The AKT Theory of Management

A theory based on an analysis of managers' activities, knowledge, and tasks

submitted
by
Terry Taihor Huang

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Abstract

This thesis reports the development of a theory of management which describes what competent managers do or will do and prescribes what other managers could do or should do. The AKT theory of management and six organizational concepts are constructed, tested, and applied to explain and subsume many findings of other related studies. The word *AKT* is made up of the initials of the theory's building blocks or the elements of managers' actions: **a**ctivities, **k**nowledges, and **t**asks (Managers' tasks are also the factors for organizational operation (FOOs) from the system viewpoint). The six organizational concepts, namely networked-cones structure, end-means chain, compatibility among FOOs, reflexivity in management, distributed managing, and momentum of organization, form a basic organization theory describing or prescribing the context of management.

The analysis of questionnaire and diary data of 1,659 actions collected from 40 Taiwanese managers supports the AKT theory. Firstly, the nearly constant, significant coefficients of contingency from the overall and partial cross-tabulations between the 11 manager's activities and 14 manager's tasks suggest that the strength of association between them is independent of the manager's function, level, company, and industry. Secondly, data indicate that all the three building blocks are necessary for the AKT theory to be complete and parsimonious and that Mintzberg's (1973) ten roles theory and the process theories are incomplete and ill-structured. Finally, regression analysis showing that managers with more management learning have higher rates of valid diary records justifies the prescriptive dimension in the AKT theory for those with less management learning. Besides, examinations of the characteristics of management practice from the perspectives of the AKT theory's elements modify several previous views.

The wide-ranging implications and applications of the AKT theory and six organizational concepts are discussed.

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Overview of This Thesis

A theory of management adequately explaining what competent managers do or will do and telling what other managers could do or should do has been sought after for decades, if not for centuries. Many theories of management have been constructed so far. But, they are either incomplete or ill-structured or clashing with the practice of sound management. Applying those theories in practice may lead to confusion about what to do, how, and why. The AKT theory of management developed in this study has a number of advantages over its predecessors. It is empirically based and supported and logically connected with six organizational concepts to form the central part of an organization and management theory. Also, it and six concepts explain and subsume many findings of other related studies. Moreover, managers, teachers, and researchers in management area could use it to describe or prescribe management practice specifically because it discusses management using concepts of transformation systems, the elements of such a system, managers' actions, and the elements of such actions.

The publications of *Executive Behaviour* by Sune Carlson in 1951 and *The Management Theory Jungle* by Harold Koontz in 1961 are milestones marking the explicit search by academics for an adequate theory of management from two different approaches. The former, borrowing methodology from theoretical natural sciences, focuses on what managers do and marks the birth of behavioral empiricism in the study of management. The behavioral empiricists have accumulated a wealth of behavioral data. The latter focuses on how to integrate existing management knowledge into the classicists' management functions, i.e., for example, planning, organizing, staffing, directing, and controlling, and marks the birth of eclecticism. The classicists have accumulated a wealth of management textbooks organized in eclectic manner. With respect to the behavioral empiricists, the AKT theory has subsumed quite a part of their data and is constructed and tested from a different approach, i.e., *the retroductive method* (Hanson 1958; Pierce, 1935), which emphasizes perceiving patterns (creation of new ideas) from empirical data in order to explain, rather than the inductive method, which relies on generalization of data, *and reflexivism,* which regards human affairs as changeable, rather than naturalism, which regards objects as predetermined. With respect to the classicists, the development of the AKT theory is a process of conquering the management theory jungle from a quite different approach.

Specifically, from the perspective of *a* management action, the AKT theory argues that, in every action, managers perform or should perform one of the 11 *manager's activities* (MAs), in which they are or should be acting thinkingly with one or more of the 11 *manager's knowledges* (MKs), in order to contribute to one of the 14 *manager's tasks* (MTs) which change the corresponding factors for organizational operation (FOOs) for the accomplishment of their organizational tasks. In other words, organizational tasks prompt managers' tasks and, in turn, managers' tasks prompt managers' activities. The AKT theory is a description of management practice for those managers who have learned management well, a guidance for those who have not, and a mixture of description and guidance for those who are between the two extremes. From the perspective of *all* management actions, the AKT theory describes the whole range of management actions that could be observed in the work place. Within the scopes of the 11 activities, 11 knowledges, and 14 tasks, there could be many combinations of activity (or activities), knowledge (or knowledges), and task (or tasks). Each combination represents an action. But, for convenience, an action is assumed to contain one single activity and one single task.

The construction of the AKT theory of management started with a basic framework derived from an analysis of the practice and literature of management by asking "What, When, Who, Where, Why, and How do managers do?" The basic framework contains three building blocks: managers' **a**ctivities, **k**nowledges, and **t**asks (Those initials make up the word *AKT*), which are arranged to illustrate that, through the use of managers' knowledges, managers' tasks prompt their activities *and*, consequently, managers' activities contribute to their tasks. The relationships between and among managers' activities, knowledges, and tasks are normative and that between manager's activities and tasks is also intentional rather than causal because managers are expected to and need to have the competence and to form an intention and a commitment in order to perform an action.

The elements of the three building blocks were then surveyed and categorized. The first building block of the AKT theory or the first element of managers' actions is classified into 11 manager's activities. They are largely adapted from Mintzberg's (1973) ten roles. They are:

MA1: Representing the work unit,
MA2: Leading,
MA3: Liaising,
Why?
MA4: Collecting information,
MA5: Giving information downwards,
MA6: Giving information outwards,
MA7: Innovating and improving,
MA8: Disturbance handling,
MA9: Resources allocating,
MA10: Negotiating,
MA11: Operating.

The second building block of the AKT theory or the second element of managers' actions is classified into 11 manager's knowledges. They are adapted directly from Wu's (1984) classification of management training courses. They are:

Why?

MK1: Organization and management theory,
MK2: Human resource management and Industrial relations,

MK3: Production/Operation management,

MK4: Marketing,

MK5: Financial management and Accounting,

MK6: Mathematical methods,

MK7: Research and development management,

MK8: Information management,

MK9: International business management,

MK10: Business and environment,

MK11: Other management knowledge. ??

The third building block of the AKT theory or the third element of managers' actions is classified into 14 manager's tasks. They are firstly gathered from practical management books and then classified according to the McKinsey 7-S Framework and then the system theory. Thus, they are also the factors for organizational operation (FOOs), or the elements of an organization unit as a transformation system. At this junction, managers' actions relate to the accomplishment of a unit's tasks and an organization's objectives. The 14 manager's tasks or factors for organizational operation (FOOs) are:

MT/FOO1: Formal plan,

MT/FOO2: Action plan for next step,

MT/FOO3: Organization structure,

MT/FOO4: Work flow and regulation,

MT/FOO5: Equipment and support, ?

MT/FOO6: Attention of subordinates, ?

MT/FOO7: Competent subordinates, ? → Tasks why?

MT/FOO8: Motivation and work climate,

MT/FOO9: Discipline and work ethics,

MT/FOO10: Shared objectives of the unit,

MT/FOO11: Smooth flow of input or output or both,

MT/FOO12: Pro-unit environment, ??

MT/FOO13: Sharing of operation,

MT/FOO14: Enhancing own knowledge or interpersonal relationship.

Six organizational concepts, which form a basic organization theory describing or prescribing the context of management, are derived from the AKT theory. Together, they form the core of an organization and management theory. The six organizational concepts are: Self serving? fulfils?

1. Networked-cones structure: showing the structure of an organization: any unit at any level is shown as a cone representing a transformation system and all cones are connected bilaterally, each connection representing one of the seven kinds of relationships: work-flow, trading, servicing, advisory, auditing, stabilization, and innovation relationship (Sayles, 1964). A networked-cones structure is more

comprehensive and useful than a traditional pyramid/tree structure because it shows not only a structure of authority but also patterns of bilateral interactions.

2. End-means chain: implied in the AKT theory and networked-cones structure: managers' activities are the means for their tasks and their tasks are the means for their unit's tasks. In turn, their unit's tasks are the means for their organization's overall objectives.
3. Compatibility among FOOs: meaning the extent of harmony among the 14 factors for organizational operation (FOOs) in an organization unit; three levels can be delineated: conflicting, harmonious, and enhancing.
4. Reflexivity in management: referring to change-receivers' taking advantages of environmental changes, such as others' implementation of policy and dissemination of management theory or forecast, and change-originators' taking reactions into account in order to succeed.
5. Distributed managing: arguing that management responsibilities of achieving the organizational tasks are or should be distributed to the chief managers of the units and that management tasks of creating and changing the 14 factors for organizational operation (FOOs) are or should be distributed to the managers with expertise and time.
6. Momentum of organization: referring to the tendency of self-guidance of an organization unit.

The AKT theory and six organizational concepts are supported by empirical data. In Chapter 6, the AKT theory and networked-cones structure are shown to be empirically supported by the diary data of 1,659 actions and questionnaire data collected from 40 Taiwanese middle- and lower-level managers. Nearly constant coefficients of contingency from overall and partial cross tabulations between managers' activities and tasks suggest that the strength of association between them holds across function, level, company, and industry. Data also indicate that all the three building blocks are necessary for the AKT theory to be complete and parsimonious and that the pre-existing theories of management, i.e., the process theories and the ten roles theory, are incomplete and ill-structured. Findings about the participants in managers' actions suggest that a networked-cones structure is a suitable structure of organization whereas a pyramid/tree structure and a Likert's (1959, 1961) group-form structure are not. Also, regression analysis showing that managers with more management learning produce proportionately more valid diary records justifies the prescriptive dimension in the AKT theory for those with less management learning.

Moreover, a wide range of formerly unexplained or partially explained findings of other related studies are shown in Chapter 8 to be explained and subsumed by the AKT theory and six concepts and, therefore, their subsumption and generality are expanded. Meanwhile, many pre-existing concepts or theories are shown to be less subsumptive or inadequate.

As to the characteristics of management practice, analyses in Chapter 7 from a wider range of perspectives of the elements of managers' actions than previous studies suggest modifications to several previous views about the characteristics of decision making and planning and about the brevity, variety, and fragmentation of managers' actions. Findings suggest that decision making is a potentially and frequently continuous and intricate process of brokerage in which every phase of marginal adjustment of the alternatives and compromises is a distinct situation, or a discrete event, demanding rational decision making procedure; that managers plan by individual and collective reflections in special, longer daily actions; and that the brevity, variety, and fragmentation of actions do not necessarily cause a manager to be superficial.

Considering the following facts relating to the development of the AKT theory and six organizational concepts

1. that the AKT theory and six concepts are shown in Chapter 2 and Chapter 3 to be empirically based and logically connected,
2. that the AKT theory and networked-cones structure are shown in Chapter 6 to be empirically supported by the findings of this study, and
3. that a wide range of formerly unexplained or partially explained findings of other related studies are shown in Chapter 8 to be explained and subsumed by the AKT theory and six concepts,

it is reasonable to suggest that this study has established the AKT theory in management theory in a form which permits it to be studied, questioned, and re-tested; that the AKT theory and six concepts *may be* true, or adequate, to be the core of a *general* organization and management theory; and that the chance for them being true is probably quite high. Since the critical confirmation of the AKT theory available so far is from the diary data of this study, further studies are necessary to evaluate its generalizability in various organizations, especially of different cultures.

What for it should take

The AKT theory has theoretical implications for its predecessors. The process theories are shown to be incomplete and ill-structured. Some of the classicists' management functions, such as planning and organizing, are subsumed by the AKT theory. Others, such as control, are subsumed by the AKT theory *and* six concepts. Also, Mintzberg's (1973) ten roles theory is shown to be incomplete and the ten roles are modified and subsumed into the 11 manager's activities. Thus, the process theories and the ten roles theory are superseded by the AKT theory and six concepts.

The AKT theory and six organizational concepts have widespread implications for managers, teachers, and researchers in the management area. For examples, for managers, they provide a set of checklists and a way of thinking, or a language, for describing or prescribing the practice of management. For teachers, they provide a comprehensive vehicle for teaching the content and characteristics of management and for teaching descriptions and prescriptions of management. For researchers, they provide a new direction for explorations into management. They could replicate this study or survey the more detailed contents of managers' work and theorize accordingly.

Chapter 1

INTRODUCTION

This thesis is on the theory of management. A new theory, namely the AKT theory of management, has been constructed, tested and evaluated. The word *AKT* is made up of the initials of activity, knowledge, and task, i.e., the three principal elements of the work content of managers' actions analyzed in this study.

As described in this thesis, the AKT theory of management has a number of advantages. Firstly, it is empirically supported. Managers were found to act within the scopes of the 11 activities, 11 knowledges, and 14 tasks. The strength of the relationship between the 11 activities and 14 tasks was found to hold across function, level, company, and industry. Secondly, it forms the central part of a coherent organization and management theory which is elaborated step by step in this thesis. In other words, it, with six organizational concepts, is capable of explaining and subsuming the findings of other related studies. Thirdly, it could be used to describe or prescribe management practice specifically because of its focus on managers' actions in system context. Finally, it has widespread implications for managers, researchers, and those concerned with management education.

In this chapter, the field of study is clarified in Section 1; the motivation for this study described in Section 2; the objectives of the study in Section 3; the scope and limitations of the study in Section 4; research problems in Section 5; and the structure of the thesis in Section 6.

Section 1

FIELD OF STUDY

The field of this study is the theory of management. A theory of management is a theory about the practice of management as a whole. In this study, the AKT theory has been constructed and examined from several perspectives. To advance the discussion, a general understanding of the field of study is necessary. In this section, relevant terms are introduced and a definition of theory of management is given.

Terminology Relating to Theory of Management

The term *theory of management* was used as early as in Fayol's (1916/1949) time. His work is the first recognized attempt to establish a theory of management. He tried to initiate general discussion in order to produce a "generally accepted theory of management" (p. 15) by publishing his *General and Industrial Management*. Other interchangeable terms include "general theory of management" (e.g., Koontz, 1964, p. 246; Roethlisberger, 1964), "grand theory of management" (Earl, 1983, p. 244), and "general theory of administration" (e.g., Greenwood, 1974, p. 21). A theory of management is a general or grand theory because it is about management practice as a whole and because it is the structural centre of management theory for the rest to hang on.

Other related but not interchangeable terms include *management theory, unified theory of management,* and *science of management.* Management theory (the totality) consists of all management theories (parts) which are ideally integrated coherently by an adequate theory of management which is also a management theory (a part). Thus, a theory of management is a management theory (a part) and management theory should include a generally accepted theory of management. The term *unified theory of management* of Koontz (1964) implies that his theory of management was produced through integration of pre-existing literature. This term can be referred to a kind of theory of management constructed from a special theorization method, the eclectic approach. Finally, the term *a science of management* may be equated to management theory if management could be described in causal laws. This term was used with a belief in the application of naturalism, the methodological approach of the theoretical natural sciences, to management. For proponents of scientific management and management science, a science of management is the goal of their study. For Koontz (1980), confusion between a theory of management, a science of management, and management theory can be detected.

Definition of Theory of Management

Since a theory of management is a *tool* and a *goal* of management researchers, an adequate definition of it seems to be a must in the first place. However, this is not the case. There is no particular definition of the theory in the management area; let alone for the theory of management. The definitions of theory currently used in the management area are borrowed from theoretical natural sciences, such as physics, and have suffered from incomplete specification of the content and purpose of a theory. They are the results of poor understanding of what constitutes a theory and of bias to naturalism. For example, Zikmund (1991,p. 734) defines theory as "a coherent set of general propositions used to explain the apparent relationships among certain observed phenomena". Here the purpose of theory is confined to explanation and the content to propositions.

However, explanation is hardly the only purpose of a theory concerning human affairs. Human beings are not confined to established life. In history, social progress is gained from invention and innovation of rules, roles, and institutions rather than from discovery of them. Merely to explain is therefore not enough because social phenomena are generally changeable. Critical theorists claim that social science is reflexive because the human subject is capable of using the findings of research to change behaviour *and* that natural science is not because the object is inanimate. Therefore, naturalism must not be followed strictly in social science because a social theory can not only explain the established social practice but also prescribe the positive guidance for new practice. In this way, theorists participate actively in the process of enlightenment and emancipation rather than leave it to the people concerned. To be successful, the theory must be accepted and followed by the subjects, i.e., be self-fulfilling in Buck's (1963) sense.

The description/prescription dimension of a theory is a continuum with description and prescription at each extreme. From the perspective of this continuum, four types of social theory can be classified:

- Type 1 theory: as the description of general practice;
- Type 2 theory: as the description of good practice;
- Type 3 theory: as partly the description of some existing practice and partly the prescription of new practice;
- Type 4 theory: as the prescription for new practice.

Type 2, 3, and 4 theories contain different degrees of prescription and, therefore, encounter the question of justification of the prescription in the theory. Certainly, to combine both the descriptive and prescriptive functions in a theory is not easy. However, it is far from impossible.

As to the content of a theory, theorists have incomplete and ill-structured views. Though Whetten (1989) notes that a complete theory must contain four essential elements: what, how, why, and who-where-when, his specification of the sub-elements are not complete and biased to naturalism. Several other definitions of theory contain incomplete content as well, as shown below:

> A theory is a statement of relations among concepts within a set of boundary assumptions and constraints. (Bacharach, 1989, p. 496)

> Features of a theoretical model ... (1) units ... (2) laws of interaction ... (3) boundaries ... (4) system states ... . (Dubin, 1978, p. 7-8)

> A theory is a set of statements (definitions, assumptions, laws, hypotheses, and so on) used to explain the facts or data in a given area. (Goodson and Morgan, 1976, p. 287)

> A theory is a provisional explanatory proposition, or set of propositions, concerning some natural phenomena and consisting of symbolic representations of (1) the observed relationships among (measured) events, (2) the mechanisms or structures presumed to underlie such relationships, or (3) inferred relationships and underlying mechanisms intended to account for observed data in the absence of any direct empirical manifestation of the relationships. (Marx, 1976, p. 237)

Nowhere is the *rule* of human action included as a part of a theory. Also, different definitions emphasize different parts of the content.

By synthesizing Whetten's (1989), Dubin's (1978), Marx's (1976) and others' ideas on the content of a theory and accommodating the argument of this study on the purpose of a theory, a theory of management is thus defined as follows: A theory of management is a conceptual framework formulated in a set of statements concerning the **conditions** (context, boundaries, premises, assumptions, postulates), **elements** (concepts, constructs), **relationships** (rules of action, laws of interaction) among elements, and **mechanisms** (causes, chains of interactions) of management; its purposes are to explain or to guide the practice of management or both.

How is different from Zikmund? How does it answer to criticism you levelled at Zikmund?

From the perspective of the content of a theory specified in the above definition, theories can be classified into three levels:

- Level 1 theory: containing the conditions and elements;
- Level 2 theory: containing the conditions, elements, and relationships;
- Level 3 theory: containing the conditions, elements, relationships, and mechanisms.

In short, the more a theory is covering the content, the more complete and the higher the level it is. For instance, Fayol's (1916) management functions, which contains a classification which Homans (1950, 1976) regards as the lowest form of theory, is a Level 1 theory.

From both the perspectives of the content and the purpose, theories can be classified into 12 categories (three by four matrix). For example, the theory to be established in this study is a Level 3, Type 3 theory.

? Not clear

To evaluate a theory of management, it is necessary to examine its conceptual coherence and empirical relevance as well as its usefulness in the following areas:

1. Description and prescription of management practice,
2. Accumulation of management knowledge,
3. Selection and development of management talent,
4. Control of managerial effectiveness,
5. Identification of managerial contribution to organization and society,
6. Justification of managerial authority and remuneration.

why?

Section 2

THE MOTIVATION FOR THIS STUDY

This study is to fill the gap between the desperate need for an adequate theory of management and the situation of lack of it. In this section, the situation of having no adequate theory of management, the influence of applying inadequate theories of management, and the gap to be filled are described.

Surprising Situation of Having No Adequate Theory of Management

Management receives much attention from many people now. This is due to democracy and people participating in the management of their countries and communities, and to the market economy and people seeking better management of their businesses. Also, people want answers to their increasingly sophisticated management problems because of the increasing size of business and more intensive competition. Even in the home, people look for better management because they know there are chances for improvement.

Responding to the need for better management, many academics, consultants, and practitioners of management have done a lot of theorizing and research in this and the last centuries. As a result, we have a wealth of management literature. Scientific management, management process and principles, human relations, and management science are the major generic titles so far.

Ironically, we do not have an adequate theory of management now, at least in the literature, despite the great need of practitioners and the continuing efforts of theorists. Though the existing theories are useful in varying degrees in certain areas, they are partial and difficult to apply. Fayol (1916/1949), Koontz (1961, 1964, 1980), and many others (e.g. Hodgett, 1982) all point out the multiplicity of management theory and the discrepancies in it.

Firstly, Fayol (1916/1949) notes about such a regrettable phenomenon:

> Now there exists no generally accepted theory of management emanating from general discussion. There is no shortage of personal theorizing, but failing any accepted theory each one thinks he has the best methods ... ... but good and bad are to be found side by side at the same time in the home, workshop and State, with a persistence only to be explained by lack of theory. (p. 15)

From Henri Fayol on, we have even more theories and they are not compatible with each other either. In his seminal article "The Management Theory Jungle", Koontz (1961) categorizes his contemporary theories into six "schools": the management process school, the empirical school, the human behaviour school, the social system school, the decision theory school, and the mathematical school. He also asks for clarification of management theory.

As a result, a group of 61 management theorists, business school administrators, and management practitioners met in a symposium for "a unified theory of management" in 1962. Ironically, the participants were virtually speaking different language of management. Those from different "schools" found difficulty in understanding each other (Koontz, 1964). Consequently, they did not improve the situation.

Koontz (1980) re-classifies his contemporary theories into eleven "approaches" and comments that it implies that "the 'jungle' may be getting more dense and impenetrable." These approaches are: (1) the empirical or case approach, (2) the interpersonal behaviour approach, (3) the group behaviour approach, (4) the co-operative social system approach, (5) the sociotechnical systems approach, (6) the decision theory approach, (7) the systems approach, (8) the mathematical or "management science" approach, (9) the contingency or situational approach, (10) the managerial roles approach, and (11) the operational theory approach (named as management process school in 1961 article). Though, in addition to sorrow, he also optimistically points out the signs to "a unified and practical theory of management", yet these signs are still very weak today.

More recently, Carroll and Gillen (1987, p. 38) express their regret after an informal survey on how authors organize their management textbooks; 21 books published in the period from 1983 to 1986 were analyzed. They note:

> Eleven of the twenty-one textbooks examined described Mintzberg's [(1973) ten roles] along with the classical functions as descriptions of what managers do but, in no case were these two different

> perspectives integrated, indicating uncertainty about how they fit together, if at all. ... It seems clear that authors are having some difficulty in handling these diverse perspectives on managerial work.

Finally, let us look into the present situation in our universities where the teaching represents the state of the art. This researcher and his junior fellow students were told to apply appropriate "approaches" in a contingent manner rather than to use our knowledge under the guidance of an integrated, coherent theory. Moreover, little effort has been made to deal with the discrepancies between different approaches. The course guides for the management courses printed in the university calendars reveal this situation as well.

Influence of Having No Adequate Theory of Management

Many of the ineffective practices and unnecessary problems in management area can be attributed to the fact of having no adequate theory of management. As mentioned above, a theory of management has to be useful in six areas. Now, because of the application of inadequate theory, these six areas suffer. The followings are some evidence:

1. *Description and prescription of management practice.* Without an adequate theory of management, managers are widely reported as having difficulty in describing their work properly and in finding out what they ought to do in their jobs (e.g., Carlson, 1951; Hill, 1992; Mintzberg, 1973, 1975/1990; Sayles, 1964; Shartle, 1956). For example, one relatively new manager of Sayles' (1964) participants reported:

> I am running into all sorts of difficult administrative problems on this job, but other than saying that I have problems, I find it difficult to talk to my boss about them. I don't know what words to use to describe my situation. Sure, if we spent ten hours talking, I think I could communicate some of the difficulties, but I want something more precise to diagnose what is going on, something like the terms we have for discussing technical work. (p. 18)

The situation has not improved since 1964. One of Hill's (1992) new managers reported:

> I didn't have the slightest idea what my job was. I walked in giggling and laughing because I had been promoted and had no idea what principles or style to be guided by. After the first day I felt like I had run into a brick wall. (p. 15)

As to the inadequacy of the existing theories, Sayles (1964) quotes the words of a project manager in a large, demanding, science-based organization to contrast the management practice and the inadequate theories:

> I have a terrible time trying to explain what I do at work when I get home. My wife thinks of a manager in terms of someone who has authority over those people who work for him and who in turn gets his job done for him. You know, she thinks of those nice, neat organization charts, too. She also expects that when I get promoted, I'll have more people working for me.
>
> Now, all of this is unrealistic. Actually, I only have eighteen people directly reporting to me. These are the only ones I can give orders to. But I have to rely on the services of seventy-five or eighty other people in this company, if my project is going to get done. They in turn are affected by perhaps several hundred others, and I must sometimes see some of them, too, when my work is being held up.
>
> So I am always seeing these people, trying to get their cooperation, trying to deal with delays, work out compromises on specifications, etc. Again, when I try to explain this to my wife, she thinks that all I do all day is argue and fight with people.

> Although I am an engineer, trained to do technical work in the area encompassed by this project, I really don't have to understand anything about the technical work going on here.
>
> What I do have to understand is how the organization works, how to get things through the organization--and this is always changing, of course--and how to spot trouble, how to know when things aren't going well.
>
> As for doing a lot of planning ahead, well, it's foolish. In fact, I usually come to my office in the morning without any plans as to what I am going to do that day. Any minute something can happen that upsets the works. Of course, I keep in mind certain persisting problems on which I haven't been able to make much headway. (p. 43)

2. *Accumulation of management knowledge.* The difficulties in becoming a manager as described by Hill (1992) are among the evidence of lacking satisfactory books for learning management. Students and would-be managers get little help from years of hard learning. The reason for having no satisfactory management books is because of the obsession of academics with the management process approach (Mintzberg, 1973) and of difficulties encountered in empirical research (Hales, 1986; Stewart, 1982, 1989) and, in turn, because of lacking an adequate theory of management (Carlson, 1951).

Without commonly accepted theory, academics and practicing managers have different views about management. Dunnette and Brown (1968) reports an almost inverse ranking of the importance of articles and books about organizational behaviour judged by managers and academics. In other words, the important articles and books for academics are judged by managers as unimportant and vice versa. With such fundamental difference, it is hard to believe that the accumulation of management knowledge by academics is really for managers.

3. *Selection and development of management talent.* Without an adequate theory of management, organizations have difficulty in selecting managers, and educators and trainers have difficulty in developing them, too. For selection, Hunter and Hunter (1984) provides evidence of the advantage of *general* cognitive ability over assessment centre and other methods in selecting managers for performance. It is regrettable that the study of management has not added value in this area. For education and training, Lee (1982) has informed us that managers are gullible to follow *fads* in management theory, such as grid training, sensitivity training, assertiveness training, etc. Also, Mintzberg (1989) criticizes the teaching of universal "professional management" in most business schools as "thin, superficial, and sometimes immoral" (p. 348) because it excludes information details, gut feel, and unquantifiable issues. Moreover, Wren, Buckley, and Michaelsen (1994) question the practicality of management education in business schools. They note,

> Business schools are expected to be "professional" in the sense that their mission is primarily to prepare people to practice their skills in the business world. In examining the literature, however, there are sentiments among both educators and business leaders that business schools and/or management professors overemphasize research, theory, and quantitative analysis in order to achieve academic respectability at the expense of not producing managers who are equipped for the practice of management. Critics claim that analytic rigor to please other scholars has achieved preeminence over relevance to those who practice." (p. 141)

Unlike Wren et al. who see the problem to be in pedagogy, this researcher believes that the more fundamental problem lies in having no adequate theory of management. Without knowing management conceptually in a comprehensive framework, how can teachers decide what and how to teach to their students?

