify broad, universal principles or laws for administering an organization. The human relations and behavioural science schools felt that the key to effectiveness is the understanding of human needs and social interaction. The quantitative (management) science school, whose influence is growing, uses quantitative tools such as models and operations research to make decisions more objective and to maximize efficiency of work flows. Finally, the Japanese management school (Theory z) focuses on human resources (such

as recruitment and selection, the Ringi system of decision making, and the lifelong employment system) for increased productivity.

Each of the schools made an important, lasting contribution to management; but, because they tended to advocate a "one best way" approach, and thus examined only part of the organization, or ignored the external environment, none proved itself wholly successful in all situations.

2.3 THE PROCESSES APPROACH

Management scholars have sought to reduce the theory and practice of management to an orderly body of knowledge for some time (Wren, 1979). The "principles and process" approach represents one view of how a general theory of management might be developed. The management "process," that is, what managers do in performing their job, provides a framework for theory; "principles" allegedly describe how managers should manage and represent building blocks for the body of knowledge (Wren, 1979).

The process approach to management thought consisted of the work of its intellectual progenitor, Henri Fayol. Ralph C. Davis and Luther Gulick were influenced by Fayol's elements and must be classified as "first generation", since their writings influenced more modern versions of the management process (Wren, 1979). It was in the writings of these men that the functions of the manager were established as a recurring, interdependent cycle of activity which led to the accomplishment of organizational goals (Wren, 1979).

The process approach was first suggested by writers of the administrative management school and it is a major conceptual breakthrough widely accepted today (Mescon et al., 1981). It was they who first attempted to describe the functions of the manager. However, administrative writers tended to consider these functions to be independent from one another. The process approach, in contrast, considers management functions to be interdependent (Mescon et al., 1981).

Management is considered a process, because the work of attaining objectives through others is not a one-time act, but an ongoing series of interrelated activities (Mescon et al., 1981). These activities, all of which are essential to organizational success, are referred to as the management functions. The managerial functions are also referred to as processes, because they consist of a series of activities. The management process is the sum total of these functions.

Henri Fayol, who is credited with originating the concept, believed that there are five primary functions. In his words: "to manage is to forecast and plan, to organize, to command, to coordinate, and to control." Eleven other writers have come up with different lists. A search of current literature would include the following: planning, organizing, supervising (command), motivating, leading, coordinating, controlling, communicating, investigating, evaluating, decision making, staffing, representing, and bargaining or negotiating. In fact, almost every management text employs a slightly different framework of functions.

This study takes the approach of combining essential managerial activities into a relatively small number of categories, all of which are currently widely accepted as applicable to all organizations (Mescon et al., 1981). We consider the management process per se to consist of the functions of planning, organizing, staffing and human resources management, leading and influencing, and controlling. All of these concepts are elaborated on in separate result chapters (6-11). The following brief explanation of each should give a general overview of the ground the study covers.

The search for the general management theory through the management process is presented in Table 2.4. In retrospect, the process approach was an attempt to identify management as a distinct intellectual activity which was universal in nature (Wren, 1979). The search was for a generally agreed upon body of knowledge which could be distilled into principles and hence would lead to a general philosophy or theory of management (Wren, 1979).

The process approach evolved from classic simplicity with Fayol and Davis, became more diverse in the function presented by Gulick, Newman, and Terry, and then began to settle down with more widespread agreement among AFM 25-1, Koontz and O'Donnell, and McFarland (Table 2.1).

Table 2.1 Relevance of managerial functions according to various authors

Managerial functions	Name of scholars								
	Fayol (1961)	Davis (1934)	Gulick (1937)	Newman (1951)	Terry (1953)	AFM* 25-1 (1954)	Koontz and O'Donnell (1955)	Terry (1956)	McFarland (1958)
Planning	√	√	√	√	√	√	√	√	√
Organizing	√	√	√	√	√	√	√	√	√
Coordination	√		√	√	√	√			
Controlling	√		√	√	√	√	√	√	√
Command	√								
Directing			√	√	√	√	√		√
Leading Human efforts					√				
Actuating								√	
Staffing	√		√				√		
Assembling Resources				√					
Reporting			√						
Budgeting			√						

* AFM (Air Force Manual)

Of the managerial functions presented (Table 2.1), planning, organizing, and controlling achieved the greatest agreement concerning their applicability.

For the purpose of management in extension, Buford et al., (1995) combined essential managerial functions into five categories, all of which are currently widely accepted as applicable to all organizations. Accordingly, in this study the management process per se consists of the functions of planning, organizing, staffing and human resource management, leading and influencing, and controlling. The following brief explanation of each should give a general overview of the ground the study covers.

2.3.1 Planning

According to Mescon et al. (1981), the planning function is the process of deciding what the organization's objectives should be, and what members should do to attain them.

Most basically, the planning function addresses three fundamental questions:

1. Where are we now? This involves assessing the organization's strengths and weaknesses in important areas such as finance, marketing, production, research and development, and human resources. The underlying idea is to determine what the organization can realistically accomplish.
2. Where do we want to go? This involves assessing the opportunities and threats in the organization's environment, such as competitors, customers, laws, political factors, economic conditions, technology, suppliers and social and cultural changes. By doing so, management decodes what the organization's objectives should be and what could hinder the organization in attaining objectives.
3. How are we going to get there? This involves deciding both generally and specifically what the organization's members must do to attain objectives (Mescon et al., 1981).

Through planning, management attempts to establish guidelines for channelling effort and decision making that will create unity of purpose within the organization's membership. In other words, planning is one of the ways in which management gets its entire people pulling in the same direction—toward the organization's objectives (Mescon et al., 1981).