4. *Control of managerial effectiveness.* The effectiveness of managers' actions are paramount to the success of organizations. But the existing theories provide no adequate answer to maintain or improve it. Traditionally, managerial effectiveness is "controlled" after things have been done. It is widely reported that the yearly or even quarterly rate of return on investment have been used to control managerial effectiveness. When the profit is unsatisfactory, the manager is fired or changed. As a result, managers focus their attention on short-term profit and, hence, long-term investments on equipment and human resources are hindered. Gradually, the organizational effectiveness declines (Hayes and Abernathy, 1980).

Mintzberg (1989) also criticizes the detached, analytical way of controlling managerial effectiveness. He notes,

> Thin management remains distant from the subject of its efforts, acting as if it moved pieces on a chessboard (the "portfolio" of business is one popular conception), making little effort to influence what those pieces really do, even how they relate to each other in any but the most superficial ways. Faced with an organization's lack of innovation, thin management throws cash at a research and development facility; faced with declining profits in a division, thin management sells it or fires its manager; faced with the need to bring the wonders of electronics to its products, thin management acquires an electronics firm and slaps it together with its own activities; faced with public accusations of the organization's social irresponsibility, thin management appoints a vice president in charge of social responsibility to be responsible for everyone else. (p. 354)

5. *Identification of managerial contribution to organization and society.* The contribution of managers has been a controversial issue for a long time. Yet, the existing theories provide no clear answer. Henri Fayol was unable to articulate clearly the contribution of his planning, organizing, commanding, co-ordinating, and controlling to the organization's goal (Urwick, 1937). Frederick W. Taylor was himself a target of attack. As a result, the discussion has been polarized. On the one extreme, some managers, especially the owner-manager, declare forcefully that they have contributed to the livelihoods of those who work for them. On the other extreme, words like "Everyone *knew* that managers were really sons of bitches!" (quoted in Mintzberg, 1989, p. 352) can be heard even from highly educated people.

6. *Justification of managerial authority and remuneration.* Failure to identify managers' contribution leads to another difficulty. The existing theories provide no reason for or against some managers' apparent high level of authority and remuneration. Why are managers who have little knowledge of the environment allowed to make decision for the whole organization? (see Mintzberg, 1989, p. 361) Why are some managers paid so high and why does their remuneration become unrelated to performance? (Crystal, 1992)

Gap to be Filled

From the above discussion, it is evident that a generally accepted theory of management has been expected for a long time and many theorists have spent much time and energy on it. Yet, no theory of management can be regarded as adequate or generally accepted because six areas of usage of a theory of management are still suffering. The gap between the expectation of having a generally accepted theory of management and the reality of having none of it is waiting to be filled. In other words, there is a need for an adequate theory of management.

Section 3

OBJECTIVES OF THIS STUDY

This study aims to establish the AKT theory of management and re-examine the characteristics of management practice under the light shed by this new theory. By the term *establish*, it is expected that, after the completion of this study, the AKT theory will occupy a place in management theory and be studied, questioned, and re-tested. To establish the AKT theory, it is necessary to accomplish the following goals:

1. To review and analyze the pre-existing theories of management and related literature.
2. To construct the AKT theory of management on the basis of the existing evidence in management literature and this researcher's personal experience of management practice.
3. To derive a basic organization theory which includes six organizational concepts, namely networked-cones structure, end-means chains, compatibility among factors for organizational operation (FOOs), distributed managing, reflexivity in management, and momentum of organization, from the AKT theory in order to produce the core of a coherent organization and management theory.
4. To deduce arguments from the AKT theory and compare them with the competing arguments from the pre-existing theories, if available, to show the differences.
5. To formulate hypotheses or discussion problems in order to test or examine the truth of those arguments.
6. To collect data relevant to those hypotheses and discussion problems.
7. To test and examine the AKT theory using the collected data and the evidence from other studies in order to provide empirical supports for it.
8. To test and examine the pre-existing theories using the collected data and the evidence from other studies in order to disprove them or show their inadequacy.

The AKT theory of management is intended to be useful in management practice, training, and research. Also, by studying the content and characteristics of management, it is hoped that the results will be useful for career planning for those who want to pursue as well as for those who want to avoid a career in management.

Section 4

SCOPE AND LIMITATIONS OF THIS STUDY

The Scope of This Study

This study is confined to the construction of the AKT theory and empirical test and examination of it and its competing theories. As a study of general or grand theory of management, the detailed study of the more specific content of managers' work is not included. However, suggestions for researchers to pursue such a study can be found in Chapter 11.

Scope

The Limitations of This Study

This study is subject to the following limitations:

1. The empirical support for the AKT theory of management reported in this study is only to provide the readers with *a* reason to believe the truth of the theory. No theory can be said to be *proven* unless it has been tested in all related circumstances. Now, this is the only study of the AKT theory. One empirical support may sounds too little for people to believe and accept a new theory. But, belief and acceptance vary according to the amount and the perception of evidence. The perception of the evidence varies among people with different points of view about discovery. At its least, this empirical support can only be perceived as the first evidence to show that there may be some truth in the theory. For Popper (1961), the construction of theory is only a personal psychological affair irrelevant to the scientific inquiry. At its most, this empirical confirmation can be seen as the second support because the first one happened implicitly at the time of theory construction. For Hanson (1958), the second support merely marks the beginning of a confirmatory stage. Above all, although the perception of evidence is influential at this stage, it is the amount of support which will finally decide the degree of acceptance. If the AKT theory is to be highly accepted, more empirical support is needed.
2. The six organizational concepts have not been empirically studied systematically because the focus is on the AKT theory. They are introduced because they are necessary for the discussion of the AKT theory because they relate the AKT theory to the context of organization. However, there still is evidence for them from this and other related studies.
3. It is difficult to get the cooperation of managers to fill in diaries. Most managers are busy. Most managerial work is confidential. Thus, requests for participation in research tend to be regarded as unwanted interference, especially when the commitment of time and energy is high and the benefit from the study is not immediate. As a result, some managers in the sample produced fewer, irregular diary records and several others dropped out although, in contrast, several managers produced many records in order to "help" this study.

Effect on study

4. There is still no rule for deciding the adequate time for sampling managers' actions. Their work is generally unstructured. To find a pattern of repetition in it in order to calculate an estimation error and

Style

the required sample size of a manager's actions would be unrealistic. In this study, 40 managers were asked to record diary hourly for a week because it might be easier to get managers' cooperation as opinions suggested and because a week's observation seemed to be reasonable if various kinds of managers are sampled. However, a week's observation is experimental and might, at its least, amount to only a glimpse of managers' work. Surer replications with larger groups of managers or longer periods of observation are wanted. This researcher hopes that, with the evidence of this study, researchers will find it easier to collect data of such samples.

Section 5

RESEARCH PROBLEMS

This study seeks to answer the following questions:

Questions answered?

tested

D

What is a theory of management? What is management? Who is a manager? What are manager's activities? What are manager's tasks? What are manager's knowledges? What are the nature of manager's activities, manager's knowledges, and manager's tasks? How do manager's activities, tasks, and knowledges related? What is a suitable theory for the structure of organizations? How and why do manager's activities, tasks, and knowledges work in organizational settings? How is the prescriptive dimension of the AKT theory justified? Why are other theories of management inadequate? What research method should be used? What methodological approach should be followed? and What are the characteristics of management practice?

All of the research problems have their purposes in this study. Some overlap with the objectives of the study, such as those about the elements and relationships in the AKT theory and the inadequacies of the competing theories of management. Others establish necessary basis for the study to proceed, such as those about the definition of a theory of management and the methodology. Still others are both the goals of and basis for the study, such as the problem about a suitable theory of the structure of organizations. The rest are applications of the research results, such as the problem about the definition of management.

Section 6

STRUCTURE OF THIS THESIS

This thesis consists of ten chapters. Their sequence, titles, and content are as follows.

Chapter 1: Introduction. A definition of a theory of management, the motivation, the objectives, research problems, and the scope of this study were described.

Chapter 2: Literature Review and Analysis. Management theories are classified. The management functions and Mintzberg's (1973) ten roles as pre-existing theories of management are analyzed and criticized. A basic framework of the AKT theory is derived from a critical examination of management literature and practice. The literature review is then re-directed to manager's activity, manager's knowledge, and manager's task.

Chapter 3: Construction of the AKT Theory of Management. The AKT theory is constructed using the basic framework and the classifications of manager's activities, manager's knowledges, and manager's tasks. Also, six organizational concepts which form a basic organization theory and describe or prescribe the context of management are also theorized.

Chapter 4: Thesis, Arguments, Hypotheses, and Discussion Problems. The thesis of this study is expressed. The competing arguments derived from the pre-existing literature and the arguments of this study derived from the AKT theory and six organizational concepts are contrasted. Testable hypotheses and non-testable discussion problems are formulated.

Chapter 5: Research Methodology. The methodological approach, reflexivism, is argued. Research methods, including the questionnaire and the diary method, are described.

Chapter 6: Findings About the Establishment of the AKT Theory of Management. The empirical tests about the nature, relationships, and necessity of the manager's activities, knowledges, and tasks, about a suitable theory of the structure of organizations, and about the justification of the prescriptive dimension in the AKT theory are described. Step by step, the findings and discussions lead to the establishment of the AKT theory.

Chapter 7: Findings About the Characteristics of Management Practice. The findings and discussions about the characteristics of decision making and planning and about the brevity, variety, and fragmentation of managers' actions are described from wider perspectives than the previous views.

Chapter 8: Other Related Studies' Findings Explained and Subsumed. The findings of several other studies are re-explained with the AKT theory and the six organizational concepts and thus subsumed.

Chapter 9: Conclusions: Summary and Evaluations. The contents of the thesis are summarized; the study and the AKT theory are evaluated from various perspectives.

Chapter 10: Theoretical implications and Applications. Theoretical implications and applications of the AKT theory, including that for the classification of management literature and that to the definition of management, are discussed.

Chapter 11: Suggestions for Managers, Teachers, and Researchers. Practical implications of the research methodology, the AKT theory, and the six organizational concepts for management practice, development, and research are suggested.

Chapter 2

LITERATURE REVIEW AND ANALYSIS

Since this study is about the theory of management, the background theory to look at is therefore the existing theories of management. However, the literature is so enormous that a comprehensive review is nearly impossible. Also, many ancient theories are either integrated by newer ones or of no use in our time (see Wren, 1979). A review of them can distract rather than help. Therefore, this review of literature will be confined to those theories that are still being mentioned in contemporary textbooks on organization and management theory.

In this chapter, an overview of the theories is given in Section 1; a comprehensive review of the classicists' management functions in Section 2 and of Mintzberg's (1973) ten roles theory in Section 3; an analysis of the way followed to reach a theory of management in Section 4; the basic framework of the AKT theory of management in Section 5 which redirects the approach to establishing a theory of management and hence re-specifies the literature to be reviewed; and a comprehensive review of the literature on the relationships among manager's activities, knowledges, and tasks in Section 6, on manager's activities in Section 7, on manager's tasks in Section 8, and on manager's knowledges in Section 9.

Section 1

THE EXISTING THEORIES OF MANAGEMENT

The existing theories of management need to be identified before it is possible to review them. In this section, an overview of the theories in the management area is described. Firstly, management theories are classified. Then, those theories which are not theories of management are recognized. Finally, three kinds of theories of management are identified.

Classifications of Management Theories

Harold Koontz identifies six major groups or "schools" of management theories in his well-known article, *The Management Theory Jungle*, first published in 1961. They are:

1. *The management process school.* Fathered by Henri Fayol and often called the traditional or universalist approach, this school seeks to analyze and identify the management functions in order to establish a theory of management.

2. *The empirical school.* Exemplified by Ernest Dale, this school uses cases to study and teach the experience of the successes and failures of managers in order to draw generalizations about management.
3. *The human behaviour school.* Variously called the human relations, leadership, or behavioral sciences approach and concentrating on the "people" part of management, this school deploys mainly psychology and social psychology to study human behaviour in order to draw implications for managing workplace motivation.
4. *The social system school.* Fathered by Chester Barnard, this school regards organization as a system of cultural interrelationships in which various groups interact and cooperate. They also prescribe the management functions accordingly.
5. *The decision theory school.* Concentrating on a rational approach to decision, this school deploys economics, especially consumer choice, to analyze the persons or groups, the process, and the alternative-selection of decision making.
6. *The mathematical school.* By seeing organization, planning, or decision making as a logical process, the "management scientists" or operations researchers seek to express management in terms of mathematical symbols and relations.

About two decades later, Koontz (1980) re-examines his contemporary management theories and identifies 11 "approaches to the study of management science and theory" (p.176). They are:

1. *The empirical or case approach.* Formerly named as the empirical school.
2. *The interpersonal behaviour approach.* A division of the original human behaviour school concentrating on the psychological side of motivation or leadership.
3. *The group behaviour approach.* Another division of the original human behaviour school concentrating on the social psychological or sociological sides of human behaviour in groups.
4. *The co-operative social system approach.* Formerly named as the social system school.
5. *The sociotechnical systems approach.* This is a newer school of management generally credited to E. L. Trist and his associates. They found that merely to look into the social problems was not enough because individual attitudes and group behaviour (social system) are strongly influenced by the machine or equipment (technical system) with which people work. Therefore, they argue that social and technical systems must be considered together and be made harmonious.
6. *The decision theory approach.* Formerly named as the decision theory school.
7. *The systems approach.* This is a newer development in which the application of system concepts to the study of management is emphasized. Organizations are seen as open systems interacting with the environment outside and their elements or sub-systems interacting with each other inside.
8. *The mathematical or "management science" approach.* Formerly named as the mathematical school.
9. *The contingency or situational approach.* This is a newer approach to management thought and practice stressing that management practice, such as structure, depends on the circumstances (the situation), such as production technology (e.g., Woodward, 1965).

10. *The managerial roles approach.* This is a newer approach to management theory popularized by Henry Mintzberg (1973, 1975). The advocates observe what managers actually do in order to draw conclusions as to what managerial activities (or roles) are. From his research and others', Mintzberg concludes that managers perform ten roles: A. interpersonal roles (figurehead, leader, liaison), B. informational roles (monitor, disseminator, spokesman), C. decisional roles (entrepreneur, disturbance handler, resource allocator, negotiator).
11. *The operational approach.* Formerly named as the management process school.

Years later, *the McKinsey 7-S Framework,* which consists of strategy, structure, systems, style, staff, shared values, and skills, was added to the list as a new approach (Koontz and Weihrich, 1988). However, *scientific management,* which is widely used as an approach to problem solving and has accumulated a body of theories, although mainly implicit, has been constantly denied inclusion in the list.

Yet, another even newer approach which was not included in the list in Koontz and Weihrich (1988) is *the configurations approach* (Miller and Mintzberg, 1988; Mintzberg, 1989). This approach goes beyond the sociotechnical systems approach and the contingency or situational approach to theorize the patterns of organization which exemplify not only how elements of organizational practice and environment "depend" on each other but also how they are "sythesized" together to form workable totalities of organizational factors. Mintzberg (1989) lists seven configurations, two more than his 1983 version. They are: the entrepreneurial organization, the machine organization, the diversified organization, the professional organization, the innovative organization, the missionary organization, and the political organization. (In introducing this approach, this researcher follows the way Harold Koontz did).

Management Theories Are Not Necessarily Theories of Management

In their writing, Koontz (1961, 1980) and his associates (e.g., Koontz and Weihrich, 1988) fail to distinguish clearly between management theory (the totality) and a theory of management, between a theory of management and a science of management, and between a school of management theory, an approach to the study of management science and theory, and an academic division of labour. He and his associates seem to use them interchangeably.

Their most devastating mistake is to confuse a theory of management with management theory (the totality). Although Koontz sets out for a "theory of management" (1961, p. 176; 1980, p. 175 & 183), although implicitly, the titles of his articles show that they are about management theory. However, a theory of management is a management theory (a part) whereas a management theory is not necessarily a theory of management. A theory of management relates to the practice of management *as a whole* while a management theory (a part) is *any* theory that relates to the practice of management. The term *management theory* has a wider domain which ideally includes a theory of management. The reason why Koontz and his associates analyze management theories (parts), instead of practice, in order to search for a theory of management is probably because they mistake firstly that the management functions they prescribe (including planning, organizing, staffing, leading, and controlling) are the core "content" of a theory of management and secondly that a unified theory of management can be synthesized because other schools of management theories are either 'tools" or "evidence of support" to their management functions.

Their second mistake is to confuse a theory of management with a science of management. While a theory of management is *a* theory relating to management as a whole, a science of management, if it exists, should be the integrated assembly of management theories, including a theory of management, in the form of laws.

Finally, their third mistake is to confuse school and approach with academic division of labour. Simon (1964) disagrees with the notion of "management theory jungle". Instead, he regards the existing management theories as the product of academic division of labour. He notes, "... there must be a division of labour ... in the field of management research. But a division of labour is different from 'approaches' to be 'synthesized'" (p.78). Other management theorists also maintain that they are not analyzing management itself and therefore they are not drawing a theory of management (e.g., Roethlisberger, 1964; Schlaifer, 1964). Thus, the notion of "schools" of or "approaches" to management theory has been rejected by critical management figures although some textbook writers are still using it.

From the above discussion, it is clear that Koontz and his associates' "schools" or "approaches" are not actually competing ways of thinking or of theorization about management. Rather, they are mainly crude categories of management theories. Thus, their classification of management theories does provide a convenient vehicle for brief review. From such reviews, it is also clear that only three "approaches" are meant to produce theories of management while the rest are not. The discussion of this division is as follows.

The Existing Management Theories Which Are Not Theories of Management

The theories produced from the following "approaches" are management theories which are not theories of management because they are not relating to the practice of management as a whole:

1. *The empirical or case approach.* The distillation of management experience is certainly useful in formulating a theory. However, it alone is not enough in establishing a theory; other research methods are needed to support the generality of a theory. Also, according to Koontz (1980), the new emphasis of this approach has been on strategy and strategic planning. But "lack of conceptual clarity in the strategy field" (Thomas and Pruett, 1993, p.3) is still the case. In fact, no explicit theory of management has been formulated or established by this approach so far. Meanwhile, the result of training using this approach is at best a personal, implicit theory of management.
2. *The scientific management approach.* Scientific management is about the applications of systematic fact-finding methods for solving management problems. Problem solving rather than theories are the aims. As F. W. Taylor said three weeks before his death, "scientific management at every step has been an evolution, not a theory" (cited in Wren, 1979, p.156). Many standards and rules relating to shop floor management have been compiled so far and are ready for use. The enormous amount of data,

methods, and case examples make the scientific management a powerful approach to planned change. However, its application has been confined to the lower echelon and no theory of management has been derived from it.

3. *The human behaviour approach.* The study of human behaviour between the leader and the led or in the group settings and its applications to the management of motivation and behaviour syndromes are certainly important. However, concentrating on the "people" part of organization and neglecting the technical side will not lead to a theory of management as the sociotechnical systems approach shows.
4. *The sociotechnical systems approach.* This approach views management from a wider perspective than the human behaviour approach and, unlike its predecessor, it has earned many records of success in situations where machinery or equipment strongly influence individual's attitudes and group behaviour (e.g., Emery and Trist, 1960/1969; Trist and Bamforth, 1951). However, this approach remains more of a philosophy than a theory. Details of a theory are yet to be specified.
5. *The decision theory approach.* This approach has contributed to useful knowledge of the decision, the decision process, and the decision maker to various functional areas. However, decision making is only a part of management activity according to observational studies, such as Mintzberg (1973). As Schlaifer (1964) notes, the domain of decision theory is quite different from that of management and is not an approach to produce a theory of management.
6. *The systems approach.* The system concept has enriched management theory, such as the co-operative social systems, the sociotechnical systems, the project management concept, the planning-programming-budgeting-systems (PPBS), the system analysis techniques and models, the transformation system concept, and the management information systems. However, system theorists have not managed to produce a theory of management.
7. *The mathematical or management science approach.* This approach strives to find and improve the use of tools of mathematics and science for discovering rules and formulas for the rationalization of resources utilization. Since their focus is on a very special area of management, it is very unlikely for them to produce a general theory of management.
8. *The contingency or situational approach.* This approach has produced evidence of how organizational practice depends on the environment. However, factors of organization are numerous. To analyze all relevant contingency factors can be very complex and difficult. Let alone to synthesize to produce a theory of management.
9. *The McKinsey 7-S Framework approach.* This approach presents its 7 S's as the factors of organization and argues that, when the 7 S's are aligned, the company is organized (Waterman, 1982). Two well-known books, *The Art of Japanese Management* and *In Search of Excellence,* are based on this framework. However, the 7-S framework seems to be overshadowed by eight attributes of excellence. Also, the 7 S's are defined as two levels ("Skills" is a derivative of the rest.) but are illustrated as one level only. Nonetheless, it has many management implications.
10. *The configurations approach.* Mintzberg (1983, 1989) presents his configurations as a theory of organization. Although his configurations have many management implications, they cannot be regarded as a theory of management.

The Existing Theories of Management

Theories produced from the following approaches are meant to be theories of management. They are:

1. **The management process or functions approach.** Although Koontz (1980) renamed the management process school as the operational approach, the new title seems inadequate because of the weak operational foundation in this approach. This point will be developed fully in the following sections. The theories produced by this approach are a variety of management functions, or process theories. All of these theories are meant to be universal for the management of any undertakings, or to be theories of management. A review of them will be given in the next section.
2. **The managerial roles approach.** The most important theory produced by this approach is Mintzberg's (1973) ten roles theory. This theory is meant to be a theory of management because Mintzberg argues that all managers perform all of the ten roles. Review of it will be given in the Section 3.
3. **The co-operative social systems approach.** Barnard (1938) defines organization as a *system* of consciously co-ordinated activities or forces of two or more persons. He argues that the imperatives for the survival of an organization are:

   (1) The willingness to cooperate,
   (2) The ability to communicate,
   (3) The existence and acceptance of purpose.

   Thus, he prescribes the executive functions as follows:

   (1) To provide a system of communication,
   (2) To promote the securing of essential personal efforts,
   (3) To formulate and define organizational purpose.

   Barnard's theory has stimulated research in many directions but his executive functions are too narrow in perspective and are largely forgotten.

Although there are many "schools" of or "approaches" to the studies of management (Koontz, 1961, 1980), the recognized explicit efforts to produce a theory of management have been limited to the theorists from the management process approach (the classicists) and the managerial roles approach (the behavioral empiricists[11]), specifically, Mintzberg's (1973) ten roles theory. Carroll and Gillen's (1987) convenience sample study reveals that *all* of the 21 management books with publication dates between 1983 and 1986 are organized on the basis of the classicists' management functions and 11 of the 21 books do describe Mintzberg's (1973) ten roles theory as alternative description of what managers do. This evidence suggests that the classicists' management functions are in the mainstream while Mintzberg's(1973) ten roles theory is in the second challenging position.

Section 2

THE CLASSICISTS' MANAGEMENT FUNCTIONS: THE MAINSTREAM THEORIES OF MANAGEMENT

There are many different forms of management functions proposed by various traditional theorists. They are also process theories because these theorists believe their management functions form a rational management process. These management functions are meant to be and perceived by many in the management area as theories of management. But, these theories have common fundamental problems of conceptual coherence and empirical relevance. In this section, the original management functions and some latter variants are reviewed; the nature of these management functions, principles, and processes are discussed; so is the usefulness of these management functions.

Henri Fayol's Theory of Management and The Original Management Functions

Fayol (1916/1949) constructs a theory of management based on his 30 years experience of top management in a French mining and metallurgical company. His theory has become a milestone of management thought in that it is a widely recognized theory and it is the original foundation upon which many modern process theories or management functions build.

Fayol's(1916/1949) original theory comprises of six *organizational activities* or functions, 14 *principles of management*, and five *elements of management* (management functions). Their content are as follows:

Six groups of **organizational activities** or functions are:

1. Technical activities (production, manufacture, adaptation).
2. Commercial activities (buying, selling, exchange).
3. Financial activities (search for and optimum use of capital).
4. Security activities (protection of property and persons).
5. Accounting activities (stocktaking, balance sheet, costs, statistics).
6. Managerial activities (planning, organization, command, co-ordination, control). (Fayol, 1949, p. 3)

Fourteen **principles of management** are:

1. Division of work.
2. Authority.
3. Discipline.
4. Unity of command.
5. Unity of direction.
6. Subordination of individual interests to the general interest.
7. Remuneration.
8. Centralization.
9. Scalar chain (line of authority).
10. Order.
11. Equity.
12. Stability of tenure of personnel.
13. Initiative.
14. Esprit de corps. (Fayol, 1949, p. 19-20)

Five **elements of management** or management functions are:

1. Planning.
2. Organizing.
3. Command.
4. Co-ordination.
5. Control. (Fayol, 1949, p. 43-107)

Brief definitions of these five management functions are:

> To foresee and plan means examining the future and drawing up the plan of action. To organize means building up the dual structure, material and human, of the undertaking. To command means maintaining activity among the personnel. To co-ordinate means binding together, unifying and harmonizing all activity and effort. To control means seeing that everything occurs in conformity with established rule and expressed command. (Fayol, 1949, p. 6)

The logical relationships among the building blocks of Fayol's theory have never been clearly specified. The problems include: How do five elements of management, or management functions, relate to six organizational activities? How does one management function, such as planning, relate to another, such as organizing? How do 14 principles of management relate to five management functions? How do 16 managerial duties relate to five functions and 14 principles of management? Are the "contents" of forecast the contents of other management functions? etc. At least some of these problems were raised in front of Henri Fayol and he refused publicly to refine his theory (Urwick, 1937). Without clear answer to the mentioned questions, Fayol's theory remains difficult to grasp and looks like a loose collection of management concepts and techniques.

The most devastating problem of logical arrangement in Fayol's theory of management is that the relationship between the five management (or administrative) functions and six organizational (or managerial) activities has not been clearly specified. Different translators of English versions have different perceptions of the relationship. The difference in perception leads to different definitions of management. Fayol (1916/1929), J. A. Coubrough's translation, defines management as:

> To *administrate* is to plan, organize, command, co-ordinate and control. ... To *manage* an undertaking is to conduct it towards its objective by trying to make the best possible use of all the resources at its disposal; it is, in fact, to ensure the smooth working of the six essential functions [or managerial activities]. Administration is only one of these functions, but the managers of big concerns spend so much of their time on it that their jobs sometimes seem to consist solely of administration (p.9, italics added).

In contrast, Fayol (1916/1949), C. Storrs' translation, defines management differently as:

> To *manage* is to forecast and plan, to organize, to command, to co-ordinate and to control. ... To *govern* is to conduct the undertaking towards its objective by seeking to derive optimum advantage from all available resources and to assure the smooth working of the six essential functions [or organizational activities]. Management is merely one of the six functions whose smooth working government has to ensure, but it has such a large place in the part played by higher managers that sometimes this part seems exclusively managerial (p. 5-6, italics added).

Although the wording of Fayol (1949), C. Storrs' translation, has had wide influence on the definition of management because of wide publication, Wren (1979) regards J. A. Coubrough's translation as more accurate to the original text. Urwick (1937) even avoids the word "management" and notes that "to govern an undertaking is ... to ensure the smooth working of the six essential functions" (p. 119) which include administration. He regards C. Storrs' translation of *management* for the French word *administration* as "a pity" (1949, p. xii). Moreover, Gulick (1937) uses "POSDCORB" instead of *management* or *administration* to represent "the various functional elements of the work of a chief executive because 'administration' and 'management' have lost all specific content" (p. 13).

Regardless of the version of translation, the five management functions can be criticized as acontextual. Failure to make the relationship between the six organizational activities and five management functions clear leads to failure to locate the position of the latter in the organizational setting. Fault was probably due to Henri Fayol because both J. A. Coubrough's and C. Storrs' translations show the same vagueness of the relationship only in different wording.

Moreover, Fayol (1923/1937) reduced his theory of management to only having management functions and principles. The effort of positioning management functions in the organizational setting was suspended implicitly. Management functions remain as acontextual. Finally, Fayol's (1916/1949) concepts of organizational activities and principles of management have largely been discarded due possibly to his own inability to specify clearly the relationships among the building blocks of his theory and the inability of later theorists to refine them. Though the mainstream of the theorization effort so far has been based on his management functions, his original theory alone did not have much impact on the practice of management. It was, at the beginning, overshadowed by the scientific management movement and was nearly forgotten after his death in 1925 (see Wren, 1979).

Other Classicists' Process Theories: Variants of Management Functions

According to Wren (1979), it was R. C. Davies who firstly revised and re-introduced Fayol's theory in 1934 when the need for a theory of management was deep because of the larger size of enterprises, the complexity of organization, and the difficulty to reconcile the prescriptions from different management doctrines. The search for a general theory based on Fayol's management functions and principles formed a new wave in the 1950s (e.g. Newman, 1951; Terry, 1953; AFM 25-1, 1954; Koontz and O'Donnell, 1955; Terry, 1956; McFarland, 1958). The search has never ended and newer methodologies, such as eclecticism, interdisciplinary approach, and system theory, have been employed in theory construction (e.g. Terry and Franklin, 1982; Koontz and Weihrich, 1988). There are many variants of management functions. Table 2-1 shows only part of them arranged by the year of publication.

Analysis of Table 2-1 shows that, firstly, all authors have included *planning* and *organizing* as management functions; secondly, all authors except Gulick (1937) who adopts *reporting* instead have included *controlling*; thirdly, *co-ordination* was not adopted as an independent function except in earlier period; fourth, Fayol's *commanding* was followed by most other authors in terms of concept but not in

Table 2-1. Variants of management functions theorized by various authors

Authors \ *Management functions*	Creating	Planning	Budgeting	Organizing	Staffing	Assembling resources	Commanding	Directing	Leading	Influencing	Motivating	Actuating	Co-ordinating	Controlling	Reporting	Communicating
Fayol (1916/1949)		√		√			√						√	√		
Davis (1934)		√		√										√		
Gulick (1937)		√	√	√	√			√					√		√	
Newman (1951)		√		√		√		√					√	√		
Terry (1953)		√		√				√	√				√	√		
US Air Force (1954)		√		√				√					√	√		
Koontz & O'Donnell (1955)		√		√	√			√						√		
Terry (1956)		√		√								√		√		
McFarland (1958)		√		√				√						√		
Hicks (1967)	√	√		√							√			√		√
Starr (1971)		√		√										√		
Wren & Voich (1976)		√		√										√		
Sisk (1977)		√		√					√					√		
Haimann, Scott, & Connor (1978)		√		√	√					√				√		
Hellriegel (1978)		√		√										√		
Stoner (1978)		√		√								√		√		
Dessler (1979)		√		√	√				√					√		
Koontz, O'Donnell, & Weihrich (1980)		√		√	√			√						√		
Hampton (1981)		√		√					√					√		
Hicks & Gullett (1981)		√		√							√			√		
Hodgetts (1982)		√		√										√		
Koontz & Weihrich (1988)		√		√	√				√					√		
Baird, Post, & Mahon (1989)		√		√				√						√		
Cole (1993)		√		√							√			√		

wording; fifth, there is no agreement on the number of management functions; and finally, there is no agreement on the terms used.

The Nature of the Classicists' Management Functions

As to the *object* of management functions, Fayol (1916/1949), C. Storrs' translation, specifies that management functions operate only on the personnel. He notes, "The managerial function finds its only outlet through the members of the organization (body corporate). Whilst the other [organizational] functions bring into play material and machines the managerial function operates only on the personnel." But this should not be interpreted as that management is "the function of getting things done through others" (Koontz and O'Donnell, 1955, p. v & 3). If Fayol (1916/1929), J. A. Coubrough's translation, is followed, it is the *administrative* function that operates only on the personnel and *management* operates on materials, machines, and the people. And Wren (1979) has shown that J. A. Coubrough's translation is closer to Fayol's original ideas.

As to the *number* and *content* of management functions, classicists have never reached agreement over the composition of their management functions. The number of management functions varies from three to seven and the content and terms for them differ substantially. It is a state of many discrete competing theories. Comparing the management functions of Fayol (1916/1949) and Davis (1934), Wren (1979) notes,

> Fayol's process added command and coordination to planning, organizing, and controlling. Davis did not include command but included it under a more descriptive label of "executive leadership" which permeated all other functions. Likewise, Davis treated coordination as operating throughout his organic functions [of planning, organizing, and controlling] and not separate, as regarded by Fayol. On the other hand, Fayol developed staffing as a subfunction of organizing while Davis paid relatively less attention to the personnel function. (p.392)

As to the *structure* of management functions, most classicists adopt a single-layer structure and some others, like Davis (1934), adopt a two-layer structure of management functions. For examples, Hicks and Gullett (1981) and Starr (1971) treat decision making as basic function and Chen (1981) treats decision making, coordination, and resources allocation as common to all other functions. These modifications of process theory can be seen as raising doubts about many other classicists' treatment of management practice as one-dimensional management functions.

Despite the effort among the classicists in modifying process theory, the classicists have not overcome the complexity in categorizing management practice. Most process theories are still in one dimension and, above all, these management functions are not shown to relate to any other variables in organization or management. In other words, the process theories can still be categorized as rudimental Level 1 theory.

Being single-dimensional, the classicists' management functions were devised to have three faces: as activities, as tasks, and as knowledges. The followings are Fayol's (1916/1949) remarks:

> Management ... is neither an exclusive privilege nor a particular *responsibility* of the head or senior members of the business; it is an *activity* spread, like all other [five groups of organizational] activities, between head and members of the body corporate. (p. 6) ... To every group of activities or essential functions there exists a corresponding special ability. There can be identified technical ability, commercial ability, financial ability, managerial ability, etc. Each of these is based on a combination of qualities and of knowledge ... Special *knowledge*: ... be it technical, commercial, financial, *managerial*, etc. (p. 7) ... To foresee ... means both to assess the future and make provision for it; that is, foreseeing is itself *action* already. (p. 43, italics added)

From such a notion of management functions, one will expect that a manager with planning ability might spend some time performing planning *activities* or actions, using planning *knowledge*, and contributing to planning *tasks* or responsibility at the same time. However, to call everything related to plans planning may be an oversimplification because, firstly, in such a manner, one same activity, such as collecting information, might be classified as different functions, such as planning and controlling, in different situations; secondly, it presupposes a single function, such as planning, for any activity, such as collecting information, which might have no obvious purpose at first but develops multiple purposes afterwards. More related quotations can be read in the following discussion on the *reasons* for adopting certain management functions.

The classicists' vagueness about the entity of the management functions leads to speculations by other authors. Some examples are as follows:

> Some general ideas about the responsibility of the managing director, ... some general ideas of the tasks of the chief executives, ... (Carlson, 1951, p. 23)

> ... the characteristics common to all managers' job: planning, organizing, ... (Stewart, 1967/1988, p. ix)

> ... description of the tasks of management ... : planning, organizing, ... useful as a list of activities that are a necessary part of management. (Stewart, 1991, p. 4)

> ... description of what managers ought to do ... At best they draw together a description of what an executive may aiming to achieve; they do not describe what he does. (Mumford, 1988, p. 122)

As to the *reason* for adopting certain management functions, different authors have different reasons. Generally, they stress the "usefulness" of management functions in organizing management knowledge and the "relevance" to the management practice. However, their reasons are far from justifiable. The followings are some of their remarks:

> Foresight, organization, co-ordination and control undoubtedly form *part of management* as it is commonly understood. Should command necessarily be included? It is not obligatory: command may be treated separately. Nevertheless I have decided to include it under management for the following reasons-
> 1. Selection and training of personnel and the setting up of the organization which are *managerial responsibilities* are very much concerned with command.
> 2. Most principles of command are principles of management - management and command are very closely linked. From the mere standpoint of facilitating study there would be reason to set these two groups together.
> 3. Furthermore, the grouping has the advantage that it makes management a very important function at least as worthy as the technical one of attracting and holding public attention. (Fayol, 1949, p. 5, italics added)

> The time-proven and generally acknowledged best approach for learning about management is to study the functions of management. Therefore, the central focus of this book is on the functions of management--planning, organizing, motivating, and controlling. Because these functions of management readily *accommodate* themselves to a number of areas such as quantitative methods, human resources, systems theory and analysis, principles of management, and contingency theories, we have *integrated materials from these and other areas into the basic structure of this book* (p. xv). ... These functions ... segment *important parts of the work* to be performed so that the parts may be more easily studied and understood. (Hicks and Gullett, 1981, p. 8, italics added)

> ...the question of what managers actually do day by day and how they do it is really secondary to what makes an acceptable and useful classification of knowledge. *Organization of knowledge with respect to managing* is an indispensable first step in developing a science of management. ... The authors have consequently found the functions of managers to be a useful framework in which to organize management knowledge. There have been no new ideas, research findings, or techniques that cannot readily be placed in these classifications. (Koontz and O'Donnell, p. 26, italics added)

These remarks contains merely personal opinion and no evidence. Some other authors, such as Hodgetts (1982), have also mentioned an even more unjustifiable reason. They adopt certain management functions because those functions are commonly adopted by most other classicist authors. The use of proper methodology of theorization seems have been ignored by them. Such remark reveals that their management functions have hardly been justified by any study to represent the activities, knowledge, and tasks in the management area. Their reasons for compiling certain management functions indicate also the rudimentary nature and the plight of process theories.

The Nature of the Classicists' Management Principles

Hicks and Gullett (1981) regard the study of management principles as "another way to understand more about management" besides the study of management functions and also regard management principles as "guides for managerial action." They note,

> A management principle is a statement of a general truth about organization or management. Principles of management may be thought of as the laws or fundamental truths of organizations and management. Principles usually *prescribe* a particular course of managerial action. Inherent in a principle of management is the implication that if the principle is followed, improved organizational performance likely will result. Similarly, a management principle implies that if the principle is not followed, organizational performance probably will suffer. Although management principles are generally valid, they sometimes fail to indicate the best course of managerial action. Principles of management, because they have to do with human behavior, are not so exact or infallible as principles of the physical sciences. (p.17)

The classicists have not fully recognized the nature of their principles. By the term *principle*, the classicists seem to want to employ naturalism in order to produce laws of management. However, their principles are in fact *rules* depicted by "successful" practitioners or academics for instructing practicing managers on *how* to manage. The empirical base has been weak. Like other rules of human action, they are subject to violation. Managers may choose to follow or not to follow a rule depending on the situation and their goals. For examples, Fayol's first principle, division of work, had been followed too far so that the Scandinavian Airline System was unable to serve customer well and decided to change from functional to enriched customer-centred jobs and that the Enfield plant of the Digital Equipment Corporation in the USA was unable to produce quality printed circuit board efficiently despite much supervision and decided to change from assembly lines to team systems (cases cited in Baird, Post, and Mahon, 1989). These cases showed the need for balance in applying the principles of management.

The classicists' management principles are not as definite as laws in natural sciences. To apply them, one needs well-versed managerial skills. Fayol (1916/1949) notes, "principles are flexible and capable of adaptation to every need; it is a matter of knowing how to make use of them, which is a difficult art requiring intelligence, experience, decision and proportion." (p. 19) and "The principles is the lighthouse fixing the bearings but it can only serve those who already know the way into port." (p. 42) This "flexible" nature of management principles raises doubt about their usefulness in management education and training.

The principles of management can also be accused of wrongly promoting "one best way." To this point, the contingency studies have proved that there is no common best way for different situations (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Woodward, 1965). In its heydays in 1950s, many books were titled as *Principles of Management* (e.g., Koontz and O'Donnoell, 1955; Terry, 1953, 1956). The tide was turned in early 1960s. The discussion of management principles occupies only a minor position in the classicists' textbooks now.

The Nature of the Classicists' Management Process

The concept of management process is Henri Fayol's although he might not be the inventor of the term. Fayol (1916/1949) describes the management process implicitly. Later, he notes it explicitly, "To prepare the operations is to *plan* and *organize*; to see that they are carried out is to *command* and *co-ordinate;* to watch the results is to *control*" (1923/1937, p. 103). His process of management contains five management functions in three sequential stages.

Despite the fact that most classicists regard management as a process, this process is argued differently by various authors. Most of them argue that management functions form a sequential, non-cyclical, one-way process of management. Few argue a dynamic, cyclical, two-way process of "interrelated" management functions (e.g., Hodgetts, 1982). Others, such as McFarland (1958) and Hicks and Gullett (1981), have their special viewpoints. But none of these arguments is supported by empirical evidence.

The management process of McFarland (1958) is about management as a whole and is not just about management functions. He interprets management as a process by which resources are combined to achieve organizational tasks. Management, as he argues, is performed by an executive who is "a person in an organization who possesses rank, status, and authority which permit him to plan, organize, control, and direct the work of others" (p. 42). This concept of management process does not specify the content and the sequence of the process and hence has little practical value.

The management process of Hicks and Gullett (1981) is firstly the "sequence of the performance of managerial functions." They note,

> For a particular organizational task, a manager ordinarily performs the managerial functions in this sequence: planning, organizing, motivating, and controlling ... . However, a manager will usually be simultaneously responsible for several organizational tasks. Therefore, if we studied the typical workday of a manager, we probably would find the person performing all four functions, perhaps several times during the day. The manager and the organization probably would be involved in projects in various stages of completion. Some projects would be in the planning stage; others would be in the stages of organizing, motivating, and controlling (p. 11).

Within the wider management process of Hicks and Gullet (1981), it is said to have narrower, finer processes as well. In other words, not only management as a whole but also every management function is regarded as a process. They note on the "iterative nature of managerial functions":

> Management functions have the quality of being iterative. That is, they are contained within each other. For example, planning, organizing, motivating, and controlling all occur within the planning process. Similarly, in performing the organizing function, the other three functions are involved. Thus for organizing we need to do planning, motivating, and controlling. All four functions can be conceived as subfunctions of each other. The process of iteration could be continued to additional levels if desired. For example, within the subprocess of planning for the larger function of planning there might be planning, organizing, motivating, and controlling. The iterative nature of managerial functions illustrates the extreme dynamism of the manager's role (p. 11-2).

Such a notion of the "iterative nature of managerial functions" contradicts to their own statements on the "sequence of the performance of managerial functions". How can all functions be subfunctions of each other and be performed in sequence at the same time? If it can, is it because their managerial functions are not clearly classified? In other words, Hicks and Gullett (1981) have hardly described their managerial functions as a process.

Hodgetts (1982) rejects the notion of a sequential, non-cyclical, one-way process of management . Instead, he argues that a dynamic, cyclical, two-way process of "interrelated" management functions (Fig. 2-1) represents the concept of management process more accurately. However, if there were more than three management functions, as many other classicist authors argue, the "interrelated" model hardly represents *a* process.

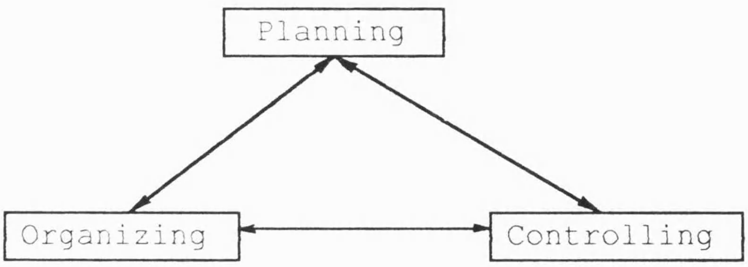


Fig. 2-1 Hodgetts' (1982) interrelated management functions as a process (Source: Hodgetts, 1982, p. 51)

Koontz and O'Donnell (1978) reject the notion of the management functions as a fixed process and point out that managers actually use all functions simultaneously in practice. They note, "The managerial functions ... should not be taken to mean that managers systematically plan, then organize, then staff, lead, and control" (p. 25).

The advantages of drafting a plan and organizing people before and evaluating the results after the "real action" have been reiterated frequently in human history. However, plans are seldom perfect; environment is seldom fixed; people have emotions; man gets illness; etc. Plans are frequently revised, organizations re-adjusted, and measurements re-taken *during* the "implementation." Thus, it seems that Fayol's notion of management process represents an idealistic, normative sequence of management as a process if his management functions were really the elements of management. From the above discussion, the management processes of Hicks and Gullett (1981) and of Hodgetts (1982) seem to be overstating and confusing and Koontz and O'Donnell (1978) are also misleading for not prescribing the sequence of time in managerial work although they are more empirically oriented on this matter.

Usefulness of the Classicists' Management Functions

The classicists' management functions are regarded as more useful for teachers than for practitioners and researchers. A management professor and practitioner notes in the "Foreword" to a revised edition of Henri Fayol's original work, "As manager, we know that the process of management is simple in concept, but almost impossible in execution." (Montrone, 1984, p. x). This is hardly a positive comment.

Even the alleged usefulness of management functions for teachers of managers is questionable. The foundation of the usefulness of the classicists' management functions for teachers is that these functions are used as convenient pigeonholes for classifying the existing management knowledge. As a result, both teachers and managers or would-be managers are happy because all existing management theories are classified and taught. However, whether the management theories taught are necessary and sufficient is a big question because the classicists' management functions are weak in empirical relevance. Hence, the effectiveness of such teaching should be questioned.

Doubt over the usefulness of the classicists' management functions for the practicing managers has been expressed by many writers. For example,

> The classical view says that the manager organizes, coordinates, plans, and controls; the facts suggest otherwise. If you ask managers what they do, they will most likely tell you that they plan, organize, coordinate, and control. Then watch what they do. Don't be surprised if you can't relate what you see to these words. (Mintzberg, 1975/1990, p. 163)

> The classical definitions are not helpful in providing guides for development purposes. (p. 122) ... The fact brought out by Kotter, Mintzberg and Stewart is that the structured systematic neatness proposed by many past managerial theorists not only has no connection with what managers currently do, but has no sensible connection in many circumstances with what managers ought to do ... (Mumford, 1988, p. 145)

> ... the five categories [of function] are very general, rather abstract descriptions. Because of this they have been more useful to management teachers and writers, as a framework for their lectures and textbooks, than to practising managers as a guide to what they should be doing ... (p. 4). ... the categories are of little help to a manager looking for guidance on how to be more effective. (Stewart, 1991, p. 19)

Because of its weak conceptual coherence and empirical relevance, the classicists' management functions are of little use for researchers, too. They, as a *tool*, do not provide direction for research design. Also, because management functions are acontextual, they do not provide an adequate framework for discussing research findings. Mintzberg (1973) notes, "... the classical school has for long served to block our research for a deeper understanding of the work of the manager" (p. 11). This remark, although not justifiable because researchers should not be blocked by existing thought, does portray the root of failure of many studies in the management area.

Section 3

MINTZBERG'S (1973) TEN ROLES THEORY: A CHALLENGING THEORY OF MANAGEMENT

Mintzberg's (1973) ten roles theory is another attempt to provide a theory of management from a different approach because he argues that "ten roles are performed by all managers" (p.56). He also implies that once people have learned his theory, they will be able to manage (Mintzberg, 1989). This typology of what managers do has got much support from replication studies (see Martinko and Gardner, 1990) although some studies using questionable methodology argue otherwise (e.g., McCall and Segrist, 1980). Recently, many classicist authors have included the ten roles as an alternative framework of managerial work although they still have difficulty in integrating the ten roles into their management functions-outlined books (Carroll and Gillen, 1987).

In this section, the failure of the behavioral empiricist study of managers' work content before 1968, Mintzberg's (1973) ten roles theory, and his description of the characteristics of management action are discussed as follows.

Failure of the Behavioral Empiricist Study of Managers' Work Content Before 1968

The behavioral empiricists had found some *characteristics* of managerial behaviour rather than the *content* of management work before 1968. The findings include how long managers work, where, at what pace, with what interruptions, with whom they work, and by what means they make contact. For example, they found management actions were brief and fragmented, etc. More about the characteristics of management action will be discussed later in this section. The behavioral empiricists were unable to construct any theory of management from such findings. Instead, they applied the findings to point out what is *not* a theory of management in order to highlight the inadequacy of the process theories (e.g., Burns, 1954; Carlson, 1951; Stewart, 1967/1988).

The behavioral empiricists did attempt to study the content of management work but they failed. The functional areas shown in Table 2-2 were examples of categories used in the early studies to study the work content. But they failed to produce meaningful findings. The cause of this failure was clearly shown by Mintzberg (1973). He discovered that the neat functional categories were inadequate in the study of managerial work because the manager's work frequently involves more than one function. For example, he notes, "In the case of a meeting to sort out a conflict between two manufacturing executives, was I to record 'manufacturing' or 'personnel'?" (p. 274)

Table 2-2. Functional areas used as categories of managerial work content in early studies

Carlson (1951)	*Burns (1954)*	*Stewart (1967)*
Finance, legal	Sales	Finance
Accounting	Personnel	General management
Buying	New development and research	Marketing and sales
Production	Costs	Personnel
Product research	Production difficulties affecting design	Production
Sales	Production difficulties - other	Public relations
Personnel	Other production matters	Purchasing
Public relations	Office and organization	Research and development
Organization planning	General factory matters	
Private	Personal	

The behavioral empiricists had perceived the inadequacy of the functional areas to be the work content but did not know the reason before 1968. Therefore, they kept trying new categories. The inadequacy of functional areas perceived by them include:

> Although the marking practice varied somewhat between the different executives, they seemed to associate the multi-field questions much more with such field of activity as "personnel" and "public relations" than with fields like "finance and accountancy", "sales" or "production". That such would be the case was, of course, expected. Questions of personnel and public relations are not "functional" in the same sense as questions of accountancy or sales, they are rather special aspects of all the activities going on in an organization. A production problem or a sales problem may also be a problem of personnel or public relations. (Carlson, 1951, p. 101)

> Activities may also be analysed according to another classification - that of content - though we are on less sure ground. (Burns, 1954, p. 75)

> ... some managers spent a substantial amount of time on "complex" activities (two or more subjects in an episode). (Dubin and Spray, 1964, p. 101)

> ... some managers had used the classification "general management" much more than others (p. 13). ... "General management" is when you are dealing with two or more management functions, such as sales and production, at the same time, or in the same meeting. (Stewart, 1967/1988, p. 139)

Clearly, Carlson (1951) did not see his functional classification as problematic as Mintzberg (1973) and Stewart (1967/1988) did. Stewart largely discarded her functional data because it was unreliable. Mintzberg stopped collecting functional data during his pilot study. Probably, the difficulty of perceiving the inadequacy of functions to be used as work content was complicated by the existence of possibly genuine multi-issues in an activity. And this possibility raises another question about the *unit* of an action. Should management actions be delineated according to the participants, the means of activity (They are scheduled meeting, unscheduled meeting, telephone, tour, and desk work/alone), the activity, the issue dealt with, or both the activity and the issue dealt with?

Moreover, functions have a critical shortcoming to be the common categories of work content because functions, like product divisions, are a way of structuring organizations and represent functional managers' organizational tasks rather than the content of managerial tasks. They seems fine for senior managers but are definitely not applicable for the lower-level managers because senior managers work across functions but junior managers work principally within a single function.

The functional areas have not been used for collecting the data of work content since 1973. Unfortunately, the end of trying to use functional areas as the categories of work content also accompanied the end of searching for the contextual side of the content of management action by the behavioral empiricists.

By the way, the findings that managers were poor estimators of their own time spent on each category of their work (e.g., Burns, 1954; Horne and Lupton, 1965) were based on problematic functional data. Therefore, their validity should be questioned.

However, the research into the work content was not without result. Sayles (1964), though not classified in the work activity school by Mintzberg (1973), constructs a rudimental content of management actions and Marples (1967) proposes a relationship between activity and task. Using anthropological method, Sayles (1964) has studied approximately 75 lower- and middle-level managers for several years in a division of a large American corporation and theorizes that managers *participate in external work flows, act as a leader, and act as a monitor*. Specifically, the participation in external work flow is acted through seven types of lateral relationship. They are:

1. Work-flow relationship (dealing with the inflow and outflow of parts or products),
2. Trading relationship (dealing with selling and purchasing of goods or services),
3. Service relationship (dealing with receiving and giving services or support),
4. Advisory relationship (dealing with tailor-made solution to specific problem),
5. Auditing relationship (dealing with evaluation of performance),
6. Stabilization relationship (dealing with application for and approval of resources),
7. Innovation relationship (dealing with non-specifiable solution to general problems).

Sayles' (1964) three categories of activity are rudimental and incomplete. Acting as monitor and leader resembles the classicists' management functions of controlling and leading. And innovating *within* managers' own organization units was not included in any of his categories. However, the findings of the seven lateral relationships, which are not the work content themselves, have many implications to organization and management. Unfortunately, Sayles (1964) regards these seven types of relationship as if they exist between two individual managers only rather than also between two groups of manager or two organization units. The incorporation of these seven lateral relationships into the AKT theory will be discussed in Chapter 3.

Marples (1967) proposes that tasks originate episodes and background problems lie behind tasks. These end-means relationships are based on 289 episodes of a week's work reported by a foreman on the Churchill College Management Course. He notes,

> it becomes clear that behind the tasks which originate the episodes lie bigger problems which are being approached indirectly through the way in which each small task is dealt with. 'Current' problems, i.e., ones which, it can be seen, will be solved and put behind the solver in the foreseeable future are used as means to solve one or more 'background' problems whose existence is not immediately apparent. (p. 289)

Although he suggested that increasing production, improving relationships with operatives and colleagues, and career aspirations are the background problems for the foreman, he failed to provide the categories of activity, task, and background problem for managers in general. Also, the relationship he proposed between episode and task is yet to be confirmed by scientific study. These are the two gaps among others this study was intended to fill.

The year of 1968 marked the first substantial success by Mintzberg (1968) in the study of the *content* of managers' work. In particular, a new role theory, which has redirected the behavioral empiricists' research, was constructed provisionally. Confirmatory research by Choran (1969), Costin (1970), and Bex (1971) followed immediately. The findings were all supportive. Therefore, Henry Mintzberg had his book *The Nature of Managerial Work*, which is mainly about the ten roles theory, published in 1973.

Mintzberg's (1973) Ten Roles Theory

Mintzberg (1973) observed five American chief executives each for a week and collected structured and anecdotal data of 368 verbal and 890 written contacts by recording the time, place, participants, etc. and, most importantly, by asking the purpose of the activity. He then used "successive iterations of the processing of raw field data - recording, tabulating, coding and recoding, analyzing these results - until meaningful conceptualizations appear." (p. 233) He claimed that he had followed the inductive method. One of the results was the ten roles theory as shown in Fig. 2-2. He also marshalled the findings of several other studies to support his argument that "these ten roles are common to the work of all managers" (p. 55). The commonness of the ten roles for all managers is also based on the assumption that every manager stands between his or her unit and its environment as shown in Fig. 2-3. Descriptions and examples of the ten roles are shown in Table 2-3.