2.3.2 Organizing

Organizing is the creation of structure. There are many elements that must be structured for the organization to carry out plans and thereby attain its objectives. Organizing work was also the primary concern of the scientific management movement. Since it is ultimately people who perform the work of the organization, another essential aspect of

the organizing function is deciding who is to accomplish each of the many tasks of the organization, including the work of managing. The manager matches people with work by delegating tasks and the authority, or right, to use the organization's resources to individuals (Mescon et al., 1981).

2.3.3 Human Resource management

The recruitment, selection, training, and administration of the human resources have a long history, and are commonly called staffing or personnel management (Wren, 1979). According to Robbins & Coulter (1999), the human resource management function seeks to staff the organization and sustain high employee performance through human resource planning, recruitment or decruitment, selection, orientation, training, career development, compensation and benefits, and performance appraisal.

Recruitment seeks to develop a pool of potential job candidates, while decruitment reduces the labour supply within an organization through options such as firing, layoffs, attrition, transfers, reduced workweeks, and early retirements (Robbins & Coulter, 1999). Selection devices must match the job in question. To Robbins & Coulter (1999) human resource management practices can facilitate workforce diversity by widening the recruitment net, eliminating any discriminatory selection practices, communicating to applicants the company's willingness to accommodate their needs, and providing employee training and education programmes that focus on diversity.

2.3.4 Leading and influencing

The leading function involves the manager in close day-to day contact with individuals and groups (Robbins & Coulter, 1999). According to Gibson, et al. (1997), the leading function is uniquely personal and interpersonal, and it requires unique needs, ambitions, personalities, and attitudes. In these interactions the full panorama of human behaviour is evident. Individuals work, play, communicate, compete, accept and reject others, join groups, leave groups, receive rewards, and cope with stress. Of all the management

functions, leading is the most human-oriented (Robbins & Coulter, 1999). Each person perceives the workplace and his job uniquely. Managers must take into account these unique perceptions and behaviours, and somehow direct them toward common purposes Gibson, et al., 1997).

The manager must always keep in mind that the best-formulated plans and finest organizational structures have no value whatsoever unless somebody actually performs the work of the organization (Mescon, et al., 1981). The role of the motivating function is to get members of the organization to perform their delegated duties according to plan.

Leadership is an essential function in any type of organization. Leaders are individuals who positively influence the behaviour of followers. Exercising influence in solving problems in international markets is a key to successfully operating globally (Donnelly, et al., 1995).

In most organizational settings, leadership occurs in two forms: formal and informal. Formal leaders are in appointed or elected positions of formal authority. By definition, a leader can help motivate others to complete tasks (Donnelly, et al., 1995).

2.3.4 Controlling

Controlling is the process of ensuring that the organization is actually attaining its objectives (Wren, 1979). There are three aspects to managerial control. One is determining precisely what should be accomplished within a set period of time. This is called setting standards and is based on plans created during the planning process. Another aspect is measuring what has actually been accomplished and comparing this to what was anticipated. If these two phases are done correctly, management should not only know that a problem exists, but also its source. Knowing the source is required for successfully performing the third phase: taking action, if necessary, to correct serious deviations from plans. One possible action may be to revise objectives to make them

more realistic or more appropriate for changes that have occurred in the environment (Wren, 1979).

The linking processes

The five management functions of planning, organizing, motivating, leading and controlling have two things in common: all require decisions to be made; all require communication both to obtain information for making a good decision and to get that decision understood by others in the organization (Wren, 1979). Because of this bond and because they connect and interrelate the five functions, communication and decision making are often referred to as the linking processes.

Decision making:- managerial work is largely mental. It is something like trying to put together the pieces of an enormously complicated jigsaw puzzle after somebody added the pieces of ten other puzzles to the box (Wren, 1979). To complete its picture, management continuously has to sift through numerous potential actions to find the one just right for its organization at that given time and place. In essence, for the organization to operate smoothly, the manager must make a continuous series of good choices from among several alternatives. A choice between alternative is a decision. Hence, decision making (choosing how and what to plan, organize, motivate, and control) is the manager's primary activity in a general sense.

An essential requirement for making an effective, objective decision or even understanding the true dimensions of a problem is adequate, accurate information. The only means of obtaining information is through communication.

Communication is defined as the process of exchanging information and meaning between two or more people. It is essential to all social relationships. The strength and quality of relations between people (whether with friends, family, or business associates) is largely a function of how clear and honest their interpersonal relationships are. Since

an organization is a deliberately structured pattern of relationships among people, it depends heavily on good communication to function effectively.

In summary, while scholars were settling down by 1958 to some degree of unanimity about the job of the manager, new developments in education, in other disciplines, and in the environment of management were beginning to impinge upon the process approach and would lead to some changing notions about the manager's job (Wren, 1979).

Consequently, the process approach gives way to the systems approach, which is the subject of the next section.

2.4 THE SYSTEMS APPROACH

The systems approach analyzes the basic components of operations, with a view toward their improvement. The application of the systems theory to management has made it easier for managers to conceptualize the organization as an entity of interrelated parts that is inexorably intertwined with the outside world (Mescon, et al., 1981). Is also has helped to integrate the contributions of the schools that dominated early management thought.

To visualize these interactions and multiple consequences, managers, especially those on upper levels, need an overall perspective on the organization and its relationship to the environment. The managers need to know not just their own jobs but also how their jobs and all others fit into what the organization is trying to achieve (Robbins & Coulter, 1999). Managers need to be aware of the immediate ramifications. They should take into account the environment's impact on the organization and the organization's effect on the environment. In today's complex organizational world, however large or small one's own organization, it is extremely difficult to see the "forest" since there are many "trees" to distract attention from or block off one's view of the broad picture. The inherent flaw of the various schools approaches to management is that they focused on only one important element, rather than seeing management effectiveness as contingent on many diverse factors.

The system theory was first applied in the sciences and in engineering. The application of the systems theory to management in the late 1950s was one of the important contributions of the management science school. The systems approach is not a set of guidelines of principles for managing, but a way of thinking about organizations and management.

A system is an entity composed of interdependent parts, each of which contributes to the unique characteristics of the whole (Robbins & Coulter, 1999). All organizations are systems. The parts of an organization, in a general sense, are people (the social component) and the technology it uses to get work done (Mescon, et al., 1981).

There a two major types of system: closed and open. A closed system has firm, fixed boundaries; its operation is relatively independent of the environment outside the system (Robbins & Coulter, 1999). An open system is characterized by interaction with the external environment. Energy, information and material are exchanged with the environment through the system's permeable boundaries. The system is not self-sufficient but dependent on energy, information and materials from outside. In addition, the open system has the capacity to adapt to changes in the external environment, and must do so to continue operating (Robbins & Coulter, 1999).

Managers are concerned primarily with open systems, because all organizations are open systems. All organizations are dependent on the world outside themselves for survival. Even a monastery needs to bring in people and supplies and to maintain contact with its parent church in order to operate over the long term.

Another reason why the early schools' approaches to management failed to hold up in all situations is that they assumed, at least by implication, that organizations are closed systems. They did not actively consider the environment as an important variable in management.

The realization that organizations are complex, open systems composed of several interdependent subsystems helps explain why each of the various schools have only a limited capacity for application. Each school approach tends to focus primarily on a single subsystem of the organization. The behavioural schools concentrated on the social subsystem, while scientific management and management science concentrated primarily on technical subsystems. It is now widely accepted that forces external to the organization are sometimes primary determinants of what management techniques are appropriate and most likely to be successful.

Equifinality

The concept of equifinality is an important characteristic of open systems and is of practical significance to managers (Robbins & Coulter, 1999). Equifinality means that the same end result can be reached from different starting conditions and in different ways (Mescon, et al., 1981). Because of this there may be several acceptable solutions to some organizational problems (Robbins & Coulter, 1999).

Equifinality implies that there is no single "best way" to attain organizational objectives, as some early management theorists believed (Robbins & Coulter, 1999). What works for one organization in a particular time and place may not work for another. What failed in one situation may work in another (Mescon, et al., 1981). The most effective solution is dependent on the specific attributes of the organization and its relationship with the environment (Robbins & Coulter, 1999).

According to Robbins and Coulter (1999), the systems theory has provided the management discipline with a framework for integrating the concepts of the earlier schools' approaches. Many of these earlier ideas, though not wholly correct, continue to have considerable value. The systems framework probably will help synthesize new knowledge and theories that will be developed in the future (Robbins & Coulter, 1999).

However, the systems theory per se does not tell managers exactly what the significant elements of the organization as a system are (Robbins & Coulter, 1999). It tells only that the organization consists of many interdependent subsystems and is an open system that interacts with its environment. Not established are the crucial matters of what specifically are the major variables affecting management functions (Mescon, et al., 1981). Nor does the systems theory specifically identify what in the environment affects management and how the environment influences the performance of organizations (Mescon, et al., 1981). Clearly, managers need to know what the variables of the organization as a system are, to apply the systems theory to the process of managing (Mescon, et al., 1981). This identification of variables and their impact on organizational effectiveness is the major contribution of the contingency approach, which can be thought of as a logical extension of the systems theory.

2.5 THE CONTINGENCY APPROACH

The contingency theory of management suggests that there is no one way of managing that works best in all situations and there are many effective ways to perform the various managerial functions (Buford, et al., 1995:25).

The contingency approach, developed in the late 1960s, does not imply that the concepts of the traditional management theory, the behavioural school, and the management science school are wrong. Like the systems approach to which the contingency approach is so closely allied, it attempts to integrate the various segmented approaches. It also stresses the interrelationships among the management functions, rather than considering them independently. The focal point of the contingency approach is the situation, the specific set of circumstances that influences the organization most at a particular time. Because of this focus, the contingency approach stresses the importance of "situational thinking."

Like the systems approach, the contingency view is not a set of prescriptive guidelines but a way of thinking about organizational problems and their solutions. It does not set

aside the concept of a management process applicable to all organizations. But the contingency approach recognizes that although the general process is the same, the specific techniques managers must use to attain organizational objectives effectively may vary widely.

The contingency approach tries to match specific techniques or concepts of managing to the specific situation at hand, in order to attain organizational objectives most effectively. It focuses on situational differences both between and within organizations. It tries to determine what the significant variables of the situation are and how they influence organizational effectiveness.

As far as the situational variables are concerned, for practical purposes one can only consider those factors of greatest significance, the ones most likely to strongly affect an organization's success. By eliminating the thousands of less significant differences among organizations and situations, the number of variables is reduced to comprehensible dimensions without appreciably diminishing accuracy.

Today most of the researches in management are based on the contingency approach. This study has been based on the contingency theory of management approach, because this approach can make provision for the methods of the study and the various aspects of the management processes. It states that there are no universally applicable processes of management, but that the choice of appropriate management techniques will depend upon the circumstances surrounding a specific organization (Otley, 1999:367).

2.6 MODELS FOR MEASURING ORGANIZATIONAL OR MANAGERIAL EFFECTIVENESS

According to Daft (1995), organization is defined as a social entity that is goal directed and deliberately structured. Social entity means being made up of two or more people. Goal directed means designed to achieve some out-come, such as making a profit (Boeing, Mack Trucks), meeting spiritual needs (Methodist church), or providing social

satisfaction (college, universities). Deliberately structured means that tasks are divided and responsibility for their performance assigned to organization members (Daft, 1995). Therefore, the organizational performance is defined as the organization's ability to attain its goals by using resources in an efficient and effective manner (Daft, 1995).