As shown in Fig. 2-2 and Table 2-3, Mintzberg (1973) divides his ten roles into three groups: interpersonal roles (figurehead, leader, and liaison), informational roles (monitor, disseminator, and spokesman), and decisional roles (entrepreneur, disturbance handler, resource allocator, and negotiator). He also argues that "each role is observable" (p. 57) and "these ten roles form a *gestalt* - an integrated

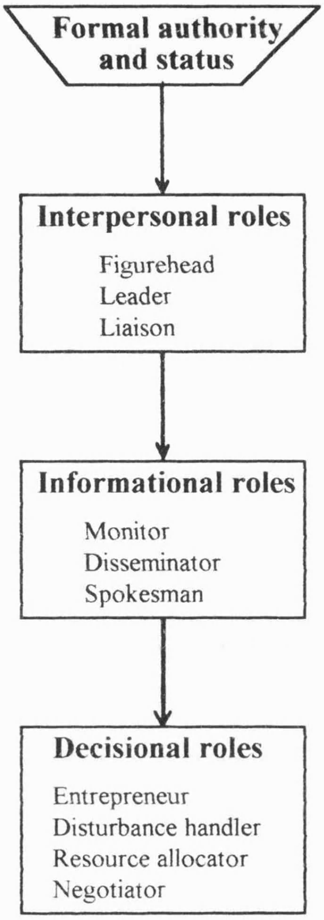


Fig. 2-2 Mintzberg's (1973) ten manager's roles (Source: Mintzberg, 1973, p. 59)

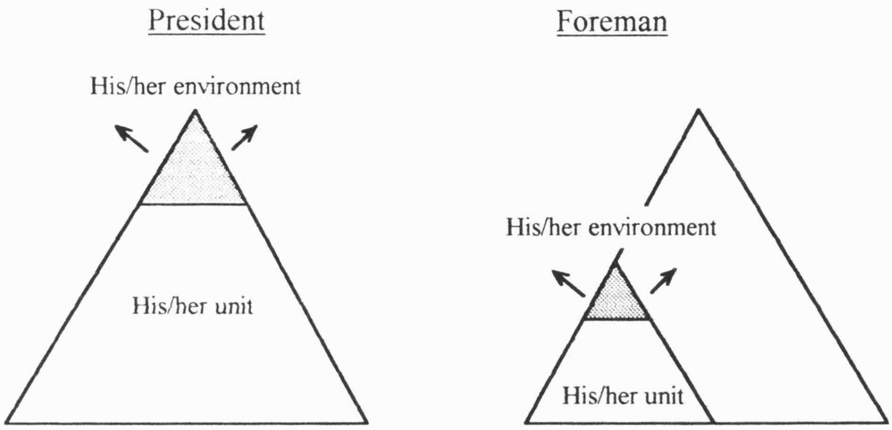


Fig. 2-3 Mintzberg's (1973) conception of a manager's unit and environment (Source: Adapted from Mintzberg, 1973, p. 55)

Table 2-3. Mintzberg's (1973) ten roles

Roles	*Description*	*Examples*
Interpersonal		
Figurehead	Symbolic head; obliged to perform a number of routine duties of a legal or social nature	Ceremony, status requests, solicitations
Leader	Responsible for the motivation and activation of subordinates; responsible for staffing, training, and associated duties	Virtually all managerial activities involving subordinates
Liaison	Maintains self-developed network of outside contacts and informers who provide favours and information	Acknowledgements of mail; external board work; other activities involving outsiders
Informational		
Monitor	Seeks and receives wide variety of special information (much of it current) to develop thorough understanding of organization and environment; emerges as nerve centre of internal and external information of the organization	Handling all mail and contacts categorized as concerned primarily with receiving information (e.g., periodical news, observational tours)
Disseminator	Transmits information received from outsiders or from other subordinates to members of the organization; some information factual, some involving interpretation and integration of diverse value positions of organizational influencers	Forwarding mail into organization for informational purposes, verbal contacts involving information flow to subordinates (e.g., review sessions, instant communication flows)
Spokesman	Transmits information to outsiders on organization's plans, policies, actions, results, etc.; serves as expert on organization's industry	Board meeting; handling mail and contacts involving transmission of information to outsiders
Decisional		
Entrepreneur	Searches organization and its environment for opportunities and initiates "improvement projects" to bring about change; supervises design of certain projects as well	Strategy and review sessions involving initiation or design of improvement projects
Disturbance handler	Responsible for corrective action when organization faces important, unexpected disturbances	Strategy and review sessions involving disturbances and crises
Resource allocator	Responsible for the allocation of organizational resources of all kinds - in effect the making or approval of all significant organizational decisions	Scheduling; requests for authorization; any activity involving budgeting and the programming of subordinates' work
Negotiator	Responsible for representing the organization at major negotiations	Negotiations

Source: Mintzberg (1973, p. 92-3)

whole" (p. 58): The first group of roles leads to the second which in turn leads to the third group. But, the performing of the first group of roles depends on the formal authority and status of the manager's position.

The ten roles theory has been wrongly accused of being based on a too small sample and rejected by some academics. For example, Koontz and Weihrich (1988) note, "the sample of five executives used in his research is far too small to support so sweeping a conclusion" (p. 46). However, such a criticism is wrong in two respects. Firstly, the ten roles were derived from *1,258 verbal and written contacts* of five chief executives, had subsumed much of the earlier empirical findings (e.g., Guest, 1955-1956; Neustadt, 1960; Sayles, 1964), and were supported by several subsequent studies (e.g., Bex, 1971; Choran, 1969; Costin, 1970; Feilders, 1979; Martinko and Gardner, 1990). Thus, the ten roles theory cannot be said to be based on *five managers* only, especially in the year of 1988. Secondly, this criticism seems to presuppose that a theory should not be accepted unless it is *proven* or at least supported by the findings from a single representative sample. According to this way of thinking, Newton's theory of universal gravitation would wrongly be dismissed as based on a very small sample of one apple's single movement and, therefore, was *and is* unacceptable. However, theories generally subsume pre-existing findings, are seldom proven, and are generally believed in various degrees if accepted (Dubin, 1978; Hanson, 1958).

Yet, there are real shortcomings in the ten roles theory. Specifically, the ten roles are not totally observable; they were not derived inductively; the prescriptive dimension of the theory was not mentioned; these roles were actually categories of managerial activities; the ten roles are not totally operational; they are acontextual; and the relationships among these roles are still not clear. These criticisms are explained as follows.

Firstly, Mintzberg (1973) can be accused of mis-conceiving that "each role is observable" (p. 57). The ten roles were derived from the purpose of the activity reported by the executives. If these roles were really observable, he would not have to ask the purpose of activity. In fact, without the reported purpose, activities, "such as a meeting with an outsider, can link several roles (*liaison, spokesman, negotiator*)" (p. 267).

Secondly, the methodological approach of deriving the ten roles was incorrectly presented by Mintzberg (1973) as the inductive method. In fact, the ten roles as a scope were derived by the retroduction[2] (or abduction) process. As reported by Mintzberg (1973), at the end of every iteration of "inductive" processing of raw field data, he had to check whether "meaningful conceptualizations appear" (p. 233). A truly inductive method will not produce new ideas (Peirce, 1935; Hanson, 1958) and, therefore, there is no need to check whether the result is meaningful or not. Also, an inductive method will make sure that the data of *every* executive support all of the ten roles. Mintzberg (1973) did make sure that "*all* of the observed contacts and mail in the study of the *five* executives are accounted for in the role set" (p. 57) but he did not make sure that *every* executive had performed all of the ten roles. Therefore, the ten roles are actually a scope of managerial roles, *even* for the five chief executives. Thus, his argument that "these ten roles are common to the work of all managers" (p. 55) should be modified as: these ten roles are a range of managerial roles that all managers perform or could perform. By the word *scope* or *range*, it means that a manager is not necessarily performing all of the ten roles. For example, a manager without a subordinate will perform no leader and disseminator roles.

Thirdly, Mintzberg (1973) failed to show that there is a prescriptive dimension in his ten roles theory. The ten roles as a scope of managerial roles was firstly derived from the purposes of the activities of five chief executives. These executives were supposed to be model managers because they were "experienced chief executives of medium to large organizations" (p. 237). Thus, the ten roles are the description of good practice (or a Type 2 theory depicted in Chapter 1). This description of good practice can be prescribed to those managers with less learning as a range of exemplar managerial behaviour. Or if the still learning manager comes across the findings of the ten roles, he or she will learn the part of role-behaviours that he or she is formerly unaware of. This prescriptive dimension might even exist for the five chief executives because some of them might not have known all of the role-behaviours described in the ten roles theory. Thus, these ten roles are not the description for *all* managers. For if the ten roles were the description of the *general* practice of management (a Type 1 theory), it would be unnecessary for Mintzberg (1989) to teach the ten roles to managers.

Fourth, the ten roles are actually ten categories of managerial activities. Mintzberg (1973) admits that the word *roles* was the popular contemporary description of "homogeneous groups of managerial activities" (p. 210). Although the word *role* means also "a set of activities and responsibilities" (p. 210-1), the ten roles were derived only from behavioral data because he failed "to ask - or keep asking - the question: why *these* behaviours and activities?" (Hales, 1986, p. 110). Therefore, the ten roles should be seen as ten categories of managerial activities.

Fifth, the categorization of the ten roles is still inadequate although it is only a minor problem. Stewart (1976) notes, "it is hard to allocate some activities to his categories; and some of his roles, especially that of leader, are too broad to be of practical use." (p. 123) Mintzberg (1973) admits that "the theory of roles ... is not fully operational ... The chief problem ... is that there is not a simple one-to-one mapping of activities onto roles" (p. 267) and "some activities may be accounted for by more than one role" (p. 57). "The *leader* role links to every activity involving subordinates, and the *monitor* role, to every activity involving information inputs to the manager, no matter what the main purposes of any of these activities." (p. 267-8) If these roles are really derived from the purpose of activity, it is difficult to conceive that an executive intends to lead in every activity involving subordinates.

Sixth, the ten roles theory is acontextual. The relationship between the ten roles and organizational output has not been specified. Wilmott (1984) notes,

> ... although the manager's role set is said to be embedded in "formal authority", there is no discussion of the contribution of managers' activities to the on-going reproduction and legitimation of this authority. The roles are ... unconditioned by ... contextual circumstances. ... [For] example, there is no analysis of how or why it is necessary for managers, in their leadership role, to "motivate" and "activate" subordinates. (p. 357)

Moreover, although the word *role* means "a set of activities and responsibilities" (p. 210-1), the ten roles were derived from behavioral data only. The task data were not collected and subsumed in the theory. Without considering the context, the ten roles theory is incomplete in terms of work content and is not able to tell about the transferability of managerial knowledge and skills among different jobs.

Finally, the relationships among the ten roles are still not clear. Mintzberg (1973) theorizes that the performance of interpersonal roles leads to that of informational roles which in turn leads to that of decisional roles. But, other relationships are also operative in reality. For examples, the monitor role may lead to the performance of interpersonal roles. The spokesman role might pave the way for the liaison role. The liaison role may lead to the performance of decisional roles. Moreover, it seems too early to theorize the relationships among the ten roles since there is still no serious study of them.

According to the above criticisms, Mintzberg's (1973) ten roles theory that was originally meant to be an inductive description of all managers' common work with underlying mechanisms to explain the relationships between groups of roles and formal authority and status (a Level 3 theory depicted in Chapter 1) is now reduced to a list of still inadequately classified ten categories of managerial activities (a Level 1 theory) as a scope of activity that all managers perform or could perform and having a prescriptive dimension for those managers who are still not fully aware of performing all of these activities.

Mintzberg's (1973) Description of the Characteristics of Managers' Actions

Besides the ten roles theory, Mintzberg (1973) also proposes six characteristics of managers' actions. His six "characteristics of managerial work" (p. 28) are shown as follows:

1. Much work at unrelenting pace.
2. Activity characterized by brevity, variety, and fragmentation.
3. Preference for live action.
4. Attraction to the verbal media.
5. Between his organization and a network of contacts.
6. Blend of rights and duties.

Mintzberg's (1973) description and evidence of the six characteristics of managers' actions are shown in Table 2-4. The first characteristic is about the amount of task and pace of activity. The second, third, and fourth ones are about the time, the issues dealt with, and the means of activity. The fifth characteristic is about the patterns of time and relationship in contacts. The final one is about the activeness in activity and a prescription on how to act in order to be a successful manager. Without a framework to structure these characteristics properly, they look patchy and are difficult to grasp.

Although there are subsequent attempts to re-define the characteristics of management action (e.g., Hales, 1986; Mumford, 1988; Stewart, 1983), Mintzberg's (1973) description remains valid. New terms may be introduced and new characteristics may be added by newer versions. But they have not made any

Table 2-4. Mintzberg's (1973) description and evidence of the characteristics of managers' actions

1. **Much work at unrelenting pace**: The quantity of work to be done, or that the manager chooses to do, during the day is substantial and the pace is unrelenting.

The chief executives claimed to work four nights out of five. One night was spent at the office; one entertaining; and the other two were working at home (Whyte, 1954).

Foremen engaged in between 237 and 1073 incidents per day without a break in the pace (Guest, 1955-1956).

"... the level of work activity was pretty constant throughout the day" (Dubin and Spray, 1964, p. 102).

The chief executives had no break in the pace of activity during office hours. The mail (averaged 36 pieces per day), telephone calls (averaged 5 per day), and meetings (averaged 8) accounted for almost every minute at work (Mintzberg, 1973).

2. **Activity characterized by brevity, variety, and fragmentation**: Managers' work has no specialization and concentration.

Relating to brevity:

Foremen were found to have 48 seconds average duration per activity (Guest, 1955-1956).

Foremen were found to have about 2 minutes average duration per activity (Ponder, 1958).

Half of the observed activities of the five chief executives were completed in less than nine minutes, and only one-tenth took more than an hour. Telephone calls were brief and to the point (averaging 6 minutes). Desk work sessions and unscheduled meetings averaged 15 and 12 minutes respectively. Only scheduled meetings commonly took more than an hour (averaged 68 minutes). (Mintzberg, 1973)

Relating to variety:

The chief executives averaged 36 written and 16 verbal contacts each day, almost every one dealing with a distinct issue. The significant activity is interspersed with the trivial in no particular pattern. Certainly monthly and seasonal patterns exist in some managerial jobs, but there is little evidence of shorter-term patterns. Hence the manager must be prepared to shift moods quickly and frequently. (Mintzberg, 1973)

Relating to fragmentation:

Managers were found to have only nine periods of at least one-half hour without interruption in four weeks (Stewart, 1967).

Only 12 times in the 35 days of the study did the managing director work undisturbed in his office for intervals of at least 23 minutes (Carlson, 1951).

There was evidence that the five chief executives of my study *chose* not to free themselves of interruption or to give themselves much free time. To a large extent, it was the chief executives themselves who determined the durations of their activities. For example, they terminated many of the meetings and telephone calls and frequently left meetings before they ended (Mintzberg, 1973).

3. **Preference for live action**: Managers tend to act on current, specific, well-defined, and nonroutine issues. They are adaptive information-manipulators rather than reflective planners.

The five chief executives strongly and frequently demonstrated the desire to have the most current information. Instant information, including gossip, speculation, and hearsay transmitted by telephone or unscheduled meeting, received top priority, often interrupting meetings. Despite the fact that only 22 percent of their time was spent on desk work, a number of their comments suggested that mail processing was considered to be a burden. During working hours, it was rare to see a chief executive participating in abstract discussion or carrying out general planning. (Mintzberg, 1973)

(To be continued)

Table 2-4. *(continued)*

4. **Attraction to the verbal media**, including scheduled meeting, unscheduled meeting, tour, and telephone.

Middle managers spent 80 percent of their time in conversation (Burns, 1954).

Foremen spent 57 percent of their time in face-to-face communication (Guest, 1956).

160 British senior and middle managers spent 66 percent of their time in verbal communication (Stewart, 1967/1988).

Middle managers in a manufacturing company conducted 89 percent of their episodes by verbal interaction (Lawler, Porter, and Tennenbaum, 1968).

The five chief executives conducted 67 percent of their actions and spent 78 percent of their time in verbal contacts (Mintzberg, 1973).

5. **Between his organization and a network of contacts**: The manager stands between subordinates and the others, including superiors and outsiders to the unit that he or she manages.

Managers were consistently found to spend substantial time with subordinates and outsiders and only small amount of time with superiors. The five chief executives spent 48 percent of their verbal contact time with subordinates, 7 percent with directors (superiors), and 44 percent with outsiders. (Mintzberg, 1973)

160 British senior and middle managers spent 41 percent of their verbal contact time with subordinates, 12 percent with superiors, and 47 percent with others (Stewart, 1967/1988).

Foremen spent 46 percent of their verbal contact time with subordinates, 10 percent with superiors, and 44 percent with others (Jasinski, 1956).

To gain access to outside information, the five chief executives developed networks of informers - self-designed external information systems (Mintzberg, 1973).

Foremen talked with many different individuals, rarely fewer than 25 and often more than 50. They dealt with a wide variety of persons in the operating and service departments and on different levels (Guest, 1955-1956).

Foremen must get along with other foremen rather than exert authority over one another. They advised and made suggestions to the diagonal non-subordinate operators rather than directed them (Jasinski, 1956).

Middle- and lower-level managers interacted in seven types of external relationships, some dealing with the flow of work through the organization, others with services or advice, with purchasing or selling, and so on (Sayles, 1964).

6. **Blend of rights and duties**: The managers are neither in active control of their activities nor passive to others' initiations.

The diary controlled managing directors' actions (Carlson, 1951).

Deadlines ruled the President's personal agenda (Neustadt, 1960).

Foremen initiated 60 percent of their verbal contacts (Guest, 1955-1956).

Middle- and lower-level managers initiated about half of their verbal contacts (Lawler, Porter, and Tennenbaum, 1968).

Four middle managers initiated about half of their verbal contacts with peers, fewer with superiors, and more with subordinates (Burns, 1954).

The five chief executives initiated only 32 percent of their verbal contacts and sent only 26 percent of written contacts and almost every one of these was in response to one of the 659 pieces received. However, the empirical evidence need not to be interpreted as that managers have little control over their own actions. Whether a manager is to be depicted as the conductor of an orchestra or as the puppet in the puppet-show depends on how he or she manages his or her own crucial decisions and obligations. (Mintzberg, 1973)

Source: Paraphrased from Mintzberg (1973, p. 28-53).

significant difference. They still look patchy. Perhaps, common to all of these descriptions, it is the lacking of a structure of the content of managerial work that makes these descriptions unrelated, describing the characteristics of management in general only, and failing to explain the differences between different jobs. To study the content of managerial work before the characteristics of managers' actions seems necessary because the characteristics are describing the features of work content.

The six characteristics seem mainly to focus on the behavioral side of managers' actions. Stewart (1982) notes, "Mintzberg (1973) suggested a number of propositions about the characteristics of managerial work. Many of these were actually statements about managerial behaviour and not necessarily about managerial work." (p. 94) The explanation for this phenomenon lies in the general failure of the behavioral empiricist study on the contextual or task side of managerial work as mentioned in this section.

Section 4

REFLECTIONS ON THE WAYS TO AN ADEQUATE THEORY OF MANAGEMENT

The previous sections analyzed the existing theories of management and found that no existing theory of management could stand firmly under scrutiny. To have an adequate theory of management, one needs to step back and think broadly about the reason why management theorists failed and, above all, about the correct way to be followed.

A Reflection on the Classicists' Way to a "Unified" Theory of Management

Although the classicists' management functions have enjoyed the mainstream position in the classroom setting for several decades, it does not mean that they are successful theories of management. Their shortcomings, such as low relevance to the management practice, closed system concept, unrelated to organizational setting, etc., are under various attack, especially from the behavioral empiricists. As to the future of the classicists' knowledge-integration approach to a unified theory of management, Koontz (1980) has mixed perspectives. On the one hand, he worries that the number of different management theories is increasing and their content difficult to reconcile. On the other hand, he sees some signs of integration. However, these are far from the signs of an adequate theory of management.

Historically, theorists have difficulties in the integration of knowledge. It is evident that the gaps between theories, or the paradigm clashes, had been detected but opportunities for integration were not exploited seriously. Firstly, there was a question about the relationship between Henri Fayol's and Frederick Taylor's theories. Fayol and his associates responded to this opportunity of integration positively but not cleverly. Fayol announced that the two theories are not anti-thesis to each other but are complementary (see Urwick, 1949). However, no logical connection was made to relate the two theories. Secondly, after the Hawthorne study, Elton Mayo and his associates simply dismissed the scientific management approach as wrong rather than trying to integrate the previous theory with new findings.

Finally, the integration of knowledge in the classicists textbooks is simply organizing various theories under their management functions. Logical coherence between theories has not been dealt with consciously.

Perhaps, the problem lies in the classicists' complacency about their own theories and their obsessions with the management functions and the knowledge integration method. Firstly, being uncritical to and complacent about their own theories, they will not be able to elaborate their theories and position others' theories correctly. Fayol was said to have refused "to continue along logical lines" (Urwick, 1937, p. 117). That might be the reason why he could not place Taylor's theory correctly and see a need to change his theory in response. Also, contemporary classicists seldom criticize each other despite the fact that their theories consist of quite different management functions. Although they blame the semantics, or word choice, the true reason might be that no one of them is sure of his or her theory. Secondly, their obsession with the management functions has prevented them from seeing other possibilities of constructing a theory of management. For them, the management functions have become the management practice itself before there is any empirical support. Finally, their obsession with the knowledge integration method has prevented them from being critical to the existing theories. They seem to be unaware that theories are frequently liquidated in the face of a better, new theory. To integrate a theory that should be discarded is not critical at all. In turn, these three causes seem due to a lack of adequate method for theory development and evaluation employed by them.

A Reflection on the Behavioral Empiricists' Way to an Inductive Theory of Management

Due to the fast accumulation of data in the early stage of the behavioral empiricist study, Mintzberg (1973) was optimistic about the progress made by the inductive studies. He noted,

> This is the school of inductive research, in which the work activities of managers are analyzed systematically; conclusions are drawn only when they can be supported by the empirical evidence. Furthermore, unlike those of the leader behavior school, these studies are most decidedly linked together. The research methods used are largely similar, and *in most cases there are explicit attempts to incorporate the findings of previous studies in the development of new conclusions*. (1973, p.21, italics added)

However, the behavioral empiricists have not defeated the classicists. They seem to go nowhere except replicating the early findings. Specifically, their research still suffers from the confusion of terms between managerial work, managerial jobs, managerial behaviour, and perceptions of the job (Stewart, 1982, 1989), and, therefore, there are diverse interests, purposes, and perspectives of research (Hales, 1986) which make the findings difficult to relate together. Moreover, there has been no further significant development of theory. As a result, Hales (1988) even responds with a call to return to the classicists' management functions in order to establish theoretical consistency and clarity.

Recently, Mintzberg (1990) has become pessimistic about the progress in management research. He notes in the "Retrospective commentary",

> Perhaps my greatest disappointment about the research reported here is that it did not stimulate new efforts. In a world so concerned with management, much of the popular literature is superficial and the academic research pedestrian. Certainly, many studies have been carried out over the last 15 years, but the vast majority sought to replicate earlier research. In particular, we remain grossly ignorant about the fundamental content of the manager's job and have barely addressed the major issues and dilemmas in its practice. (p.170)

Probably, the problem lies in the self restriction to the inductive method. A theory has two functions for researchers: as a *tool* for designing the study and as the *goal* of study (Marx, 1976a). The behavioral empiricists have largely stuck to the inductive method and neglected the *tool* function of theory. A theory may be only guesswork. But, without the guidance of theory, the task of reaching a theory of management only by the accumulation and generalization of data would be enormous and difficult. Therefore, their self-imposed restriction to the inductive method seems unnecessary and wrong. Moreover, merely sticking to the inductive method will not make the study more scientific. Objectivity is only required of the evidence, not of the construction of theory to be used as a tool.

A Reflection on the Way It Ought to Be

From the above discussion, it could be argued that an adequate method of theory development is needed in the management area in order to avoid the obsession with the management functions, the obsession with the knowledge integration method, and the self restriction to the inductive method. That the behavioral empiricist insist on empirical support is certainly a good point which might cure the classicists obsessions. But, the changeability of management practice, which is not considered in the inductive method, must not be overlooked. From the discussion of the philosophy of science, the retroduction method must be introduced into the study of management for generating theory for further evaluation. Also, from the discussion in the last section, it could be argued that to study the content of management practice before its characteristics is necessary. These three points are developed as follows.

Firstly, management theorists and researchers should follow reflexivism, a methodological approach which is described in Chapter 5, to accommodate the changeability of management practice. The naturalism treats the object of study as unchangeable facts. But, management practice is a changeable phenomenon. Moreover, the inductive researchers tend to perceive naturalism too narrowly and to follow it too strictly. They will not conjecture a theory before there is a generalization of data (Ironically, they tend to have an implicit theory as a tool to guide their collection of data.) and they will not seek enlightenment in order to change management practice. However, following naturalism, an inductive researcher might find his or her conclusion not congruent with the practice soon after the publication of the findings because managers are always seeking better practice. They will not treat the research findings as mere facts simply for understanding. For them, enlightenment derived from the findings is more important than understanding. In other words, reflexivism, instead of naturalism, should be followed in the study of management.

Secondly, theorists should apply retroduction in addition to induction and deduction in the development of theory. The process of generating a theory remains mysterious probably because almost all methodology books adopt restrictive views of theory generation either as the outcome of induction and deduction only (e.g., Dubin, 1978; Zikmund, 1991), or as the product of inexplicable power of mind (Reichenbach, 1951), or as a private matters not for scientific inquiry (Popper, 1961). However, the very limited ability of induction and deduction in generating a theory should be noticed because they "never can originate any idea whatever" (Peirce, 1935, Vol. 5, § 146). Today, in an advanced intellectual community where almost all possibilities of applying induction and deduction have been explored, theorists need to apply retroduction for generating theories-to-be.

Finally, theorists should study the content of managerial work before studying the characteristics of management practice. As mentioned, the characteristics are simply the features of the content. To have a complete view of the content, managers' infrequent and shorter actions, like those frequent and longer ones, should also be subsumed. Some authors, especially those who prefer questionnaire and factor analysis to other methods (e.g., Lau, Newman, and Broedling, 1980), have tended to neglect infrequent and shorter actions because these actions will probably not be shown as any "heavily loaded" factor on their computer output. However, task time - frequency and duration - correlates only to a low degree with task importance (Gael, 1975). Exclusion of any management practice might lead to an incomplete theory of management.

The first and second points are for rectifying the behavioral empiricists' self-imposed restriction to the inductive method. The third one is about the content of a theory of management. Further discussion about the methodological approaches is given in Chapter 5.

Section 5

THE BASIC FRAMEWORK OF THE AKT THEORY OF MANAGEMENT: A NEW DIRECTION

The construction of a basic framework of management action which marks the starting point of the construction of the AKT theory of management is discussed as follows.

The Basic Framework: Building Blocks and Their Relationships

The basic framework was derived retroductively from this researcher's an examination on the aspects of What, When, Where, Who(m), Why, and How (5W1H) of, firstly, management literature and, then, management practice. Firstly, it was found that any part of management literature could be described with a combination of the following 5W1H-elements if managers' activities are assigned as *what* managers do:

What: activities.
When: work time, frequency and duration of activity, order of work flow, timing of task.
Where: office, plant, division, company, other organization, home, etc.
Who(m): level, function, etc. of a manager; participants; direction of initiation.