Efficiency is a vital part of management and refers to the relationship between inputs and outputs. Efficiency is referred to as the use of minimal resources – raw materials, money, and people – to produce a desired volume of output; while organizational effectiveness is the degree to which the organization achieves a stated objective (Daft, 1995). Efficiency and effectiveness are related. It is easier to be effective if one ignores efficiency. Organization can be reasonably effective but extremely inefficient; that is they get their jobs done but at a high cost (Robbins & Coulter, 1999). Management is concerned, then, not only with getting activities completed and meeting organizational goals (effectiveness), but also with doing so as efficiently as possible. Organization can also be efficient and yet not effective – by doing the wrong things well (Robbins & Coulter, 1999).

Organizations' overall performance depends on the type of organization; whether the organization is for profit or not for profit. Profitability reflects the overall performance of for-profit organizations (Daft, 2001). Profitability may be expressed in terms of net income, earnings per share, or return on investment.

Not-for-profit organizations do not have goals of profitability, but they do have goals that attempt to specify the delivery of services to members within specified budget expense levels (Daft, 2001). Growth and volume goals also may be indicators of overall performance in not-for-profit organizations (Daft, 2001). The next sections explore various models of organizational performance measurement.

2.6.1 Traditional effectiveness approaches

The measurement of effectiveness has focused on different parts of organization. Organizations bring resources in from the environment, and those resources are transformed into outputs delivered back into the environment, as shown in figure 2.1. Organizations must perform diverse activities well - from obtaining resource inputs to delivering outputs – to be successful. Traditional approaches used output goals, resource acquisition, or internal health and efficiency as the criteria of effectiveness (Daft, 1992).

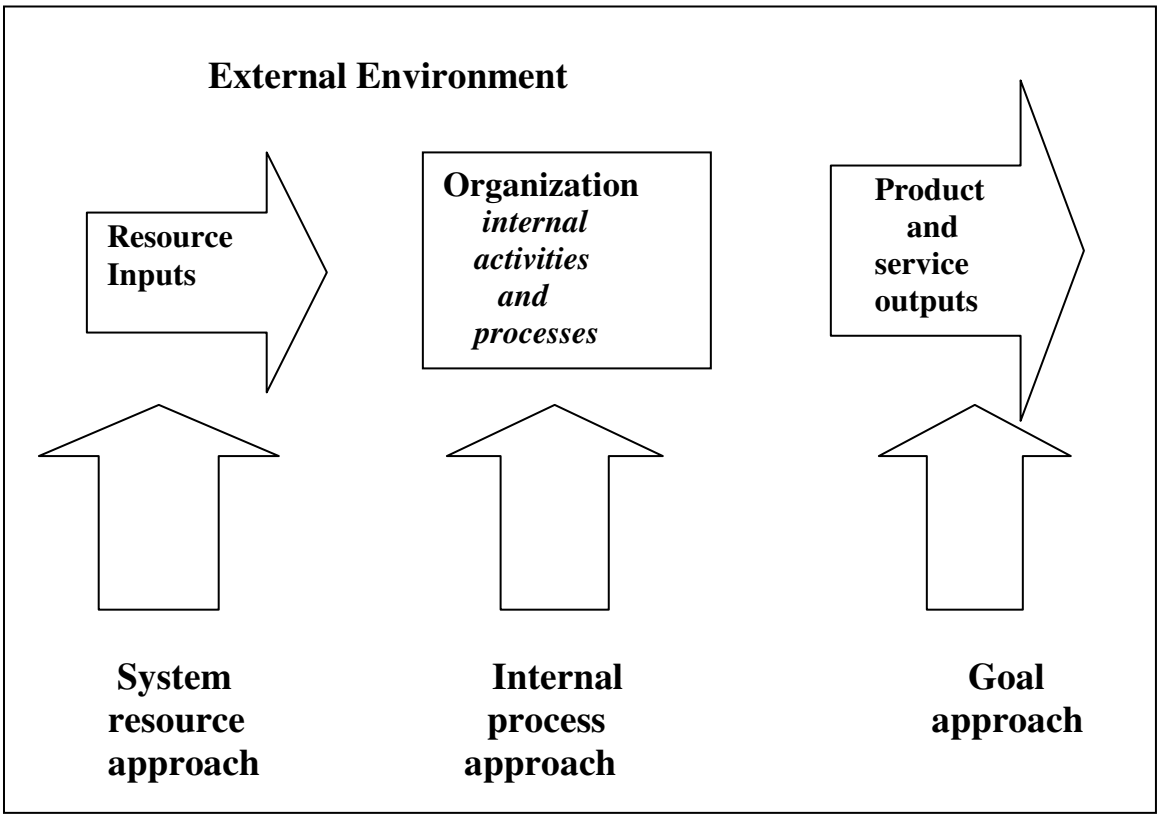

Figure 2.1 Traditional approaches to the measurement of organizational effectiveness (Daft, 1992)

2.6.1.1 Goal Approach

The goal approach to organizational effectiveness is concerned with the output side and whether the organization achieves its goals in terms of desired levels of output (Strasser, et al., 1981) as quoted by Daft, 1992. This approach consists of identifying an

organization's output goals and assessing how well the organization has attained those goals (Price, 1972). It measures progress toward attainment of those goals.

Indicators: The important goals to be considered here (Stoelwinder & Charns, 1981; Perrow, 1961) are operative goals and official goals. Official goals are the mission that describes the organization's values, aspirations, and reason for being; whereas, operative goals designate the ends sought through the actual operating procedures of the organization and explain what the organization is actually trying to do (Daft, 2001).

Application: The goal approach is used in business organizations, because output goals can be readily measured. However, identifying operative goals and measuring performance of an organization are not always easy. Two problems that must be resolved are the issues of multiple goals and subjective indicators of goal attainment. In most cases, organizations may have multiple goals, and a single indicator often cannot assess conflicting goals. Moreover, for not-for-profit and some business organizations, many goals cannot be measured objectively (Pennings & Goodman, 1979).

2.6.1.2 System Resource Approach

The systems approach looks at the input side of the transformation process shown in Figure 2.1. It assumes that organizations must be successful in obtaining resource inputs and in maintaining the organizational system in order to be effective (Daft, 2001). From a systems view, organizational effectiveness is defined as the ability of the organization, in either absolute or relative terms, to exploit its environment in the acquisition of scarce and valued resources (Daft, 1992).

Indicators: Obtaining resources to maintain the organization system is the criterion, which assesses the organizational effectiveness (Daft, 2001).

Usefulness: The system resource approach is valuable when other indicators of performance are difficult to obtain (Daft, 2001). In many not-for-profit and social welfare organizations, for example, it is hard to measure output goals or internal efficiency.

Although the system resource approach is valuable when other measures of effectiveness are not available, it does have shortcomings. Often the ability to acquire resources seems less important than the utilization of those resources (Daft, 2001).

2.6.1.3 Internal Process Approach

In the internal process approach, effectiveness is measured as internal organizational health and efficiency. According to Daft (2001), an effective organization has a smooth, well-oiled internal process, and employees are happy and satisfied. Departmental activities mesh with one another to ensure high productivity. This approach does not consider the external environment. The important element in effectiveness is what the organization does with the resources it has, as reflected in internal health and efficiency (Deft, 1992).

Indicators: The best-known proponents of a process model are from the human relations approach to organizations. Writers such as Chris Argyris, Warren G. Bennis, Rensis Likert, and Richard Beckhard have all worked extensively with human resources in organizations and emphasize the connection between human resources and effectiveness (Deft, 1992).

Indicators of an effective organization, as seen from this viewpoint, are as follows (Beckhard, 1969): strong corporate culture and positive work climate; team spirit, group loyalty, and teamwork; confidence, trust, and communication between workers and management; decision making near sources of information, regardless of where those sources are on the organizational chart; undistorted horizontal and vertical communication; sharing of relevant facts and feelings; rewards to managers for performance, growth, and development of subordinates, and for creating an effective

working group; and interaction between the organization and its parts, with conflict that occurs over projects resolved in the interest of the organization (Cunningham, 1977).

A second indicator of internal process effectiveness is the measurement of economic efficiency. Evan (1976) developed a method that uses quantitative measures of efficiency. The first step is to identify the financial cost of inputs (I), transformation (T), and outputs (O). Next, the three variables can be combined in ratios (O/I) to evaluate various aspects of organizational performance (Daft, 2001).

Usefulness: The internal process approach is important, because the efficient use of resources and harmonious internal functioning are ways to measure effectiveness. A significant recent trend in management is the concern for human resources as a source of competitive advantage. Most managers believe participative management approaches and positive corporate culture are important components of effectiveness (Watson, 2002).

The shortcomings of the internal process, however, are that total output and the organization's relationship with the external environment are not evaluated (Daft, 2001). Also, evaluations of internal health and functioning are often subjective, because many aspects of inputs and internal processes are not quantifiable. Like the other approaches to organizational effectiveness, the internal process approach has something to offer, but managers should be aware that efficiency alone represents a limited view of organizational effectiveness (Daft, 1992).

2.6.2 Contemporary Effectiveness Approaches

The three approaches – goal, system resource, and internal process – to organizational effectiveness described earlier all have something to offer, but each one tells only part of the story. Recently, integrative approaches to organizational effectiveness have been introduced. These new approaches acknowledge that organizations do many things and have many outcomes. These approaches combine several indicators of effectiveness into

a single framework (Daft, 1992). They include the stakeholder and competing values approaches.

2.6.2.1 Stakeholder Approach

The stakeholder approach integrates diverse organizational activities by focusing on organizational stakeholders (Daft, 2001). A stakeholder is any group within or outside an organization that has a stake in the organization's performance. Creditors, suppliers, employees and owners are all stakeholders. In the stakeholder approach (also called the constituency approach); the satisfaction of such groups can be assessed as an indicator of the organization's performance. Each stakeholder will have a different criterion of effectiveness, because he has a different interest in the organization. Each stakeholder group has to be surveyed to learn whether the organization performs well from its viewpoint (Daft, 2001).

Indicators: Each stakeholder and his criterion of effectiveness are as follows (Table 2.2):

Table 2.2 Type of stakeholders and their effectiveness criteria (Daft, 2001)

No	Stakeholder	Effectiveness Criteria
1	Owners	Financial return
2	Employees	Worker satisfaction, pay, supervision
3	Customers	Quality of goods and services
4	Creditors	Creditworthiness
5	Community	Contribution to community affairs
6	Suppliers	Satisfactory transactions
7	Government	Obedience to laws, regulations

Evaluating how organizations perform across each group offers an overall assessment of effectiveness (Daft, 2001).

Usefulness: The strength of the stakeholder approach is that it takes a broad view of effectiveness and examines factors in the environment as well as within the organization. The stakeholder approach also includes the community's notion of social responsibility, which was not formally measured in traditional approaches (Daft, 2001). The stakeholder approach also handles several criteria simultaneously – inputs, internal processing, outputs – and acknowledges that there is no single measure of effectiveness. The well being of employees is just as important as attaining the owner's goals (Daft, 1992).

2.6.2.2 Competing Values Approach

The competing values approach to organizational effectiveness was developed by Robert Quinn and John Rohr Baugh to combine the diverse indicators of performance used by managers and researchers (Daft, 2001).

Indicators: The first value dimension pertains to organizational focus, which is whether dominant values concern issues that are internal or external to the firm. Internal focus reflects a management concern for the well-being and efficiency of employees, and external focus represents an emphasis on the well-being of the organization itself with respect to the environment (Daft, 2001). The second value dimension pertains to organization structure, and whether stability versus flexibility is the dominant structural consideration. Stability reflects a management value for top-down control, similar to the mechanistic approach. Flexibility represents a value for adaptation and change and similar to the organic approach to structure (Daft, 2001).

The value dimensions of structure and focus are illustrated in figure 2.2.