Why: tasks of management, organizational objectives, etc.

How: means of activity, knowledge of management.

Secondly, it was found that management literature could be classified into three partitions: activity-, knowledge-, and task-partition, as shown in Table 2-5. This classification was a result of personal skepticism to Koontz's (1961) grouping of management theories into six "schools" and several years' search for a more meaningful classification of management knowledge. After a few tries to re-group those 5W1H-elements, management literature was grouped into three partitions. The activity-partition encompasses largely the literature produced by the behavioral empiricists. This part of literature has been confined to the aspects of What, When, Where, Who(m) and part of How. As to the aspects of How, it has been confined to the means of activity (i.e., scheduled or unscheduled meeting, tour, telephone, or desk work) and has ignored the knowledge of management. The behavioral empiricists have not studied Why managers do what they do (or, specifically, why managers perform the ten roles). The knowledge-partition encompasses a large volume of literature discussed generally in functional management textbooks. It contains management techniques and procedures about how to manage. The task-partition encompasses a small volume of quite subjective literature about the tasks of management and objectives of organizations. More analyses about these partitions of literature are given in the following sections.

Good

Table 2-5. Elements in the three partitions of management literature

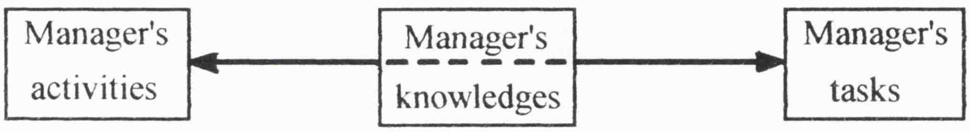
	Activity-partition	*Knowledge-partition*	*Task-partition*
What	**Activities**	-	-
How	Means of activity	**Knowledge of management**	-
Why	-	-	**Tasks of management; organizational objectives**
Who(m)	Level, function, etc. of a manager; participant; direction of initiation	Division of work among personnel	Division of task among managers
Where	Place of activity	Place of work	Division of task among places
When	Work time; frequency and duration of activity	Order of work flow	Timing of task

Thirdly, the three partitions of management literature were found to correspond to managers' activities, knowledge, and tasks in management practice. It seems to be an inevitable consequence of applying the 5W1H-analysis because if activities are assigned as What managers do, a set of tasks are certainly needed to provide the reasons for Why managers act. Also, a set of knowledges are needed to describe the knowledge aspect of How managers act. Besides, the discussion of What, Why, and the knowledge aspect of How managers do all need to refer to the aspects of When, Where, and Who(m) (see Table 2-5). Therefore, What, Why, and How (knowledge aspect) managers do were selected as the building blocks for a framework of manager's action and When, Where, and with Whom managers do as the common

unclear

attachments to them. The terms *manager's activities* (MAs), *manager's tasks* (MTs), and *manager's knowledges* (MKs) were adopted to name the three building blocks respectively.

Finally, besides the relationship implied in What-Why analysis that manager's activities contribute to manager's tasks, manager's tasks were found, according to this researcher's personal experience and understanding, to prompt manager's activities, and manager's knowledges were also found to guide the prompting of manager's activities and the contribution to manager's tasks. Thus, the relationships among manager's activities, tasks, and knowledges are illustrated with a line with arrows on both ends drawn through the block of manager's knowledges to connect the blocks of manager's activities and tasks in Fig. 2-4. The place of manager's knowledges in the basic framework implies that thinking *is* a part of managers' action.



not clear

Fig. 2-4 The basic framework of the AKT theory of management

The basic framework of the AKT theory of management argues that, in managers' actions, managers, prompted by their tasks, perform activities in order to contribute to their tasks and, in that process, they think and use knowledge.

At this point, a basic framework which may be true was constructed. Yet, the contents, or categories, of the three building blocks have not been decided.

Justification of the Basic Framework as a Foundation for a Theory of Management

A theory of management should be relating to management practice as a whole. So should be its basic framework. The mentioned basic framework was derived from an overall analysis of the management literature and practice as a whole. The result is a framework of managers' actions containing manager's activities on the behavioral side, manager's tasks on the contextual or organizational side, and manager's knowledges relating to both sides. By this framework, management in terms of managerial activities and management in terms of managerial and organizational tasks could be connected and described at the same time. Moreover, this is a framework which contains common elements in the action of managers in different functions, levels, etc. Thus, by relating different managers' actions from the perspectives of managerial and organizational tasks, this framework could be used to describe the management in a function, a company, etc. as a whole. Hence, the basic framework could be a foundation for a theory of management.

Implication for Literature Review

A redirection of the literature review is necessary. Since a plausible basic framework of managers' action has been constructed and all that is needed at this moment is to investigate the truth of the relationships among the three building blocks and to study and classify the content for them, the literature to look at for constructing a theory of management, therefore, should be those relating to manager's activity, task, and knowledge and the relationships among them according to the basic framework of the AKT theory. These four parts of literature are reviewed in the following four sections.

Section 6

REVIEW OF THE LITERATURE ON THE RELATIONSHIPS AMONG MANAGER'S ACTIVITIES, KNOWLEDGES, AND TASKS

In this section, a review of the literature relating to the relationships among manager's activities, knowledges and tasks in order to investigate the truth of the relationships shown in the basic framework of the AKT theory is discussed as follows.

According to the Classicists' Management Functions

As mentioned in Section 2, the classicists' management functions have three faces: as activities, as tasks, and as knowledges. Implied by this kind of theory is that managers perform managerial activities of planning, organizing, leading, controlling, etc. in order to accomplish managerial tasks of planning, organizing, leading, controlling, etc. and, during the action, they use managerial knowledges of planning, organizing, leading, controlling, etc. In other words, the activities, tasks, and knowledges are theorized by the classicists to be three in one. Together they are management functions. This runs against the basic framework of the AKT theory which distinguishes activities, tasks, and knowledges from each other. Therefore, the classicists' management functions and the AKT theory contain competing arguments in terms of relationships among managerial activities, tasks, and knowledges.

The Relationship Between Manager's Activities and Tasks

Implied by Mintzberg's (1973) ten roles theory is that managerial activities and tasks are two in one. Together they are roles. Although the ten roles are actually behavioral and acontextual as mentioned in Section 3, the term *role* implies task and Mintzberg sometimes mentioned task-content in the discussion of roles. In other words, he did not see the necessity to distinguish the tasks from activities. This runs against the basic framework of the AKT theory. Therefore, Mintzberg's (1973) ten roles theory and the AKT theory contain competing arguments in terms of relationships between managerial activities and tasks.

Unlike the classicists and Mintzberg (1973), some researchers distinguish tasks from activities (e.g., Hales, 1986; Kelly, 1969; Marples, 1967; Willmott, 1984) although they do not specify completely the content of managerial tasks. For examples, Marples (1967) notes, based on his analysis of 289 episodes reported by a foreman, that "the tasks ... originate the episodes" (p. 289). Similarly, Kelly (1969) notes, based on his study of four section managers, that "the task is the principal determinant structuring the behavior of section managers" (p. 355). The conclusions of these two studies are in agreement with the arguments of the AKT theory that manager's tasks are different from activities and that tasks prompt activities.

As to the nature of the relationship between manager's tasks and activities, there are two implicit competing arguments. The first one is as a law; the second as a rule or as a norm. The first one is generally proposed by researchers who have followed the naturalism, or the methodology used in theoretical natural sciences. They think that the state of independent variable(s) determines the state of dependent variable (e.g., Kelly, 1969). The second argument is generally proposed by researchers who recognize the influence of human reflection and intention on the performance of actions. They think that reasons form intention which prompts action (e.g., Moya, 1990). For them, a task will not definitely determine an activity because it might not form an intention or because other tasks might form competing intentions.

Moya (1990) argues that human actions are intentional rather than causal because of the reflection of the actor and, therefore, that naturalism is not an adequate approach to the study of human action. He notes:

> ... intentions are not ordinary causes, nor are they factually linked with actions. Rather, they prompt actions as standards that the agent commits himself to meet and to do so correctly. Their relation to reasons is not merely factual, either. Intentions are backed by reasons in that reasons provide good arguments for forming them. That the relation between reasons, intentions and intentional actions is normative and that normativity itself has to be given genuine efficacy in prompting our intentional actions is strongly suggested by the fact that the opposite [causal] assumption cannot yield a correct and complete analysis of intentional actions ... . a general, scientific concept of cause is not able to capture the structural relations involved in human intentional action. (p. 168)

Moya's argument is in agreement with this researcher's management experience and, hence, the argument of the AKT theory that manager's tasks prompt manager's activities. Moreover, by this intentional human action theory, manager's tasks and activities are not independent and dependent variables in the sense used in naturalism. This discussion is continued in Chapter 3.

The Relationship of Manager's Knowledges to Manager's Activities and Tasks

As mentioned, the classicists' management functions imply that manager's activities, tasks, and knowledges are three *faces* of managers' actions. Unlike the classicists, the AKT theory argues that they are three *parts* of actions. The place of manager's knowledges in the basic framework means that thinking with knowledge is *a part* of an action. This argument is in agreement with the inferences of Isenberg (1984), Sayles (1964), and Weick (1983). Isenberg (1984) notes that thinking is inseparable from acting. Sayles (1964) notes, "Obviously the executive must think, or use his intellectual powers, but this must be an integral part of his interactional behavior." (p. 37) Also, Weick (1983) notes, "When managers act, their thinking occurs concurrently with action." (p. 223) What they have not claimed explicitly is that thinking is a part of a managerial action.

In summary, the conclusions of Marples (1967) and Kelly (1969) about the relationship between manager's tasks and activities, the intentional human action theory of Moya (1990) about the nature of that relationship, and the inferences of Isenberg (1984), Sayles (1964), and Weick (1983) about the relationship between thinking and action all together are in agreement with the relationships among manager's activities, tasks, and knowledges shown in the basic framework of the AKT theory. In contrast, the classicists' management functions and Mintzberg's (1973) ten roles theory argue, although implicitly, differently.

Section 7

REVIEW OF THE LITERATURE ON MANAGER'S ACTIVITIES

In this section, a review of the literature relating to the activities of managers in order to identify the content of manager's activities is discussed as follows.

The Classicists' Literature on Manager's Activities

Owing to their mainstream position in the theory of management, the classicists' management functions should be considered the candidate for the content of manager's activities in the AKT theory. As mentioned, the classicists' management functions have three faces. Activity is one of them. Although this runs against the basic framework of the AKT theory which distinguishes activity from task and knowledge, one would still ask whether the classicists' management functions could be the content of manager's activities. The answer is that they are the manager's activities in the classicist term. However, they are not suitable candidates for the content of manager's activities in the basic framework of the AKT theory because no set of management functions has been validly shown to be complete and relevant to managerial activity exclusively. As to the incompleteness of management functions, Mintzberg (1973, 1975) points out that the performance of his figurehead, liaison, and disturbance handler roles is not described by the classicists' management functions.

The Statistical Categorizations of Managerial Activities

Using a three-step procedure (List of statements, questionnaires, and factor analysis), the researchers of a research program on leadership at the Ohio State University have produced various categorizations of managerial activity since late 1940s (e.g., Shartle, 1949; Fleishman, 1953; Mahoney, Jerdee, and Carroll, 1965). The number of categories ranges from 14 to 2. Shartle (1949) was the first to present a 14-category list of managerial activities:

1. Inspection of the organization
2. Investigation and research
3. Planning
4. Preparations of procedures and methods

5. Co-ordination
6. Evaluation
7. Interpretation of plans and procedures
8. Supervision of technical operations
9. Personnel activities
10. Public relations
11. Professional consultation
12. Negotiations
13. Scheduling, routines, dispatching
14. Technical and professional operations

The above categorization of managerial activity lacks conceptual clarity and is not mutually exclusive. For examples, one might ask that does *inspection of the organization* involve no *evaluation* at all? The number of category was reduced to two by Fleishman (1953). He notes,

> practically all the variation could be accounted for by ... two major dimensions. (p. 4) ... Items in the "Consideration" dimension were concerned with the extent to which the leader was considerate of his worker' feelings. It reflected the "human relations" aspects of group leadership. Items in the "Initiating Structure" dimension reflected the extent to which the leader defined or facilitated group interactions toward *goal attainment*. He does this by planning, communicating, scheduling, criticizing, trying out new ideas, etc. (p. 2)

Fleishman's findings that all the supervisory work can be described as *consideration* and *initiating structure* was repeated by many studies (e.g., Prien, 1963). Campbell et al. (1970) criticize the result of these studies as "an oversimplification of the characteristics and full range of behaviors demanded by managerial jobs!" (p. 85) Certainly, the categorization of two dimensions of managerial activity is sound in terms of statistical independence. But, it tells little about the similarities and differences in managerial jobs unless the elements of the two dimensions are specified. Thus, these categories of leadership behaviours are not suitable candidates for the content of manager's activities of the AKT theory.

The Behavioral Empiricists' Literature on Manager's Activities

Since Mintzberg's (1973) ten roles theory is in the challenging position for a theory of management, it should also be considered the candidate for the content of manager's activities in the AKT theory. As reviewed in Section 3, the ten roles are reduced to a list of still inadequately classified categories of managerial activities. Therefore, they are not readily a suitable candidate for the content of manager's activities in the AKT theory. However, the ten roles are empirically supported meaningful categorization of behavioral side (or acontextual) managerial activities and the inadequacy in the categorization is not serious. A few modification will turn them into a set of suitable categories of manager's activities. This is described in Chapter 3.

Section 8

REVIEW OF THE LITERATURE ON MANAGER'S TASKS

In this section, a review of the literature relating to the tasks of managers in order to identify the content of manager's tasks is discussed as follows.

The Classicists' Literature on Manager's Tasks

As mentioned, the classicists' management functions have three faces. Tasks is one of them. Implied by the classicists' management functions is that managers perform managerial activities of planning, organizing, leading, controlling, etc. in order to accomplish managerial tasks of planning, organizing, leading, controlling, etc. However, there is no empirical support that managers are actually dealing with and only with these tasks. In fact, these tasks are incomplete as the content of manager's tasks. By adopting a closed system concept, the classicists' management functions do not include the task of dealing with external environment. Hence, the classicists' management functions are not a suitable candidate for the content of manager's tasks in the AKT theory.

In addition to management functions, Fayol (1916/1949) also argues that the organization has to carry out 16 managerial duties whatever the size of the organization. For example, the first one is to "ensure that the plan is judiciously prepared and strictly carried out." (p. 53) He also uses the term *mission of management* for these 16 managerial duties. Thus, he gives these duties an impression of collective managerial tasks. However, these duties are merely more specific statements about the implementation of his five management functions and a few management principles. They are still incomplete to be the content of manager's tasks in the AKT theory. And those relating to management principles are merely the *duties of conformity* to those principles. The duties of conformity are different from the duties of action. In other words, they are in different dimensions.

J. E. Walters' Management Tasks or Problems

Walter (1937) defines management, from the scientific management point of view, "as the *scientific selection, control,* and *disposition* of methods, money, men, materials, machinery, maintenance, manufacturing, marketing, and measurement" (p.4). He regards these nine M's as the "problems" that scientific methods can be applied to. In other words, he regards these M's as the scope of manager's tasks since the application of scientific methods to problems should be performed by managers according to scientific management. His nine M's or manager's tasks contain the following sub-tasks:

1. Methods:
   Policies and principles.
   Organization.
   Job description, evaluation, and classification.
   Time and motion economy.
   Simplification, standardization, and system.

2. Money:
   Ownership.
   Financing.
   General accounting.
   Cost accounting.
   Wage incentives.
   Profits.
3. Men:
   Personnel management.
   Employment.
   Employee-employer dealings.
   Personnel maintenance.
   Training and education.
   Medical and health service.
   Safety and accident prevention.
   Personnel service work.
4. Materials, Machinery, and Maintenance:
   Plant location and layout.
   Purchasing.
   Material handling.
   Stores.
   Machinery and equipment.
   Lighting.
   Power, heating, and air-conditioning.
   Maintenance.
   Waste.
5. Manufacturing (Production control):
   Issuing of orders.
   Planning and engineering.
   Routing.
   Scheduling.
   Dispatching.
   Inspection.
6. Marketing:
   Market analysis.
   Selling the product.
   Advertising, publicity, and public relations.
7. Measurement:
   Research.
   Profits and budgets.
   Performance ratios, percentages, and charts.
   Social service. (Walters, 1937, p. 4-5)

Walters' nine M's of management are useful as a check-list for tackling unrelated, micro-level problems which were the conventional managerial problems of the scientific management movement. But they are not suitable to be used as manager's tasks in a theory of management because, firstly, some M's are specific to some organization units and should be seen as organizational tasks rather than common managerial tasks. For example, marketing will probably never become a problem for a maintenance manager. Secondly, many M's are not operational because they are not clearly classified. For example, a lack of competent skills to deal with customers can be classified as a problem of either "training and education" or "selling the product". Finally, it is difficult to have a broad view of the organization from these M's because the relationships among them are not specified.

Peter Drucker's Objectives of a Business

Drucker (1955) dismisses "the search for the one right objective" (p. 52) of a business and argues that "there are eight areas in which objectives of performance and results have to be set, ... whatever the business, whatever the economic conditions, whatever the business's size or stage of growth" (p. 53). His common eight areas of objectives are:

1. Market standing,
2. Innovation,
3. Productivity,
4. Physical and financial resources,
5. Profitability,
6. Manager performance and development,
7. Worker performance and attitude,
8. Public responsibility.

Drucker's objectives of a business are certainly the aims that every manager in business needs to keep in mind. However, they are broad, overall objectives of *a business*. They are organizational tasks. To apply to managerial actions, they lack specificity. In other words, they are not operational at action level. For example, how should we classify an action of *innovation* in equipment *(physical resource)* which might increase the *productivity* and might eventually increase *profitability* or *market standing*? Therefore, Drucker's objectives of a business seem to be the indirect tasks of managers' actions. And they are not a suitable candidate for the content of manager's tasks in the AKT theory because this theory is about the manager's action and managers are seldom dealing with those objectives directly.

McKinsey 7-S Framework

The management consultants of McKinsey & Company in the USA have constructed a 7-S framework which consists of strategy, structure, systems, style, staff, shared values, and skills as shown in Fig. 2-5 and Table 2-6. The McKinsey 7-S Framework belongs to a series of theory development about the elements of an organization and the compatibility among these elements.

Firstly, Chandler (1962), from an early historical analysis, argues that the structure of an organization follows its strategy. This theory of the compatibility between strategy and structure contains prescriptive, or normative, dimension. From the analysis, Chandler found that, stage by stage, organizations had pursued the growth strategy of (1) expansion of volume, (2) geographic dispersion, (3) vertical integration, and (4) product diversification and, meanwhile, they either had changed their structure from functional to product to multi-divisional forms to adapt to the requirements of strategy or had been driven out of business.

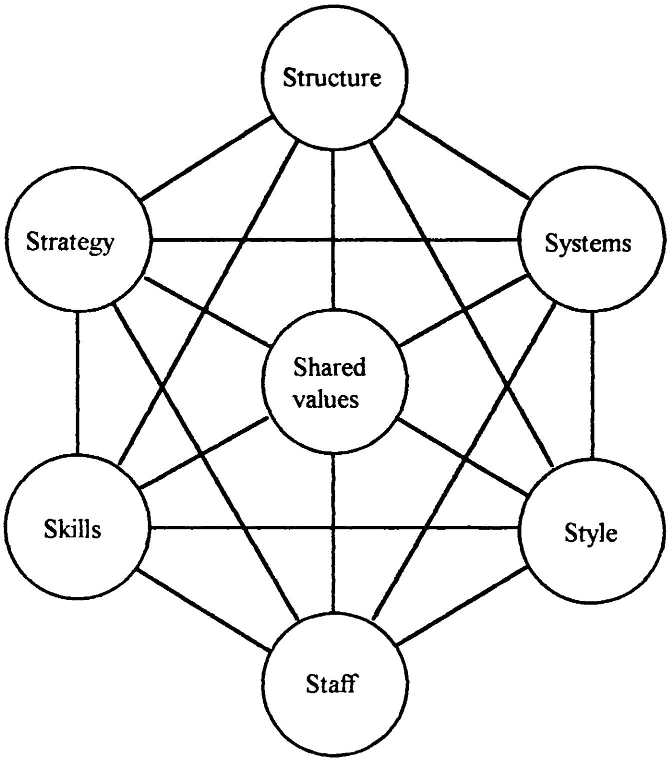


Fig. 2-5 The McKinsey 7-S Framework (Source: Peters and Waterman, 1982, p. 10).

Table 2-6. A summary of the McKinsey 7 S's

1. *Strategy*. A coherent set of actions aimed at gaining a sustainable advantage over competition, improving position facing customers, or allocating resources.
2. *Structure*. The organization chart and accompanying baggage that show who reports to whom and how tasks are both divided up and integrated.
3. *Systems*. The processes and flows that show how an organization gets things done from day to day (information systems, capital budgeting systems, manufacturing processes, quality control systems, and performance measurement systems all would be good examples).
4. *Style*. Tangible evidence of what management considers important by the way it collectively spends time and attention and uses symbolic behaviour. It is not what management says is important; it is the way management behaves.
5. *Staff*. The people in an organization. Here it is very useful to think not about individual personalities but about corporate demographics.
6. *Shared values* (or superordinate goals). The values that go beyond, but might well include, simple goal statements in determining corporate destiny. To fit the concept, these values must be shared by most people in an organization.
7. *Skills*. A derivative of the rest. Skills are those capabilities that are possessed by an organization as a whole as opposed to the people in it.

Source: Waterman (1982/1987, p. 289).

Secondly, Galbraith (1977) modifies Chandler's theory and argues that organization is more than just structure. He expands the elements of an organization to including structure, processes (budgeting, planning, teams, etc.), reward systems (promotions and compensation), and people (selection and development). He also argues that all of the elements of organization must be in harmony with each other. Thus, the argument becomes that the strategy and elements of an organization must be compatible to each other.

Thirdly, a few unpublished theories on the elements of organization have been used in management courses. For examples, Cyrus Gibson was using an early version of related elements of organization to teach the middle-level executives in Harvard University's Program for Management Development (see Pascale and Athos, 1981, p. 209). Harold Leavitt has constructed "Leavitt's Diamond" which includes "task, structure, people, information and control, and environment" (see Peters and Waterman, 1982, p. 11n).

Finally, Waterman, Peters, and Phillips (1980) present the 7-S framework (*Shared values* was originally named *superordinate goals* in the article.) as "a new view of organization" (p. 18) and claim that they "and others have ... tested it in teaching, in workshops, and in direct problem solving ... [and] have found it enormously helpful ... in diagnosing the causes of organizational malaise and in formulating programs for improvement." (p. 17) Subsequently, two well-known books, *The Art of Japanese Management* by Pascale and Athos (1981) and *In Search of Excellence* by Peters and Waterman (1982), based on studies using the 7 S's as the conceptual framework were published. In essence, Waterman et al., like Galbraith (1977), argue that structure only is not organization. Instead, the 7 S's are. They dismiss the practice of merely changing structure in organizational changes, a practice which is supposed to be influenced by Chandler's (1962) argument that structure follows strategy. To be effective, they claim that all of the 7 S's have to be considered in an organizational change.

However, the content of the 7-S framework is still incomplete and its structure incorrectly shown. As to the content, the 7 S's does not include the environment. This seems to suggest that organizations do not do anything to influence their environments. In fact, this is not true. As to the structure of the 7 S's, the *skills* is defined as "a derivative of the rest" (Waterman, 1987, p. 289), or a second-order construct. However, the 7 S's are all treated as first-order constructs in the illustration (Fig. 2-5) and discussions. Also, the illustration of the 7 S's seems to suggest that there is no direct relationship between *structure* and *staff*, between *systems* and *skills*, and between *strategy* and *style* because there is no line connecting them. The definitions, illustration, and discussions of the 7 S's contain contradictions.

Besides, the nature of the 7-S framework has not been adequately recognized. Waterman et al. (1980) perceived the 7-S as "a new framework for organizational thought" (p. 17), as "a new view of organization", or as a "framework for organization change" (p. 18). They have not recognized that the 7 S's are roughly the elements of an organization and the "interconnectedness" (p. 18) of the 7 S's is about the compatibility among these elements. Moreover, the *staff* element needs to be more specific because managers are managing work-related issues only. Human issues irrelevant to work should be excluded. Also, the term *style* is misleading. What they mean by *style* is really the attention of the members of organization. Style is about the characteristics of managers' actions; attention is an element of organization and, thus, of managers' tasks.

In summary, the 7 S's are not readily suitable candidates for manager's tasks in the AKT theory. But, they could be helpful in constructing them. This discussion is continued in Chapter 3.

Section 9

REVIEW OF THE LITERATURE ON MANAGER'S KNOWLEDGES

In this section, a review of the literature relating to the knowledge of manager in order to identify the content of manager's knowledges is discussed as follows.

The Classicists' Literature on Manager's Knowledges

As mentioned, the classicists' management functions have three faces. Knowledge is one of them. Implied by the classicists' management functions is that managers perform managerial activities of planning, organizing, leading, controlling, etc. in order to accomplish managerial tasks of planning, organizing, leading, controlling, etc. and, during the action, they use managerial knowledges of planning, organizing, leading, controlling, etc. However, there is no empirical support that managers actually use and only use these knowledges. In fact, production managers have to use the knowledge of production management frequently in their managerial actions. Similarly, other functional managers have to use their special knowledges frequently in their planning, organizing, leading, controlling, etc. Therefore, it may conclude either that the knowledges of planning, organizing, etc. are different in content for managers in different functions (see Fayol, 1916/1929) or that the knowledges of functional management are not managerial at all (see Fayol, 1916/1949). In the former case, the knowledges of planning, organizing, etc. lack of independence in content from each other and lack of unity of definition for managers in different functions. In the latter case, the managerial knowledge of planning, etc. contains only a small part of knowledge used quite commonly by managers.

Also, these management functions are incomplete as the content of manager's knowledges. By adopting a closed system concept, the classicists' management functions do not include the knowledge for improving external environment. Hence, the management functions are not suitable candidates for the content of manager's knowledges in the AKT theory.

R. L. Katz's Skills of an Effective Administrator

Katz (1955/1974) identifies and suggests that effective administration or management rests on three basic developable skills. They are:

1. Technical skill: The specialized knowledge, analytical ability within that speciality, and facility in the use of the tools and techniques of the specific discipline. Primarily concerned with working with processes or physical objects.
2. Human skill: The leadership ability to work effectively as a group member and to build co-operative effort within the team and the skill to build intergroup relationships. Primarily concerned with working with people.
3. Conceptual skill: The ability to see the enterprise as a whole or the ability to think in general management point of view. Concerned with the relationships among various organizational units, relative emphases and priorities among conflicting objectives and criteria, relative tendencies and probabilities, and rough correlations and patterns among elements.

Katz's classification of managerial skills is simple and popular. But his classification is about the nature of the skills rather than about the content of them. The content of the technical skill for every manager is nearly unique. In other words, the technical skill means differently for managers with different work content. A manager with responsibilities over product development and quality control had better have the technical skills of the product, development process, and quality control techniques. Moreover, the conceptual skill is partly derived from the technical skill. Having mastered technical skills of several kinds of related disciplines, a manager would be more likely to develop sound conceptual skill. Because the conceptual skill is partly influenced by the scope of the technical skill, its content is also nearly unique for every manager. This might explain why Katz has never identified clearly the elements of the three skills. Since Katz's three managerial skills are not about the content, they are not suitable candidates for the manager's knowledges in the AKT theory.