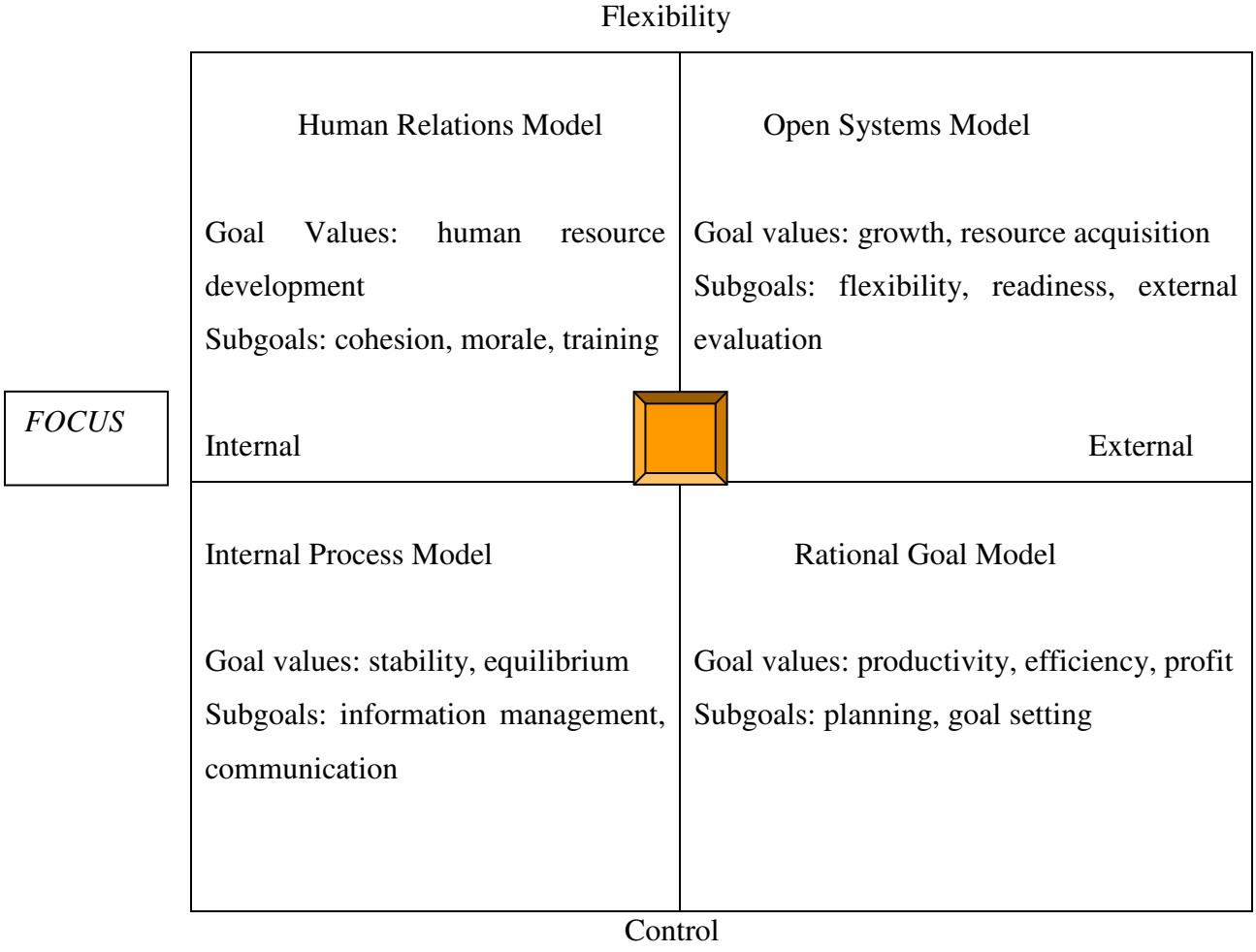

Figure 2.2 Four models of effectiveness values (Daft, 1992)

The four models in Figure 2.2 represent opposing organizational values. Managers must decide which goal values will take priority in their organizations.

Usefulness: The computing values approach makes two contributions. Firstly, it integrates diverse concepts of effectiveness into a single perspective (Daft, 2001). It incorporates the ideas of output goals, resource acquisition and human resource development as goals which the organization tries to accomplish. Secondly, the model calls attention to effectiveness criteria as management values and shows how opposing values exist at the same time. Managers must decide which values they wish to pursue and which values will receive less emphasis. The four competing values exist

simultaneously, but not all will receive equal priority. The dominant values often change over time as organizations experience new environmental demand or new top leadership (Daft, 1992).

Deficiencies in any measures of effectiveness signal dysfunctions in an organization and suggest that the application of the diagnostic approach should help diagnose the dysfunctions and contribute to increasing organizational effectiveness (Daft, 2001). Increasing the quality of these behaviours and attitudes has positive consequences for many aspects of organizational effectiveness, including performance, adaptability, growth and satisfaction, among others (Gordon, 1980).

2.6.3 Düvel's Model for Monitoring and Evaluation of Extension Activities

According to Düvel (1998), the problems encountered in agricultural development are usually efficiency related; the ultimate usually being, as indicated in Figure 2.3, economic efficiency (or inefficiency), which is usually the function of some form of physical inefficiency. Both are the results of behaviour, which, in a holistic context, can be described as management and entails the various practices that have to be adopted correctly and timely (Düvel, 1998). The model shows how these determinants can be measured, and gives an example of an evaluation and monitoring document (Düvel, 1998).

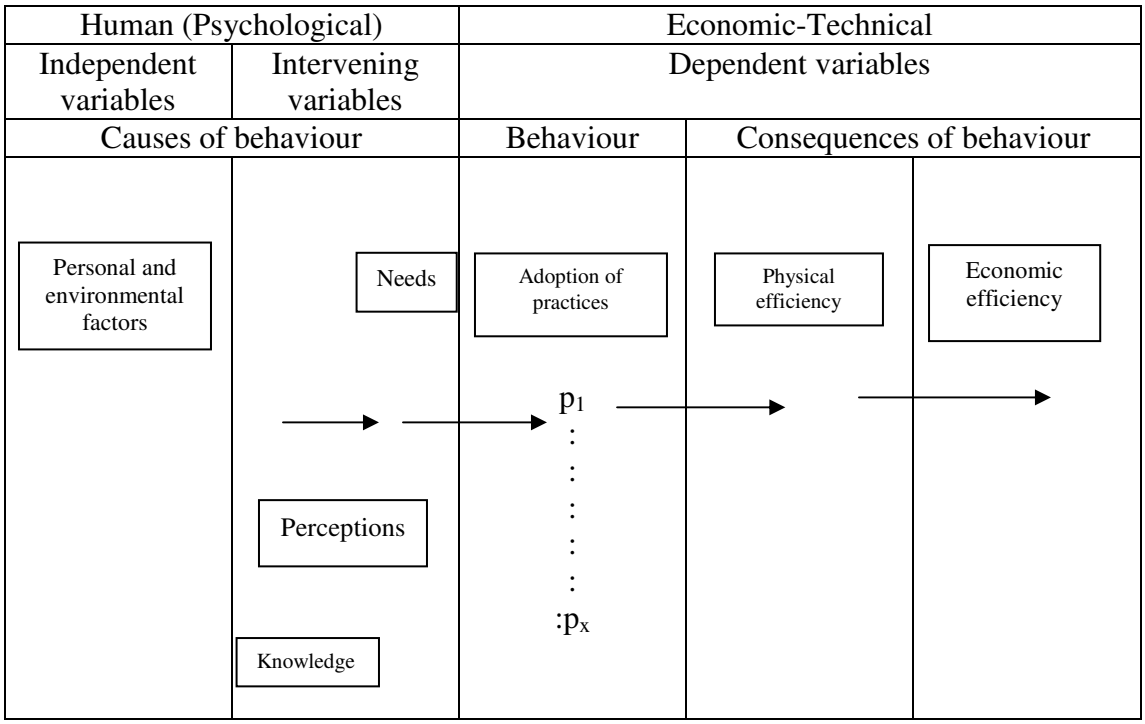

Figure 2.3 Relationship between behaviour determining and behaviour dependent variables in agricultural development (Düvel, 1998)

From the above influence relationship it can be concluded that a form of monitoring is possible by focusing on the preceding or causal variables as evaluation criteria (Düvel, 1998). According to Düvel (1998), the results of behaviour (e.g. profitability, or production efficiency) can be monitored through the adoption behaviour, which in turn can be monitored through evaluating the changes in the cognitive field (needs, perceptions and knowledge). These latter variables, as far as the extensionist's interest in evaluation is concerned, are the most important and critical criteria (Düvel, 1998). The more specific advantages of using them as criteria of change are the following:

1. They are, as direct determinants of behaviour, the logical focus of intervention, and consequently also the logical criteria of evaluation.
2. They will, if monitored, reveal why (or why not) change has occurred. Similarly, it is through these variables that progress (or the lack of it) can be monitored and

that the extensionist can get an indication concerning the adaptations that need to be made in terms of message, method or approach.

3. They will allow for a fair and just merit assessment or recognition of performance. It is not uncommon for an extensionist to either get undue credit for change that can only be partially accredited to him, or – perhaps even more frequently – not to get credit for what he has accomplished, simply because the change is of a covert nature (Düvel, 1998).

As already mentioned, the appropriate variables for monitoring change are the intervening variables, and more specifically the cognitive variables associated with needs, perceptions and knowledge. These have been selected and tested in extensive research projects over a number of years (Düvel, 1975; Louw & Düvel, 1993; Düvel & Scholtz, 1986; and Düvel & Botha, 1999) and are incorporated in the following behaviour analysis model in a cause-effect relationship (Düvel, 1998).

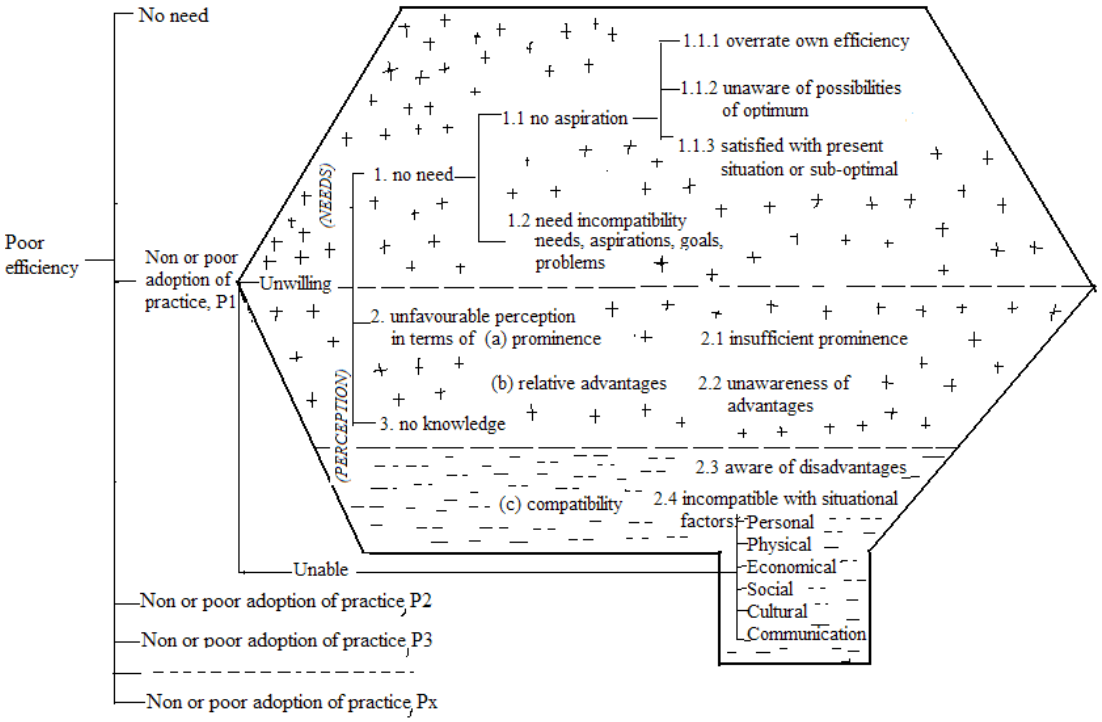

Figure 2.4 Model for behaviour analysis and intervention (Düvel, 1998)