Henry Mintzberg's Eight Basic Sets of Managerial Skills

Mintzberg (1973), from the analysis of his ten managerial roles, suggests eight basic sets of managerial skills that might be taught and be useful. These skills are: peer skills, leadership skills, conflict-resolution skills, information-processing skills, skills in decision-making under ambiguity, resource-allocation skills, entrepreneurial skills, and skills of introspection. Since these skills are derived from the ten roles theory, they, like the ten roles, are acontextual. They do not contain knowledge relating to the specialized work and environment of managers.

D. K. Chen's Classification of Management Science

Chen (1981) defines *management science*, in its broadest sense, as all systematic knowledge relating to the management of any organization. He, then, classifies management knowledge as follows.

<u>Management science</u> (in its broadest sense):

- Non-quantitative methods:
  - Management principles
  - Formal organization
  - Human relations
  - Behavioral science

Business functions and system
Quantitative methods:
Scientific management
Managerial economics
Management accounting
Statistics
Decision theory
Operations research
System analysis
Electronic data processing
Management information system (p. 150)

Chen's classification of managerial knowledge was done by classifying subjects relating to management. Since the learning of these subjects will lead to learners' management knowledge, this classification seems reasonable. However, this classification is not suitable for the manager's knowledges in the AKT theory. Chen's knowledge, or subject, of ***business functions and system*** encompasses marketing, production, finance, personnel, and research and development. If it is meant to encompasses ***all*** knowledge of these five functions, it becomes a gigantic category and contains most of the knowledge used by managers. If it is meant to encompasses only the knowledge relevant to the functions responsible by a manager, it lacks the unity of definition to all managers.

B. A. Wu's Classification of Management Training Courses

Wu (1984) has employed the Delphi method to survey the opinions of 17 Taiwanese management scholars, experts, or well-known senior managers in order to classify management training courses. The result is shown in Table 2-7. Although the original classification is about the management training courses, it is about the managerial knowledge as well because attending to a management training course will result in corresponding managerial knowledge. Wu's classification is by no means perfect. Arbitration and surprises can still be felt. But, it is an acceptable classification according to this researcher's personal judgement in terms of the methodology used, the face validity of the result, and the relevance of the result to the management practice. This researcher, therefore, decided to use Wu's classification of management training courses directly as the classification of manager's knowledges in the AKT theory.

POSTSCRIPT

The literature reviewed is by no means exhaustive. To review all of the related literature would be difficult because a large amount of literature has been accumulated so far. Also, it would be unnecessary because a part of the literature involves vague and confusing terminology. For example, Hemphill (1959) collected data of managerial work from 93 managers in five companies, across three levels, and across five functions using unclassified 575 statements. He then performed factor analysis, which involves subjective judgement, to the data and isolated ten factors. Each factor was named subjectively ***afterwards***. However, the terms

Table 2-7. Wu's (1984) classification of management training courses

Categories	*Management courses classified*	
1. Organization and management theory	1. Business policy 2. Business strategy 3. Analysis, planning, and controlling 4. Management by objective 5. Strategic planning 6. Decision making and problem solving 7. Organization structure and design	8. Leadership and motivation 9. Managerial control 10. Communication analysis 11. Organization change and development 12. Introduction to organization and management theory
2. Human resource management and Industrial relations	1. Human resource planning 2. Job analysis and evaluation 3. Recruitment and selection 4. Industrial training 5. Performance appraisal 6. Remuneration systems 7. Career planning 8. Management development	9. Employment problem and regulations 10. Employee benefits and welfare 11. Health and safety 12. Managerial psychology 13. Public relations 14. Management of professionals 15. Introduction to human resource mgt
3. Production/ Operation management	1. Production planning and control 2. Cost analysis and control 3. Product design and development 4. Motion and time study 5. Plant layout (includes site selection and materials handling) 6. Capacity programming 7. Routing and scheduling 8. Quality management	9. Inventory control and materials mgt 10. Procurement management 11. Productivity improvement 12. Flexible manufacturing system (FMS) 13. Materials requirements planning 14. Production mgt information system 15. Introduction to production/operation management
4. Marketing	1. Tasks and philosophy of marketing mgt 2. Consumer behaviour and market segmentation 3. Product strategy 4. Pricing strategy 5. Promotion strategy 6. Distribution channels	7. Marketing research 8. Sales forecasting 9. Product and market development 10. Integrated marketing planning 11. Marketing information system 12. Introduction to marketing mgt
5. Financial management and Accounting	1. Taxation and accounting 2. Cost accounting 3. Financial planning and control 4. Managerial accounting 5. Financial analysis 6. Financial plans and budget control 7. Working capital management	8. Investment and long-term financing 9. Evaluation of investment proposal 10. Investment portfolio analysis 11. Financial structure, capital cost, and dividend policy 12. Introduction to financial management
6. Mathematical methods	1. Applied statistics 2. Operations research 3. System analysis	4. Experimental design 5. Corporate simulation 6. Introduction to mathematical methods
7. Research and development management	1. Science and technology management 2. Management of laboratory 3. Management of engineering department 4. Evaluation of R & D project	5. New product development planning and control 6. Introduction to R & D management
8. Information management	1. Computer and programming language 2. Business information system 3. Data processing system 4. Management information system	5. Computer aided engineering, design, and manufacturing (CAE, CAD, CAM) 6. Introduction to information mgt

(To be continued).

Table 2-7. *(continued).*

9. International business management	1. International finance 2. International marketing 3. Multi-national corporation 4. International financial management	5. International trade 6. Introduction to international business management
10. Business and environment	1. Taxes and revenues 2. Commercial laws (of tariff, VAT, etc.) 3. Business and government 4. Business and society 5. Culture and management philosophy 6. Macro-economic economy	7. Prevention of bad account 8. Pollution prevention 9. Environment monitoring & protection 10. Introduction to business and environment
11. Other management courses	1. Medium and small business mgt 2. Insurance 3. Project management 4. Commercial negotiation	5. Comparative management 6. Business diagnosis 7. Others

Source: Adapted and translated from Wu (1984, p. 3-5).

terms used for most factors and their elements are so vague that it is difficult to understand what is meant by each factor and by all these ten factors. It is pointless to review this kind of literature because there are defects in both the methodology and the result.

For another example, Boyatzis (1982) classified skills measurements of about 2,000 managers into five related clusters which he claimed to form "an integrated model of management competencies at the skill level" (p. 194). These five clusters were: goal and action management cluster, leadership cluster, human resource management cluster, directing subordinates cluster, and perceptual objectivity. From the wording, one might ask why directing subordinates was not part of human resource management? From the relationships reported, one might ask why directing subordinates cluster was not related significantly to human resource management cluster and leadership cluster? From the skills content of each cluster, one might ask why they were not named change management skills, conceptual skills, human skills, supervisory skills, and psychological distancing skills respectively? Because of these vagueness, Boyatzis' (1982) study is excluded from the literature review.

Other literature which does not fit easily in this chapter will be reviewed briefly when discussed.

Notes

1. The term *behavioral empiricists* is used in this study to refer to the researchers and theorists who have followed empirical, inductive method and were classified by Mintzberg (1973) as "the work activity school" (p. 21). Major figures are Sune Carlson, Tom Burns, Rosemary Stewart, Henry Mintzberg, etc. The adjective *behavioral* is used to indicate that their methodological approach has been mainly behaviourism (or naturalism) *and* that their findings have concentrated on the behavioral side of managers' actions. The contextual side, which is relating to the organization and tasks, has been failed or ignored in their studies.

2. The terms *retroduction* and *abduction* are used interchangeably in the philosophy of science. For Peirce (1935), "abduction consists in studying facts and devising a theory to explain them" (Vol. 5, § 146). For Hanson (1958), retroduction has a form of inference shown as follows:

    1. Some surprising phenomenon P is observed.
    2. P would be explicable as a matter of course if H were true.
    3. Hence there is reason to think that H is true. (p.86)

    Hanson's form of retroduction has been criticized for considering "observed" phenomenon only. For that reason, Lamb (1991) has modified Hanson's model. Lamb's form of retroduction is shown as follows:

    1. Some surprising, astonishing phenomenon P1, P2, P3, ... is encountered.
    2. But P1, P2, P3, ... would not be surprising or astonishing if H were true - they would follow as a matter of course from H; H would therefore explain P1, P2, P3, ...
    3. Therefore there is good reason for elaborating H - for proposing it as a possible hypothesis from whose assumptions P1, P2, P3, ... might be explained. (p. 75)

    Lamb (1991) failed to show that the empirical domain is often re-adjusted in the theory development process and that retroduction is simply a logical process to generate, select, and suggest a theory-to-be which *may be* true and still needs further evaluation. He also failed to show that the "elaboration" of a theory might include a series of retroduction processes rather than just forms a part of a retroduction process. For those reasons, this researcher proposes a modified form of retroduction shown as follows:

    1. A related phenomenon P (or Ps) is inexplicable by the existing theory.
    2. But, P (or Ps) and other related phenomena are explicable if theory-to-be H is true.
    3. Therefore, there is a reason to suggest that H *may be* true and to subject it to further evaluation.

    The second statement above is the core of the retroductive method and is a logic for generating and selecting a theory-to-be. It points out that the empirical domain *P (or Ps) and other related phenomena* is adjustable and a theory-to-be has to be generated and selected on the basis of this adjustable empirical domain. The method to generate a theory-to-be is still not fully understood. Theorists may modify the pre-existing theory, borrow ideas from other areas, imagine and create new ideas, combine ideas in various ways, etc. (see Lamb, 1991; Marx, 1976a & b) Once a theory-to-be is generated, it is evaluated against the criterion whether the phenomena in the empirical domain are all explained or not. If the answer is yes, the theory-to-be is then selected. However, this does not suggest that the new theory is surely true because unknown phenomena might falsify it. Hence, the new theory still has two contingencies of truth: true or false. But, if it is true, all the related phenomena in the known empirical domain are then explicable.

The *retroduction process* proceeds step-by-step through all the three statements. If a gap between the phenomena and the existing theory is detected (the first statement), a new theory has to be generated and selected on the basis of known phenomena (the second statement). Explanation of all the known phenomena by the new theory (the second statement) provides a reason for suggesting that the new theory may be true and for subjecting it to further evaluation (the third statement). Our understanding of the reality changes every time theorists pass through the retroduction process successfully.

Chapter 3

CONSTRUCTION OF THE AKT THEORY OF MANAGEMENT

In Chapter 2, the pre-existing theories of management have been reviewed, their inadequacy shown, and the right methodology investigated. Also, the basic framework of the AKT theory of management has been introduced, the parts of the literature relating to each building block and the relationships among them reviewed, a suitable classification of manager's knowledge identified. What has not been done is to classify the contents of manager's activities and tasks.

In this chapter, the classifications of the contents of manager's activities and tasks are discussed in Section 1 and Section 2 respectively; the discussion of the AKT theory of management in Section 3; the introduction of six organizational concepts in Section 4; and the conditions and mechanisms of management in the AKT theory in Section 5.

Section 1

CLASSIFICATION OF MANAGER'S ACTIVITIES

In this section, Mintzberg's (1973) ten roles are modified into ten categories of managerial activities. Also, a mainly non-managerial and sometimes managerial activity, i.e., operating, is added to form the 11 manager's activities.

As mentioned in the Section 3 of Chapter 2, there are real shortcomings in the ten roles theory. Specifically, the ten roles are not totally observable; they are not derived inductively; the prescriptive dimension in the theory was not mentioned; these roles were actually categories of managerial activities; they are not totally operational; they are acontextual; and the relationships among these roles are still not clear.

In other words, the observation of the ten roles must rely on the purpose of activity expressed by the manager; the ten roles are a scope derived retroductively rather than inductively; there is a prescriptive dimension in the ten roles theory to those managers with less managerial learning; the ten roles are actually ten categories of managerial activities; the categorization of these roles has to be modified; the ten roles should remain as a theory on the behavioral side and the connection of them to the contextual side of managerial work is needed; and the relationships among them cannot be specified until sufficient evidence is available.

Thus, Mintzberg's (1973) ten roles theory that was originally meant to be an inductive description of all managers' common work with underlying mechanisms to explain the relationships between groups of roles and formal authority and status was reduced to *a list of still inadequately classified ten categories of managerial activities* as a scope of activity that all managers perform or could perform and having a prescriptive dimension for those managers who are still not fully aware of performing all of these activities.

Now, in order to convert the ten roles to ten adequate categories of managerial activity, a modification in the categorization of these roles and new terms for the ten new categories of managerial activities are necessary. Firstly, the chief problem with the categorization of the ten roles is that the leader role is too broad. According to Mintzberg (1973), "The *leader* role links to every activity involving subordinates, ... no matter what the main purposes of any of these activities." (p. 267-8) Conceptually, it is possible to perform multi-purposes activities. For example, visiting a customer with one's subordinate might have the purposes of performing the leader and liaison roles. However, it is difficult to conceive that an executive intends to lead in *every* activity involving subordinates if these roles are really derived from the purpose of activity. For example, a manager might be occupied by the needs of the situation and ignore the leader role in dealing with crisis. Hence, it is doubtful that the leader role links to every activity involving subordinates. Narrowing down the leader role to those activities that are purposively influencing the motivation or ability of subordinates is necessary. Besides, *staffing* is decisional and should be classified into the resource allocator role rather than the leader role.

Secondly, another problem with the categorization of the ten roles is that Mintzberg (1973) and those who replicate his study have failed to distinguish the "operational" identification of the ten roles in research measurement from the categorization of them in concept and leave doubt on the conceptual clarity of the ten roles. The principal differences between the two lie in the precision of the identification of an activity and, hence, the precision of the identification of roles (see Table 3-1). Conceptually, a role, especially the leader or monitor role, might *overlap* another role. For example, asking a subordinate about work might have the purposes of performing the monitor and leader roles. Also conceptually, short fleeting roles, by the same manager, could *interrupt* during a long, ongoing role. For example, creating a new departmental plan with subordinates (the entrepreneur role) might be interrupted by giving subordinates information (the disseminator role) and motivating them (the leader role). These overlapping and self-interrupting roles can be identified conceptually and should be encouraged if they improve efficiency and, therefore, pose no difficulty in concept. In fact, Mintzberg (1973) encourages them. He notes, "... every obligation presents the shrewd manager with a chance to accomplish his own purposes. ... The need to meet someone in a *figurehead* capacity may present the chance to tap a new source of information. The obligation to be present at a briefing session may give the manager a chance to exert some leadership. ... Whether or not he turns obligation to advantage determines in large part whether or not he will succeed." (p. 181)

Table 3-1. The discrepancies between conceptual and empirical roles up to this moment

	Conceptual roles	*Empirical roles*
Unit of an activity	An activity is starting from and ending with a change in the manager's purpose of activity	"An activity" is starting from and ending with a change in the basic participants and/or the means of activity
Attitude to overlapping and self-interrupting roles	Use of them be encouraged, if good for efficiency	Purposes of them be compared in terms of importance
Description of overlapping and self-interrupting roles	Should be included in description	Ignored if their purposes are not the most important one in "an activity"
Precision in describing managerial activity	Capable of describing the reality precisely, although costly	Describing only the roles derived from the primary purposes in "activities"

However, the overlapping and self-interrupting roles have been ignored in empirical research because of difficulty in identifying them. Since the recording of roles needs to know the manager's purposes, the willingness of managers to co-operate and their capacity to report the purposes and time spent are crucial. In studying managerial roles, Mintzberg (1973) and his followers have followed the behavioral empiricist tradition in defining *an* activity as starting from and ending with a change in the basic participants and/or the mean of activity, in defining interruption as those interrupted by others only, and in identifying the empirical role by the primary purpose of "an activity". As a result, the overlapping roles, self-interrupting roles, and the time spent on them are wrongly accounted for by the empirical roles. Hence, the empirical roles tend to give an impression that the ten roles theory cannot describe the reality clearly. Under this convention, the findings about the frequencies of and time spent on the ten roles are, therefore, not precise and the job of reporting them is not very demanding. However, if precisely all the roles, including overlapping and self-interrupting ones, are required to be reported on separate records, the job of recording becomes too demanding. Brewer and Tomlinson's (1964) remark is supportive to this argument. They note, "The subjects reported difficulty in isolating and timing the actual taking of a decision." (p. 194) Thus, the precise recording of the conceptual roles remains only as a possibility unless video equipment is employed and/or special attention given. Hence, the empirical roles studied up to this moment are not the conceptual roles. The clearance of this confusion should be helpful to the confidence in the capability of the ten roles in describing managerial activity.

Thirdly, since the ten roles are actually ten categories of managerial activities, new terms showing evidently the nature and content of them should be helpful to the readers. For this reason, ten managerial activities are derived and named from the activity-content of the ten roles as shown in Table 3-2. Only minor modification in the categorizations of the activities of *leading* and *resource allocating* were made in the derivation of the ten managerial activities from the ten roles.

Finally, a mainly non-managerial and sometimes managerial activity *operating* was added to the list of manager's activities. It is common for managers in small firms or at lower levels to participate in the operational work of their units. The managerial work tends to occupy only part of managers' time in small firms. Thus, most of these managers will or must use the remaining time for operational work (Choran, 1969). Yet, the activity of *operating* is sometimes managerial if it relates to the setting of standard, protection of formula, or efficient utilization of resource or if it is belonging to a multi-purposes action. Other additional roles, such as *specialist* by Choran (1969), *subordinate* by Morris et al. (1981), *technical expert* by Pavett and Lau (1983), to the ten roles are considered either unnecessary or inadequate. The *technical expert* role is unnecessary because it can be subsumed in the spokesman role, or the activity of giving information outwards. The *specialist* and *subordinate* roles are inadequate because, in these two "roles", managers perform within exactly the same scope of the 11 manager's activities.

Consequently, there are 11 manager's activities. The conceptual definitions of them are shown in Table 3-3. Further definitions of them could be found in the Appendix B.

Section 2

CLASSIFICATION OF MANAGER'S TASKS / FACTORS FOR ORGANIZATIONAL OPERATION

In this section, the classification of the content of manager's tasks is discussed. The project of classifying manager's tasks from scratch lasted for about three months in 1991. During that time, many trials were performed. Thus, it is difficult to describe the process clearly. For convenience, four phases corresponding to four important events in the process are described as follows.

Phase 1: A Survey of Managerial Tasks

The pre-existing descriptions of managerial tasks in the literature tends to be general and vague. No specific task can be inferred from such statements; let alone systematic, specific classification of tasks applicable to all managers. For example, Koontz and O'Donnell (1978) note,

> All managers at all levels and in all kinds of enterprise have the basic task of designing and maintaining an environment in which individuals, working together in groups, can accomplish preselected missions and objectives. In other words, managers are charged with the responsibility of taking actions that will make it possible for individuals to make their best contributions to group objectives. (p.1)

In order to reveal the content of managerial task, a survey searching for the descriptions of managerial tasks in management books was performed. Several books, the academic ones used in colleges and the practical ones used in off-the-job training courses, were surveyed. As a result, a list of managerial tasks were collected. These tasks include: *good work facility, effective structure, high morale, sound organizational climate, having a plan, operation procedures, competent human resources, adequate*

Table 3-2. Ten managerial activities derived from the ten roles

Roles		*Managerial activities*
1. Figurehead	→	1. Representing the work unit
2. Leader	→	2. Leading*
3. Liaison	→	3. Liaising
4. Monitor	→	4. Collecting information
5. Disseminator	→	5. Giving information downwards
6. Spokesman	→	6. Giving information outwards
7. Entrepreneur	→	7. Innovating and improving
8. Disturbance handler	→	8. Disturbance handling
9. Resource allocator	→	9. Resource handling*
10. Negotiator	→	10. Negotiating

* Derived with minor modification in the classification

Good

Table 3-3. The 11 manager's activities

Interpersonal activities:

1. **Representing the work unit.** Socially and legally representing one's own organization unit internally and externally.
2. **Leading.** Influencing the motivation and ability of one's own subordinates.
3. **Liaising.** Influencing the willingness of outsiders, including superiors, other managers and their subordinates, suppliers, customers, etc., to co-operate or provide one's unit with favours and information.

Informational activities:

4. **Collecting information.** Searching for and receiving of information.
5. **Giving information downwards.** Giving information to one's own subordinates.
6. **Giving information outwards.** Giving information to outsiders.

Decisional activities:

7. **Innovating and improving.** Voluntarily experimenting and creating new factors for organizational operation (FOOs) (see next section) or improving on the existing ones.
8. **Disturbance handling.** Involuntarily handling the unexpected disturbances to the operation of one's work unit.
9. **Resource allocating.** Allocating the human, physical, financial, and other resources for guiding and controlling the operation of the unit.
10. **Negotiating.** Participating in the collective, real-time decision-making with outsiders.

Other activity:

11. **Operating.** Participating in the operational work of one's own unit.

reward, strengthening knowledge, improving relationships, knowing what to do, maintaining order, etc. Redundancies and overlaps among these tasks were evident. Efforts to reduce them were tried. Meanwhile, different schemes of classifications of these tasks were attempted. However, it was difficult to derive a set of meaningful and useful classification of managerial tasks. Also, the exhaustiveness of these tasks could only be assumed rather than examined. These problems were eased after adapting the McKinsey 7-S framework to the system theory.

Phase 2: Adapting the McKinsey 7 S's to System Theory

As argued in Section 8, Chapter 2, the McKinsey 7-S framework was wrongly represented by a diagram shown in Fig. 2-7. To correct this error, the nature of the McKinsey 7 S's was clarified and the system theory is applied in this section to accommodate these 7 S's. As argued, the 7 S's are roughly the elements of an organization and the interconnectedness of the 7 S's is about the compatibility among these elements. Now, apply the system theory to an organization and the 7 S's become roughly the elements of a system as shown in Fig. 3-1. Since the 6 S's (*Skill* excluded.) are the elements of a system, they should be compatible to each other because any friction among them reduces the strength of the system.

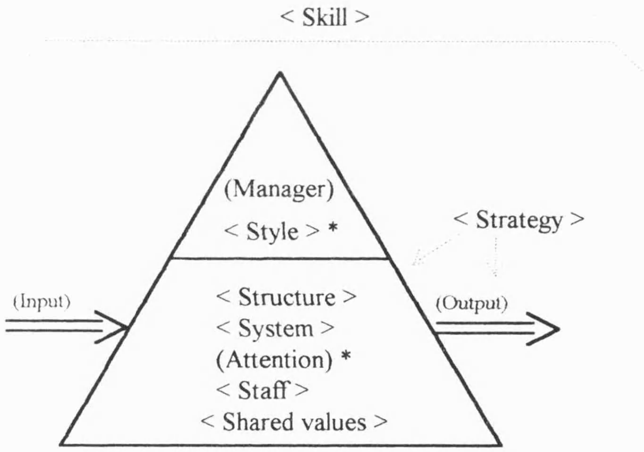


Fig. 3-1 The McKinsey 7 S's in an organizational transformation system

* The *style* of managers' actions influences the *attention* of the members in the unit.

It is becoming popular to represent a firm as a transformation system (e.g., Baird, Post, and Mahon, 1989; Koontz and Weihrich, 1988). But, most authors were still unable to specify the composition of such a system. Some tried but did it inadequately. For example, Koontz and O'Donnell (1978) note, "Systems ... within the area of managing ... include organization system, planning system, control system, and many others. And, within these we can find subsystems, such as systems of delegation, budgeting, and feedback of information for control." (p.10) Also, Koontz and Weihrich (1988) note, "Various inputs are transformed through the managerial functions of planning, organizing, staffing, leading, and controlling." (p. 12) One would like to question how do their management functions form systems and transform various inputs? Are these inputs the total input of a work system? Do their "systems" form an integrated transformation system which produces product or service?

To represent the management functions as the principal or only elements of a transformation system is misleading. This is not only contradictory to Fayol's (1949) remark that "the managerial function operates only on the personnel" (p. 19), which is one of the bases of their theorizing, but also contradictory to the reality in business. The major part of work in most organizations is operational. These operational tasks need to be planned, structured, routed, scheduled, staffed, housed, equipped, powered, monitored, etc. In other words, they need to be integrated into a transformation system. In this sense, the 6 S's are more suitable than the management functions to be the elements of an organizational transformation system because the 6 S's correspond to the content of organization more directly than the management functions.

By adapting the McKinsey 7 S's into the system theory, the strengths and weaknesses of the 7-S framework were revealed at the same time. The weaknesses include that the task of dealing with environment is not fully subsumed, that the *skill* and *style* are not the *elements* of the organizational system, and that the 7 S's are not specific in terms of the content. to

The process and outcome of adapting the McKinsey 7 S's into an organizational system shed much light on the project of classifying managers' tasks. The attempt to associate the managerial tasks surveyed earlier to the 7 S's in transformation system led the project to Phase 3.

Phase 3: Adapting the List of Managerial Tasks to System Theory

The managerial tasks surveyed in Phase 1 were firstly classified according to the 6 S's. Two tasks, *strengthening knowledge* and *improving relationships*, were not classified. Others were classified as follows:

1. Strategy: having a plan, knowing what to do.
2. Structure: effective structure.
3. System: good work facility, operation procedures.
4. Style: (none)
5. Staff: competent human resources, adequate reward, high morale, sound organizational climate, maintaining order.
6. Shared values: (none)

From the above classification of managerial tasks to the 6 S's, it becomes obvious that neither the list of managerial tasks surveyed nor the 6 S's is exhaustive. The 6 S's failed to include the tasks of direct dealing with environment (see Phase 2) and the *strengthening knowledge* and *improving relationships* by managers themselves. The tasks surveyed from management books failed to include the tasks relating to the attention of subordinates produced by the *style* of managers' actions, the ***shared values***, and the direct dealing with environment. Besides, a mainly non-managerial and sometimes managerial task, the *sharing of operation* by most managers, especially those in small firms (Choran, 1969) or at lower levels, was not included by both schemes.

The neglected tasks were added and redundancies between tasks were modified to form a more complete list of tasks. For examples, two tasks representing managers' dealing with environment, *smooth flow of input and output* and *pro-unit environment*, were added. The redundancies between the tasks of *adequate reward, high morale*, and *sound organizational climate* were reduced by integrating these three tasks into a task of *motivation and work climate*. During these adjustments of managers' tasks, four practicing managers were asked to participate. They appraised the usefulness of the list of tasks in describing their work-place tasks and made suggestions accordingly. Also, they suggested relevant terminology that they were using.

As a result, 14 manager's tasks, including 13 managerial tasks and one mainly non-managerial and sometimes managerial task, were produced, modified, and, finally, accepted. They are:

1. Formal plan, Ask
2. Action plan for next step,
3. Organization structure,
4. Work flow and regulation,
5. Equipment and support,
6. Attention of subordinates,
7. Competent subordinates,
8. Motivation and work climate,
9. Discipline and work ethics,
10. Shared objectives of the unit,
11. Smooth flow of input or output or both,
12. Pro-unit environment, ?? ?? what does it mean?
13. Sharing of operation,
14. Enhancing own knowledge or interpersonal relationship.

The places of these tasks in an organizational system are shown in Fig. 3-2. Unlike Fig. 3-1 which shows a firm or a strategic business unit as an organization unit, the illustration of an organization (as a triangle or the front view of a cone) in Fig. 3-2 is generalized to show *any* organization unit ranging from a foreman's group to a firm, a conglomerate, even an alliance network. This point is developed as the *networked-cones structure* of organizations in Section 4.

Moreover, during the final stage in this phase, the nature of these 14 tasks was recognized when questions about the relationships between them and the organizational tasks and between them and factors of production, i.e., labour, land, and capital as depicted in the classical economics, were asked. The nature and position of the 14 tasks are discussed in Phase 4.