According to Düvel's model (Fig. 2.4), poor efficiency is a function of non-or poor adoption of the recommended practices. The unwillingness is influenced by several factors like need related aspects, knowledge and perception as explained below.

2.6.3.1 Need (1 Fig. 2.4)

The concept of needs is used in a broad context and includes concepts like drives, motives, incentives, goals and even problems, mainly because the vocabulary of the psychology of motivation has as yet not been firmly established, resulting in these different concepts being used synonymously or being interchanged (Düvel, 1991). There appears to exist a "field polarity" consisting of a need (usually some form of deprivation resulting, in disequilibrium or system in tension) located within the individual, and a goal object situated in the environment. The goal-object will assume a positive character (positive incentive) if it is perceived by the individual as having a potential need-satisfying capacity, and a negative valence in the case of a threatening further deprivation (negative incentive).

The need-related causes that have been found to determine the non-adoption of recommended practices are lacking aspirations (see 1.1 in Figure 2.4) and need incompatibility (see 1.2 in Figure 2.4). The lacking aspiration relates more specifically to a tendency on the part of the farmer to overrate his own efficiency, e.g. his grazing condition or production efficiency (1.1.1 in Figure 2.4), to an unawareness of the possibilities or the optimum (1.1.2), and to a satisfaction with the present situation or having a sub-optimal aspiration (1.1.3).

In a sense, these aspects all have to do with the problem perception, where a problem is regarded as being the difference between " what is" (present situation) and "what can be" or is strived at, viz. the desired situation (Düvel, 1998). If the existing situation, e.g. the efficiency of production or rangeland condition, is overrated due to "misperception" (see 1.1.1 in Figure 2.4), the perceived scope of the problem or potential need tension is

reduced. If, at the same time, there is limited knowledge concerning the optimum that is achievable (1.1.2), the potential problem and need can be further reduced to an insignificant level.

Perhaps even more critical is the need compatibility (see 1.2 in Figure 2.4). This essentially means that an innovation or recommended practice does not fit the life space or need situation of the individual in the sense that it is not perceived as either a need related goal, or as a means of achieving such a goal (Düvel, 1998).

2.6.3.2 Perceptions (2 Fig. 2.4)

Although perceptions and needs (especially aspirations and goals) are related and interwoven, the necessity to identify all direct behaviour determinants as specifically as possible, justifies a separate focus on perception. Where needs usually relate to all positive or driving forces which in total constitute the attractiveness, perceptions are of a more specific nature and are analysed on the basis of attributes of innovations. Rogers' (1983) classification of innovation attributes does not suit this purpose, mainly because of the broad and unspecific categories. In order to make provision for a wider spectrum of specific forces (for the purpose of cause identification as well as for addressing these causes in the attempt to promote change), these attributes have been redefined (Düvel, 1987). The categories that can be directly associated with field forces are relative advantages, compatibility aspects and prominence and consequently give direct access to the possible identification of relevant positive and negative forces.

An unfavourable perception as cause of unwillingness to adopt can thus have the following causes (Düvel, 1998):

Insufficient prominence (2.1 Fig.2.4), i.e. the recommended practice is seen as less prominent or less advantageous than the current one or than another alternative.

1. Unawareness of the advantages of the recommended solution (2.2 Fig.2.4)
2. Awareness of disadvantages of the recommended solution (2.2 Fig. 2.4)

3. Situational incompatibility, viz. an awareness of constraints preventing the implementation of the solution or recommended practice (2.4 Fig. 2.4).

2.6.3.3 Knowledge (3, Fig. 2.4)

Knowledge that is relevant in the case of innovation or practice adoption can be categorized as follows (Düvel, 1998):

1. Basic knowledge or knowledge of principles
2. Knowledge associated with the awareness of relative advantages and knowledge of the recommended solutions.
3. Knowledge in respect of the application of an innovation or practices

According to Düvel (1998), the first two types of knowledge, in particular, are related to each other, but from a motivation point of view it is really only the knowledge concerning the recommended solution and its relative advantages (2), that is of importance. This type of knowledge or cognition can be regarded as an intrinsic part of perception and thus largely overlaps with it. It is for this reason that an analysis of perception also caters for most relevant aspects of knowledge (Düvel, 1998).

The knowledge of principles is important because it provides insight and therefore invariably has a bearing on the intensity with which the relative advantages are perceived as field forces. Basic knowledge is also fundamental if the practitioner is to become independent or self-sufficient in terms of decision making and self help. Practical knowledge is one of the last pre-requisites for implementation (Düvel, 1998).

This aspect is thus largely provided for under compatibility (2.4) and thereby supports the conclusion that, through an analysis of perception, most relevant aspects of knowledge can be identified (Düvel, 1998).

2.7 CONCEPTUAL MODEL

After reviewing various models of organizational or managerial performance measurements focusing on their contributions, strengths and weaknesses, the conceptual model for this study will be based on Düvel's (1991) model (Fig. 2.4). This is due to the fact that the model appears to offer practical guidelines for a systematic and scientific approach in evaluation of extension programs and consequential systematic change.