Phase 4: Recognizing the Nature and Position of the 14 Tasks

By relating the 14 manager's tasks to the organizational tasks, it became clear that the tasks of the manager are different from the tasks of the organization although the manager is normally *responsible for the accomplishment* of the organization's tasks, and that the 14 manager's tasks are to create and maintain an organizational transformation system for the members (including the manager) of the organization to accomplish their organizational tasks collectively. This point is integrated into the concept of the *end-means chain* in Section 4.

Also, by relating the 14 manager's tasks to the factors of production, it became clear that, by setting and achieving these 14 tasks, managers acquire, transform, and align all the necessary "factors of production", including labour, land, capital, supplies, knowledge, interpersonal relationship, etc., to create and maintain the 14 *factors for organizational operation* (FOOs) which are the elements of an organizational transformation system by which the organizational tasks are accomplished. In other words, the 14 factors for organizational operation (FOOs) are the immediate tasks of the manager's actions. Managers take actions to formulate, to create, to preserve, or to change them directly in order to accomplish their organizational tasks indirectly.

Same terminology is used for the 14 manager's tasks and the 14 factors for organizational operation (FOOs) because they are referring to the same thing from different perspectives. From the organizational *system's* point of view, the elements of the system are to enable the operation of the organization. Thus, they were named the factors for organizational operation. From managers' *actions'* point of view, to create and maintain these elements are the purposes of their activities, or the task-content of their actions. Thus, they were named the manager's tasks. The 14 manager's tasks or factors for organizational operation are illustrated in Fig. 3-2 and the conceptual definitions of them are shown in Table 3-4.

Why? The transformation system shown in Fig. 3-2 is applicable to any organization. At the first sight, one might think that it is describing a production organization. Yes, it is applicable to any production unit ranging from a foreman's group to the whole factory. Owing to the overlaps of responsibility between levels, different managers are sometimes dealing with the same factors for organizational operation. Still, they manage within the range of these 14 factors. Yet, the transformation system is also applicable to other types of organizations. In the organizations of sales, marketing, finance, research and development, personnel, security, maintenance, etc., the 14 factors for organizational operation are likewise the range of elements of the transformation system necessary for the completion of their organization's tasks despite that each organization requires a special combination of these factors. Likewise, the 14 factors are the scope of managers' tasks in the organizations of self-employed, small firms, large corporations, and strategic networks despite that the levels of complexity in these factors are different for them. These points are developed into the concept of *distributed managing* in Section 4.

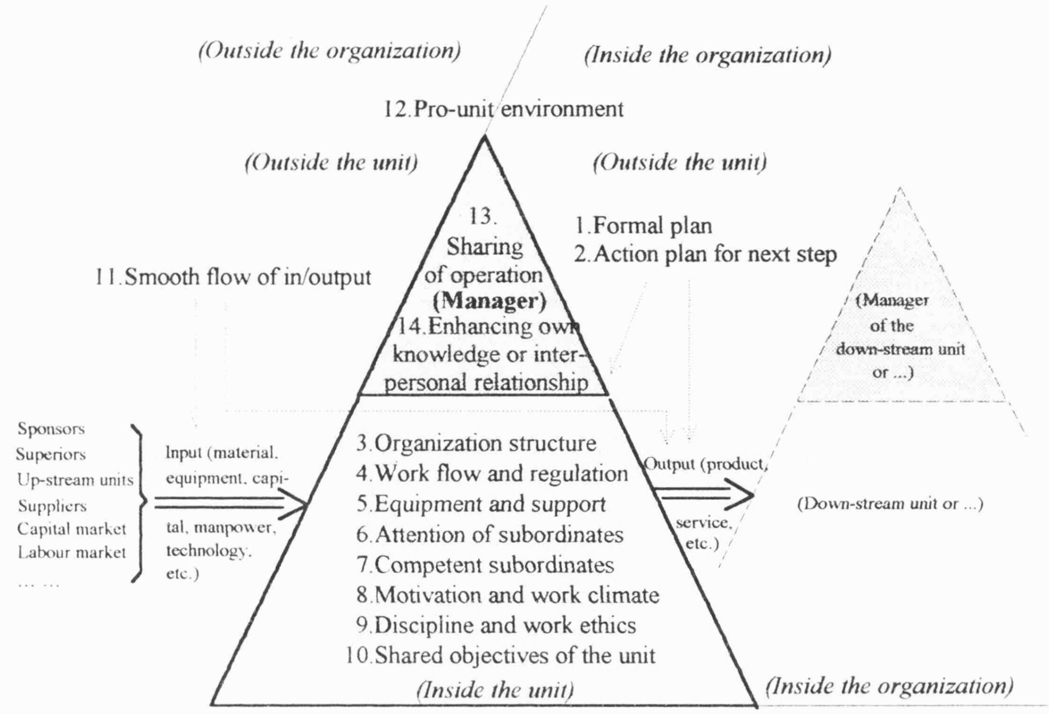


Fig. 3-2 The 14 manager's tasks or factors for organizational operation

Table 3-4. The 14 manager's tasks or factors for organizational operation

1. **Formal plan.** Formally announced written document of the intended results, methods, actions, etc. for the organization unit for a predetermined period of time. Its content generally covers what must be done to many other tasks or factors for organizational operation. It serves as a tool of internal co-ordination.
2. **Action plan for next step.** Informal, often unwritten plan of actions for the manager or the work unit for a short period of time. Its content covers fewer other tasks or factors for organizational operation. It serves as a tool for co-ordinating actions for specific issues.
3. **Organization structure.** The division and integration of organizational tasks.
4. **Work flow and regulation.** The procedures and rules to be followed in the operations of the work unit.
5. **Equipment and support.** The tools, machinery, and premises and the related support for keeping them usable.
6. **Attention of subordinates.** The concentration of subordinates' mind on certain issues that will prevent their operations from going wrong or will lead to success.
7. **Competent subordinates.** Subordinates with needed abilities and skills for the operation of the work unit.
8. **Motivation and work climate.** Motivation of the subordinates and work climate in the work unit, the psychological environment of operation.
9. **Discipline and work ethics.** Reward, punishment, and appeal to morality for keeping order in the work unit.
10. **Shared objectives of the unit.** The purposes of the organization unit or values shared by the members of the unit and related outsiders.
11. **Smooth flow of input and output.** Smooth inflow of materials, human resource, capital, etc. from and smooth outflow of product, service, etc. to other organizations or individuals.
12. **Pro-unit environment.** The general external environment allowing the operation of the work unit to proceed.
13. **Sharing of operation.** The manager's taking a share in the operational work of the organization unit.
14. **Enhancing own knowledge or interpersonal relationship.** The manager's self-development in personal ability or human relations in order to improve managerial performance or in order not to hinder the advancement of the work unit.

Section 3

THE AKT THEORY OF MANAGEMENT: THE CONCEPTUAL FRAMEWORK

The elements of the AKT theory of management: the contents and classifications of the manager's activities, knowledge, and tasks, have been established so far. By assembling these elements to the basic framework set in Chapter 2, the AKT theory of management is then theorized as shown in Fig. 3-3.

From the perspective of *all* managerial actions, the AKT theory describes the whole range of managers' actions that could be observed in the work place. Within the scopes of the 11 activities, 11 knowledges, and 14 tasks, there could be many combinations of activity (or activities), knowledge (or knowledges), and task (or tasks). Each combination represents an action. Managers' actions are single-purpose if they contain one single activity and one single task. Others are multi-purposes actions if they contain multiple activities or multiple tasks or both. *Multi-purposes actions can be seen as ingenious combinations of single-purpose actions. For convenience, managers' actions are assumed to be single-purpose in this thesis unless stated otherwise.*

From the perspective of *a* managerial action, the AKT theory describes that, in every action, managers perform or should perform one of the 11 *manager's activities* (MAs), in which they are or should be acting thinkingly with one or more of the 11 *manager's knowledges* (MKs), in order to contribute to one of the 14 *manager's tasks* (MTs) which change corresponding factors for organizational operation (FOOs) for the accomplishment of their organizational tasks. Examples of actions are *representing the unit* (MA1) for *shared objectives of the unit* (MT10) using *organization and management theory* (MK1), *collecting information* (MA4) for *formal plan* (MT1) using *marketing* (MK4), and *innovating and improving* (MA7) for *equipment and support* (MT5) using *financial management and accounting* (MK5) and *information management* (MK8).

Anh

A small portion of operational actions (*operating* (MA11) for *sharing of operation* (MT13)) are managerial and are subsumed in the AKT theory *of management*. Non-managerial ones are not subsumed. Performing managerial actions to create and maintain an organizational transformation system is acting in the manager-role; performing non-managerial operational actions in the operator-role. The operator-role could probably be ignored by middle- and senior-managers in large firms. However, for others, including managers in small firms or at lower levels, the self-employed, etc., these two roles are acted upon intermittently and alternately. Even for workers, students, parents, etc., these two roles are both necessary for better result. Thus, indicating the operator-role alongside the manager-role makes the AKT theory more ready-to-use for most people.

Actions of mismanagement are not subsumed in the AKT theory *of management,* either. These actions make the unit worse off in terms of being a transformation system. Managers might abuse their authority: they might perform the 11 activities in order to contribute to themselves instead of the 14 factors for

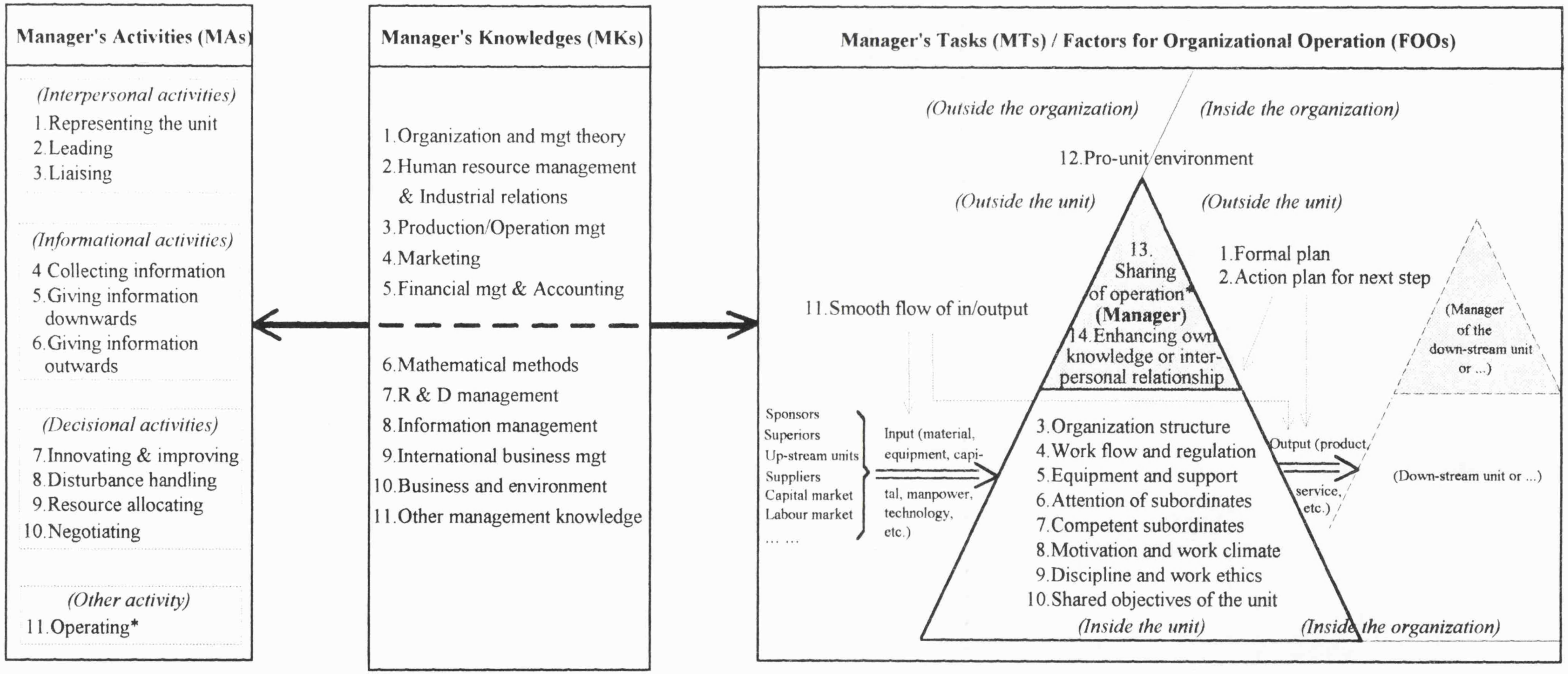


Fig. 3-3 The AKT theory of management

* *Non-managerial* operational actions (*operating* (MA11) for *sharing of operation* (MT13)) are not subsumed in this theory; neither are actions of mismanagement.

that part of knowledge to manager's activities or tasks can be observed. As a result, no definite, causal relationship can be established for them.

The Purposes of the AKT Theory of Management

The purposes of the AKT theory of management include to explain, to guide, and to partly explain and partly guide managers' actions for different managers with different levels of competence. Since the relationships between manager's activities, knowledges, and tasks in the AKT theory are normative ones, it is expected that managers' actions described or prescribed by the theory are the norms or desirable management practice. It is also expected that competent managers perform or will perform the actions described by the AKT theory and that less competent managers learn to perform managerial actions from them. Thus, the AKT theory is expected to be a description of management practice for managers who have learned management well, a prescription for those who have not learned anything about management, and a mixture of description and prescription for those who are between the two extremes. In other words, the AKT theory describes, or explains, what competent managers do or will do and prescribes, or guides, what other managers could do or should do. The size of this prescriptive dimension in the AKT theory varies according to the manager's managerial competence.

To complete the presentation of the AKT theory of management, the conditions and mechanisms of management in the theory are discussed in Section 5 after the discussion of the six organizational concepts.

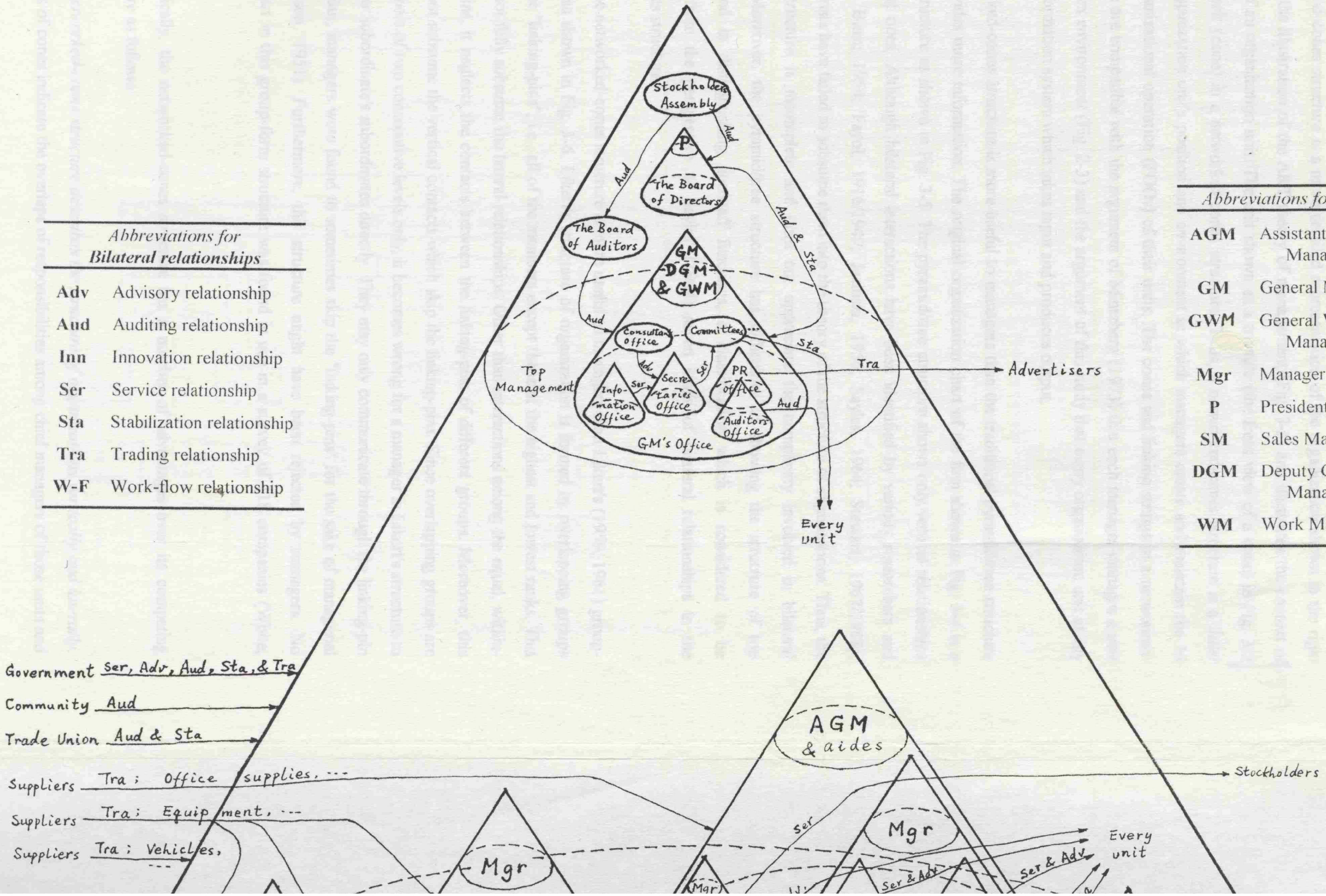
Section 4

SIX ORGANIZATIONAL CONCEPTS

Six organizational concepts which are coherent with the AKT theory of management have been developed. Together, they form a basic body of organization theory describing the context of management or prescribing it if it is not fully constructed. They are ***networked-cones structure, end-means chain, compatibility among FOOs, reflexivity in management, distributed managing,*** and ***momentum of organization***. In this section, each concept is introduced in sequence:

1. Networked-Cones Structure

A networked-cones structure describes the structure of an organization. This structure, as shown as an example in Fig. 3-4, contains *cones* representing organization units, a larger cone for a higher-level unit and a smaller cone within it for its subordinate unit, and *strings* linking cones and representing the bilateral relationships between units. As mentioned in Chapter 2, there are seven kinds of bilateral relationships: *work-flow, trading, service, advisory, auditing, stabilization,* and *innovation* relationship, between a pair of managers (Sayles, 1964). These relationships are also applicable to between a pair of groups of managers or between two units because it is the relationship between the tasks of two units which gives rise to the pattern of interaction between the manager(s) of different units.



Abbreviations for Bilateral relationships	
Adv	Advisory relationship
Aud	Auditing relationship
Inn	Innovation relationship
Ser	Service relationship
Sta	Stabilization relationship
Tra	Trading relationship
W-F	Work-flow relationship

Abbreviations for Titles	
AGM	Assistant General Manager
GM	General Manager
GWM	General Work Manager
Mgr	Manager
P	President
SM	Sales Manager
DGM	Deputy General Manager
WM	Work Manager

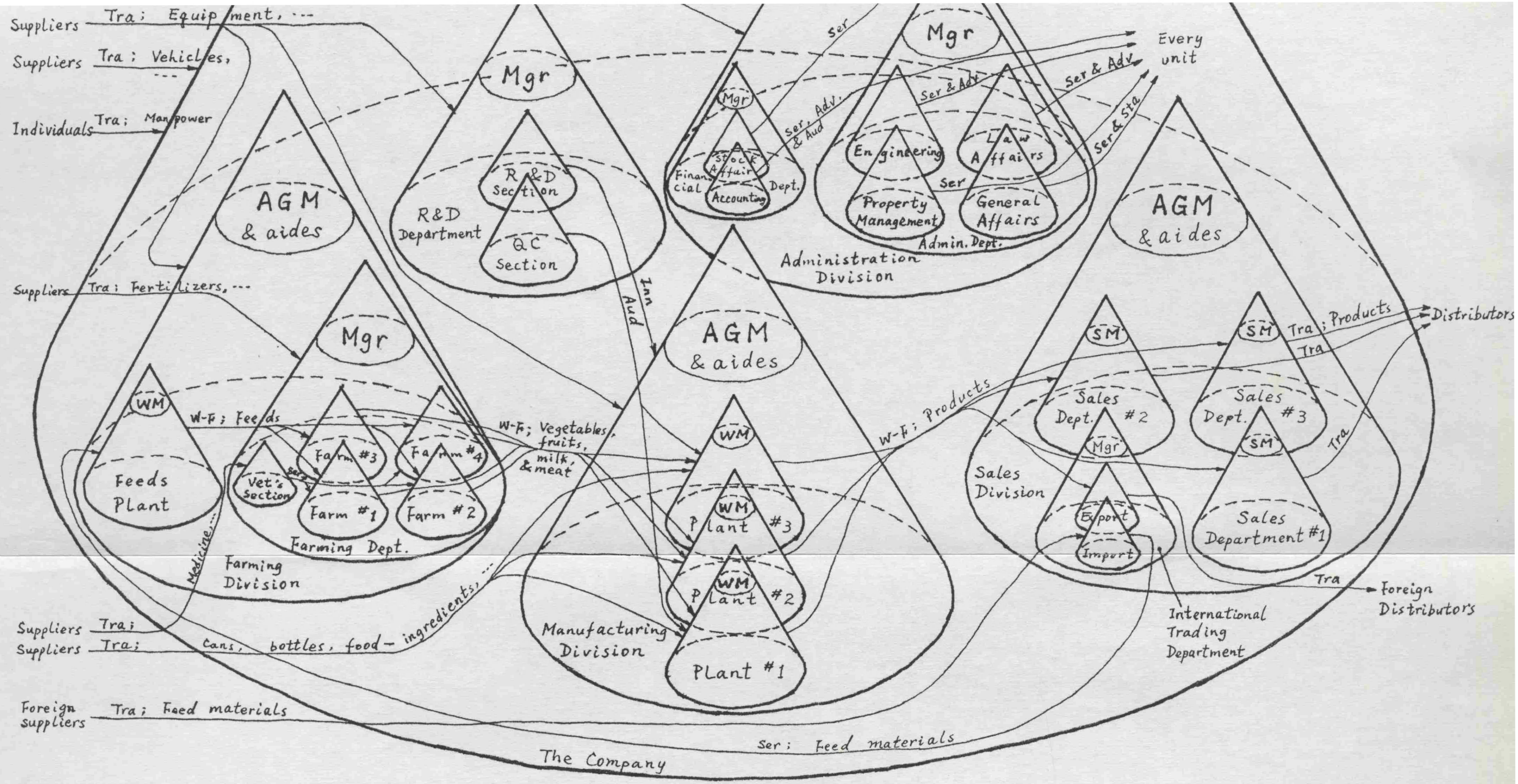


Fig. 3-4 The networked-cones structure of a food company in Taiwan (This researcher's adaptation)

A networked-cones structure is a more detailed representation of the organization shown in the right hand block of the illustration of the AKT theory of management (Fig. 3-3) and illustrates the context of management of an organization unit. The unit shown as a triangle (the front view of a cone) in Fig. 3-3 could be any unit (cone) in a networked-cones structure. Thus, a networked-cones structure is a fuller scene of an organization unit's position and environment in which managers create and maintain the 14 factors for organizational operation (FOOs) of their units. The cones and linking strings in a networked-cones structure are compatible with the argument of Mintzberg (1973) that each manager manages a unit within a complex environment (Fig. 2-3) and the argument of this study that every organization unit at any level is a transformation system which takes input and produces output.

The networked-cones structure is more useful to managers than the traditional pyramid/tree structure because it provides more information. The original organization chart of the firm shown in Fig. 3-4 is a pyramid/tree structure as shown in Fig. 3-5. The pyramid/tree structure shows only vertical relationships and no bilateral ones. Although bilateral interactions have been identified by various researchers and theorists (e.g., Burn, 1954; Fayol, 1916/1949; Jasinski, 1956; Sayles, 1964; Stewart, 1967/1988), traditional theorists have failed to subsume them into the theory of the structure of organizations. Thus, the pyramid/tree structure is incomplete and does not appreciate the complexity involved in bilateral relationships. Moreover, the pyramid/tree structure has difficulties in showing the structure of top management and in distinguishing line/staff functions, a classification which is considered to be oversimplified from the perspective of Sayles' (1964) seven kinds of bilateral relationships in the networked-cones structure.

Likewise, the networked-cones structure is more useful to managers than Likert's (1959, 1961) group-form structure as shown in Fig. 3-6. Likert's structure of organization is formed by overlapping groups connected by the "linking-pins", i.e., all of the members except those at the highest and lowest ranks. This structure does not fully subsume the lateral relationships. Other than interactions among the equal, within-group linking-pins, it neglects the contacts between the linking-pins of different groups. Moreover, this structure does not subsume the vertical contacts which skip the linking-pins. Since overlapping groups are formed by members of two consecutive levels only, it becomes wrong for a manager in Likert's structure to contact his or her subordinate's subordinates directly. They may only communicate through the linking-pin between them. But, managers were found to sometimes skip the "linking-pins" for the sake of managerial efficiency (Carlson, 1951). Furthermore, this structure might have been rejected by managers. No organization chart in this group-form structure was found in use in a survey of 118 companies (White, 1963).

More specifically, the networked-cones structure has a number of advantages over its competing theories. They are as follows.

Firstly, *the networked-cones structure describes the structure of organizations vertically and laterally.* Vertical overlaps of cones indicate the overlaps of responsibilities among chief managers of those units and

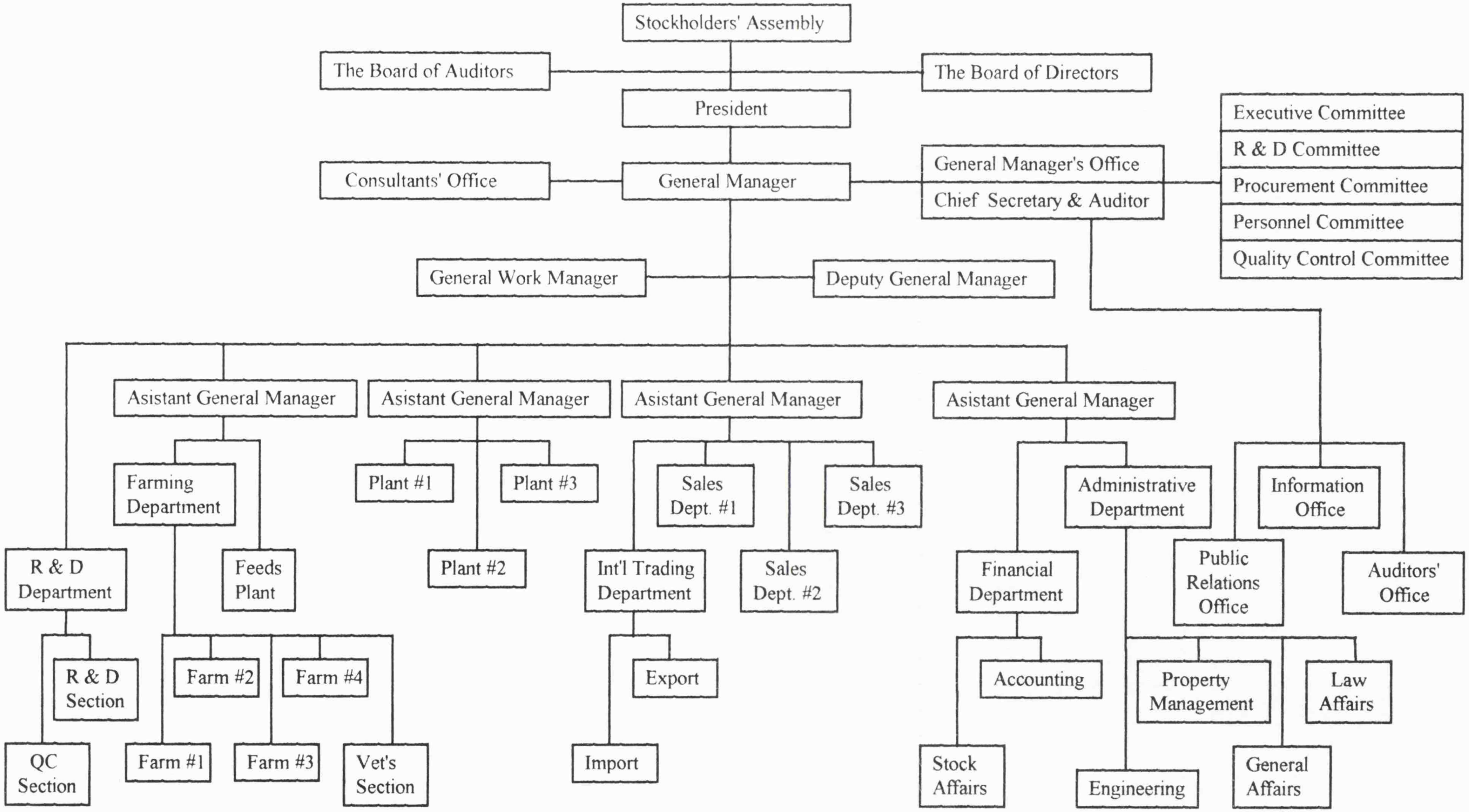


Fig. 3-5 The pyramid/tree structure of a food company in Taiwan (This researcher's translation)

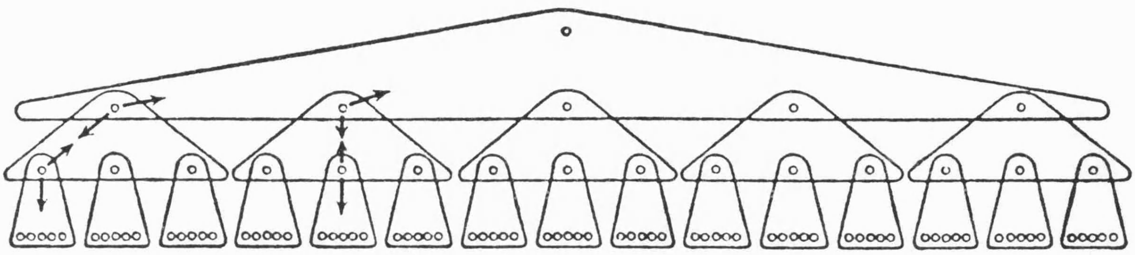


Fig. 3-6 Likert's (1959, 1961) group-form structure of organization and the "linking-pins"

represent the structure of authority, or legitimate power in Glueck's (1977) sense. The overlaps of responsibilities foster the cooperation among managers of different levels and the structure of authority lets the manager who is finally responsible for the result has the authority to make decision. Lateral relationships relate units to each other according to their relative organizational tasks. Thus, a networked-cones structure provides the basis of control mechanisms for the practice of distributed managing. This point is further discussed later in this section. In contrast, the competing theories focus on the structure of authority but ignore lateral relationships.

Secondly, *the networked-cones structure shows the structure of management.* The top of a cone is a smaller cone which represents the *management intervention point* (MIP), or the management organization, of the unit. Each unit in a networked-cones structure has a MIP (In Fig. 3-3, MIPs are shown as the shaded areas. In Fig. 3-4, MIPs of some lower-level units are not shown). Each MIP is headed by a manager. The word *manager* indicates a manager-role here although in most cases it is a title as well. In contrast, the competing theories do not recognize that managers of a MIP have a unique structure of organization.

Thirdly, *the networked-cones structure shows that a manager works for multiple units across levels.* In addition to their own units which they are responsible for, managers are members of their superiors' units as well. They sometimes participate in the management of higher-level units, perhaps by working in a project or attending the meeting of a committee. In that situation, managers are expected by their superiors to think broadly from the perspective of higher-level units and by their subordinates to think from the perspective of their own units. This might cause problem if conflict between expectations exists. To clear the differences, careful co-ordination is required. For this, the overlapping of responsibilities across levels is an important mechanism for the integration of all the members' efforts. More about this point is discussed in other organizational concepts, such as distributed managing, in this section. In contrast, the pyramid/tree structure shows that a manager works only for a unit at a level; the group-form structure shows that the linking-pin managers work for two groups.

Fourth, *the relative height of a cone represents the unit's relative extent of status difference.* A high cone represents a unit having large status difference. A lower cone represents a more egalitarian one. If a unit is comprised of members, including the leader, of equal status, the height of the cone reduces to zero. In that case, a circle represents such a unit. In contrast, the competing theories tend to show only the rank of status and not the extent of status difference.

Fifth, *the networked-cones structure is flexible for describing organizations and their environments.* All units of an organization are linked to form a networked-cones structure; in addition, many units are linked to other organizations as well. Each outside link belongs to at least one of the seven kinds of bilateral relationships. The tracing of such outside links will gradually find more organizations in a gradually larger networked-cones structure in which an organization is only part of it. This tracing of outside links has no limit until every organization in the world is found linked. In this way, a factory, a firm, a nation, or even the world can be shown as a networked-cones structure although it is more difficult to do so for a more complex organization. In contrast, the competing theories lack such flexibility because they do not describe external links.

Sixth, *the networked-cones structure shows a manager's managing and competing environments.* The content of a manager's environment needs to be re-considered under the networked-cones structure. The external environment of a manager's unit might include a very large part of the organization. The competing environment of a unit might consist of other divisions in the same company. Also, the competition is not confined to the output-end. Managers sometimes compete to procure resources, such as capital, premises, mining right, etc. Besides, there is the managing environment of a manager. In addition to the factors for organizational operation (FOOs) of the unit, the lateral relationships outside and inside the manager's unit are also important parts of a manager's managing environment. In contrast, the competing theories describe little about a manager's environments.

Finally, *the changes in a networked-cones structure show the fluidity of an organization and its environment.* The cones and strings in a networked-cones structure change from time to time. Changes of cones are mainly the establishment, growth, and abolishment of temporary units, such as projects, task forces, quality circles, etc. Changes of cones certainly lead to changes of strings. In addition, two situations lead to changes of strings as well. Firstly, competition and choice allow the switch of bilateral links to new partners. In other words, strings with the existing partners can be cut and new strings with new partners can be connected. Secondly, Sayles (1964) observed some undesirable changes in which some managers shifted their bilateral relationships from more difficult ones to less difficult ones, e.g., from service relationship to advisory relationship, from advisory relationship to auditing relationship, etc. In contrast, the competing theories show the fluidity of the organization's units only.

The disadvantage of the networked-cones structure is that it takes time and efforts to draw. But, managers will benefit from the time spent because a networked-cones structure could be used to organize a lot of information about the structure of organization, the structure of management, the managing and competing environments, and the fluidity of them.

2. End-means chain

The end-means chain shown in Fig. 3-7 describes the purposes chain of a managerial action. Mintzberg (1973) derives the ten roles from the purposes of 1,258 verbal and written contacts of five American chief executives. In addition to contacts (behaviours or activities) and roles, Hales (1986) suggests "to ask - or

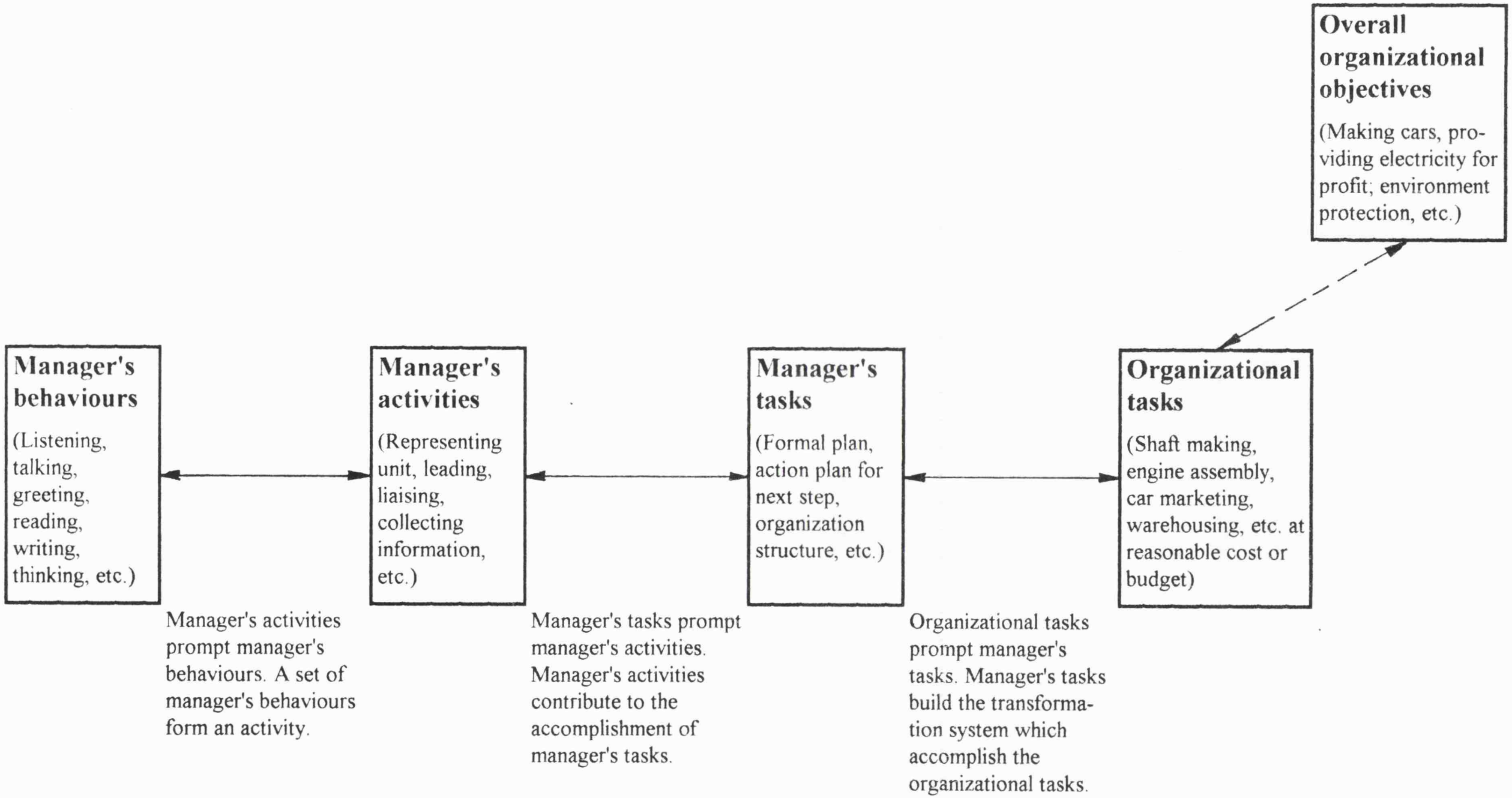


Fig. 3-7 The end-means chain of a managerial action

keep asking - the question: why *these* behaviours and activities?" in order to "address the influence of non-observable 'responsibilities' and 'functions' beneath the appearances of managerial behaviour" (p. 110). Yet, no classification of such responsibilities or functions has been reported. Similarly, Marples (1967) theorizes a chain of episodes, tasks, current problems, and background problems without specifying the contents of them. The end-means chain of a managerial action in this study is an attempt to fill the gap.

The end-means chain of a managerial action consists of four parts:

1. *The link between the manager's behaviours and activities.* This is a link on the behavioral side. The manager's behaviours include talking, listening, greeting, reading, writing, thinking, evaluating, etc. The manager's activities are the 11 activities shown in the AKT theory. When there is an activity to be performed, a manager performs a set of behaviours to form the activity.
2. *The link between the manager's activities and tasks.* This is a link connecting the behavioral and contextual sides. The manager's tasks are the 14 tasks shown in the AKT theory. When a task arises, an activity or a set of activities will be prompted and performed in order to accomplish the task. This link is the place where the AKT theory of management corresponds to explicitly.
3. *The link between the manager's tasks and organizational tasks.* This is a link on the contextual side. The organizational tasks of a unit could be formulated with three elements: the job-content, cost (or budget, profit), and time. In a changing environment, the tasks of a unit are accordingly changing although the job-content might remain unchanging. For example, the task of a unit might be *assembling engines at six percent less cost* at a time or *assembling engines with five percent less time* at another. The job-content of a unit ranges widely. It could be making shafts, assembling engines, educating pupils, marketing books, providing electricity, protecting environment, protecting consumers, etc. depending on the formulation or choice of the unit. When the organizational tasks of a unit are formulated, managers of the unit are expected to set and accomplish certain manager's tasks in order to create or change the factors for organizational operation (FOOs) of the unit for accomplishing the organizational tasks. This link and the above one are useful for connecting the manager's activities and the performance of the unit.
4. *The link(s) between the organizational tasks and the overall organizational objectives.* This is also a link on the contextual side. For chief executives, this link does not exist because their organizational tasks are the overall organizational objectives. For managers of a low-level unit, there might be more than two links to connect their organizational tasks to the overall organizational objectives. This part of end-means chain is not a new concept. It is discussed in the traditional literature showing the relationships of tasks between vertical units (e.g., Chen, 1981). What is new is that this link (or these links) could be identified easily through the networked-cones structure and that it connects vertically as well as horizontally in some cases.

The end-means chain of a managerial action is a chain of interactions capable of integrating all the managers' behaviours, activities, tasks, organizational tasks, and the overall organizational objectives in an organization. These interactions are partly described explicitly (the second link) and partly implied (the first, third, and fourth links) by the AKT theory. From the perspective of the overall organizational objectives, the end-means chain links them to the tasks of all units, through the networked-cones structure, and the tasks, activities, and behaviours of all managers in the organization. Any change in the overall organizational objectives will prompt changes in the organizational tasks and managers' tasks, activities, and behaviours. From the perspective of the manager's behaviour, it is implied by the end-means chain that any change in the behaviour of a manager must have an implication for his or her manager's activity, manager's task, organizational task, and overall organizational objective.

Equipped with the concepts of end-means chain and networked-cones structure, the AKT theory describes the position of management in organizations more clearly than process theories. The classicists insist that managers perform some management functions, such as planning, organizing, commanding, co-ordinating, and controlling, in order to accomplish their organizational tasks. However, there is no mechanism, like the end-means chain, showing why these functions are necessary. Also, the organization unit as the target of service for managers is not clearly specified in the process theory. Thus, the classicists refer all of the managers in an organization as a body of *management* and are unable to relate different managers' actions to each other. ??

3. Compatibility among Factors for Organizational Operation (FOOs)

The *compatibility among FOOs* is the extent of harmony among the 14 factors for organizational operation in an organization unit. Each unit of an organization is regarded, in the AKT theory, as a transformation system which consists of the 14 factors for organizational operation. For a system to work efficiently, the integration of its elements must be good. And the quality of this integration depends substantially on the compatibility among FOOs.

Conflicts reduce the capability of factors for organizational operation and, therefore, the capacity of the unit to accomplish its tasks. For example, an interfering electrical equipment reduces the precision of other electronic measurement instruments and had better be isolated in terms of place or time of use. Also, a polluting equipment might provoke attacks from the environment-minded community. Hence, to achieve the organizational tasks effectively, the compatibility among FOOs is as important as the quality and quantity of them. Therefore, managers must try hard to make the factors for organizational operation of their organization units compatible. And, from the perspective of a managerial action, that the compatibility among FOOs should be maintained or improved if possible is an issue to be kept in mind.

The compatibility among some factors for organizational operation (FOOs) has been implied in the management literature. Firstly, the notion of socio-technical system (Emery and Trist, 1960) demands that changes in the technical factors (e.g., *equipment and support* (FOO5)) must be done with the consideration of social factors (e.g., *competent subordinates* (FOO7)). Secondly, Chandler's (1962) theory of "structure follows strategy" shows that strategy (*formal plan* (FOO1) which covers addition of organization units for *smooth flow of input/output* (FOO11) or for additional markets) have to be supported by a compatible form of structure (FOO3). Thirdly, Woodward (1965) and Pugh (1973/1990) show that manufacturing organization structure depends on production technology. Fourth, Waterman (1982/1987) and Pascale and Athos(1981) argue that the McKinsey 7 S's must be aligned, or *fit* among and between them, or the company will eventually fail. Finally, the notion of configurations (Miller and Mintzberg, 1988; Mintzberg, 1989) demonstrates that the elements of an organization are actually selected and synthesized together to form a workable totality in a limited number of ways of configuration.

The compatibility between two factors for organizational operation (FOOs) or between two elements of a factor could be classified into three degrees:

1. *Conflicting*. Two factors or two elements of a factor are not compatible at all. Their combined functions are reduced. The mentioned example of an interfering electrical equipment to other instruments belongs to this category. Also, the outdated regulations are frequently conflicting with other factors.
2. *Harmonious*. Two factors or two elements of a factor could coexist peacefully or indifferently. Their functions are not significantly influenced by each other. Most of the factors in a well-run organization are in such a state.
3. *Enhancing*. Two factors or two elements of a factor are not only in harmony but also enhancing the functions each other or one to the other. The practice of quality circle which raises human competence (FOO7), improves work climate (FOO8), and improves manufacturing process (FOO4) or machinery (FOO5) is a good example. The combined farming of honey bees and fruits (both FOO5) and the mixed vegetation of beans and leafy vegetables (FOO4) are another ones.

The general compatibility among FOOs of the unit could be used as one of the indicators of the managers' efficiency in using resources and, thus, of the performance of the unit. Too many conflicting FOOs are surely a sign of poor management and, in contrast, many mutually enhancing FOOs would suggest high organizational performance by the ingenious manager(s).

4. Reflexivity in Management

The word *reflexivity* means the turning or bending back to the originated issue (theory, forecast, or policy) itself. The concept *reflexivity in management* refers to the phenomenon that, after the dissemination of management theory or forecast or the implementation of policy, the influenced people (subordinates, managers in the related units, competitors, etc., or the receivers) might react to take advantage for themselves and, then, their reactions will collectively determine the truth of the theory or forecast *or* the success or failure of the policy. If the receivers' reactions are consistent with those expected by a theory, forecast, or policy, i.e., the influenced people "follow" the theory, forecast, or policy, the theory, forecast, or policy is "self-fulfilling". For example, Chandler's (1962) "structure follows strategy" might be a self-fulfilling theory. In contrast, if the receivers' reactions falsify a theory or forecast or turn against a policy, the theory, forecast or policy is "self-frustrating" (Buck, 1963, p. 359). For example, a policy which is against most organizational members' interests is probably self-frustrating. Illustrations of self-frustrating and self-fulfilling theories are shown in Fig. 3-8. These illustrations could also be applied to forecasts or policies.

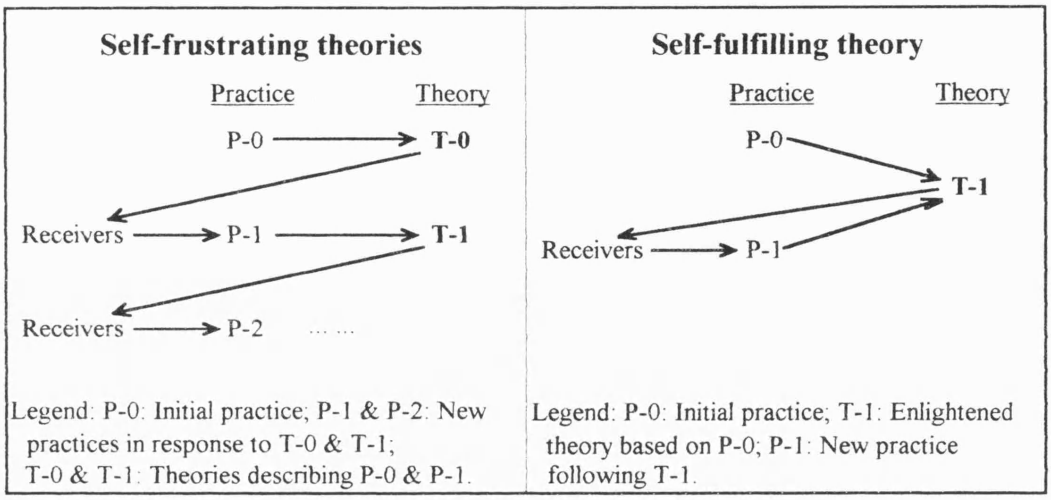


Fig. 3-8 Illustrations of self-frustrating and self-fulfilling theories

An organization unit is regarded, in the AKT theory, as a transformation system in which the contents of the 14 factors for organizational operation are changeable and outside which the environment is constantly changing. As *receivers* of others' changes, managers have to take reactive, opportunistic actions in order to exploit opportunities when they arise from changes in the environment. This opportunistic action is described by Mintzberg (1973) as turning "problems into opportunities" (p. 51) or turning "obligation to advantage" (p. 181) by shrewd managers and by Kotter (1982) as reacting "in an opportunistic (and highly efficient) way to the flow of events" (p. 91), especially by the better performers. These actions enable managers to improve the factors in their units in order to accomplish their organizational tasks more effectively. As *originators* of changes, managers have to take the possible future reactions of their subordinates, peers, competitors, etc. into account because their units are parts of other managers' environments and the changes in their units might produce opportunities for others but threats for themselves. Thus, managers have to think about the possible reactions from their managing environment as well as competing environment. For example, Wrapp (1967) argues why good managers avoid "policy straitjackets" (p. 95). He notes,

> A detailed spelling out of objectives may only complicate the task of reaching them. Specific, detailed statements give the opposition an opportunity to organize its defenses. (p. 95)

Because of reflexivity in management, thoughtless theories and forecasts soon become outdated or falsified and thoughtless policies soon need to be abolished or changed. However, to develop a self-fulfilling management theory, forecast, or policy is not easy. For a manager, Sayles' (1964) observational remark could be marshalled to show the influence of the reflexivity in an ever-changing world of management although he failed to note that a manager's unit is also a part of other managers' environments. He notes,

> The manager endeavours to introduce regularity in a world that will never allow him to achieve the ideal. That is the inherent challenge, the essential nature of managerial positions. The manager does not primarily seek to solve a problem once and for all or to achieve a single objective. Rather he endeavours to compensate and improvise, constantly to readjust his behavior, marginally, in response

to the ever-changing environment about him. While seeking stability, holding deviations to a minimum, he can approximate the ideal only by constant change. (p. 259)

Reflexivity in management is one of the reasons why managers are performing the following duties in order to survive and thrive:

1. *To establish and maintain a network of informers.* Studies have found that managers collect information (MA4) from many sources in their environment (e.g., Kotter, 1982; Mintzberg, 1973; Wrapp, 1967). As the receivers of others' theories, forecasts, or policies, managers need information about these issues and other changes in the environment in order to react in the best way. As the originators of policy and other changes, managers need information about the receivers' probable reactions to their changes.
2. *To keep superiors and peer managers well informed.* As the originators of changes, managers need to keep their superiors and peers informed about their plans and changes (MA6) in order to maintain co-ordination and to detect potential defect in the decision.
3. *To reach consensus of decision with subordinates or peer managers.* To avoid self-frustrating change, having consensus or "win-win" solution with the receivers of the change is helpful.
4. *To seek and apply the best theories.* As the originators of changes, managers could, with better theories, anticipate the receivers' reactions more easily and correctly.

Likewise, because of their need to face reflexivity in management, researchers have to follow the right methodological approach for studying management if they are to produce thoughtful theories or forecasts. Naturalism does not accommodate reflexivity and regards any phenomenon as fixed, unchangeable fact. This view is apparently not the case for management most of the time. Therefore, naturalism is not an adequate methodological approach for management study. Instead, reflexivism has to be followed. Reflexivism is developed from the critical theorist's claim that "social science is reflexive and natural science is not" (Rosenberg, 1988, p. 96) and is further discussed in Chapter 5.

In fact, some management theories, such as process theories, scientific management, Weber's (1924/1947) hierarchy, and Barnard's (1938) co-operative system, concentrate on the "rationality" and internal efficiency and do not fully take the reflexivity in management into account. Therefore, managers using these theories might boost the capacity of their organizations in wrong directions or improve short-term performance and create future disaster at the same time.

5. Distributed Managing

Distributed managing requires *that the responsibilities of achieving the organizational tasks be assumed by the chief managers of the units* and *that the tasks of creating and changing the 14 factors for organizational operation be undertaken and accomplished by suitable managers with time and expertise.* By regarding every unit of an organization as a transformation system and by using the 14 factors for organizational operation of a unit as the content of the manager's tasks, the AKT theory implies that, ideally, each unit, large or small, has its own managing co-ordinated by the overlappings and interlockings of responsibilities between units. In other words, it suggests that the managing of the organization be divided and undertaken by the managers of each unit. In this way, because of the overlapping and interlocking of management responsibilities between vertical and lateral units, the managers of related units can adapt the factors of their units quickly and adequately to their particular organizational and individual needs.

So, the motto of distributed managing is: local solutions for local problems, collective solutions for collective problems, and special solutions for special problems. The importance of the swiftness and adaptability of local solutions to local problems is indisputable. Besides, the findings of Lawrence and Lorsch (1967) can be marshalled to support the necessity of local solutions for local problems in a changing environment. They found that the more turbulent the environment or the technology, the greater the requirement for specialized departments. The differentiation of units demands specialization of expertise. In such a situation, superiors would find themselves unqualified to make decision for their subordinates and distributing managerial responsibilities and tasks to their subordinates becomes a must. However, if a problem has collective implication, the solution for it should be decided collectively in order to maintain compatibility among FOOs between units. The variety and complexity of the collective problems could be contemplated if Sayles' (1964) seven types of lateral relationships, in addition to vertical relationships, are taken into consideration. Special solutions are those formulated by the expertise provided by the lateral units or outside organizations.

When a need to change the factors for organizational operation arises, manager(s) of the unit must "decide" what to do and who to do it at what degree of involvement. This means the distribution of tasks to managers of different levels and from probably different units depending on their expertise and time available. The degrees of involvement, including, from low to high, *d*elegation, *a*uthorization, *s*upervision, and *h*andling personally (or DASH), represent the division of labour by managers of different levels and functions to a change task of factors. Thus, a managerial task can be described by a degree of involvement (DASH) and an element of the 14 factors for organizational operation. For examples, delegation of market survey to aides (D + FOO10), authorization to order a new machine (A + FOO5), supervision of equipment repairing (S + FOO5), handling personally the sectional schedule for next week (H + FOO2), etc. are managerial tasks for individual managers.

Organizations have different degrees about how distributed their managing are. The degree of the distribution of managing can be described by the relative sizes of the management intervention points (MIPs). At the lowest degree of distribution of managing (undistributed, or centralized, managing), the MIP of the top management is a large one and other MIPs are small and weak. The managers of these small MIPs are responsible for management within rules or without exception. At the highest degree, the sizes of MIPs are proportional to the demands of management by the corresponding units and managers are serving their units most efficiently.

The size of a MIP can vary from several thousand people as in the case of headquarters of some huge corporations to a part-time manager-role which is performed alternatively with an operator-role by a worker or a self-employed. In the former case, a group of managers share the responsibility and form the central leadership to the whole MIP and whole organization. They "together constitute the `President's Office' in the large American company, or the *Vorstand* (board of management) in the German company" (Drucker, 1993, p. 79). In the latter case, the units and the MIPs are frequently unrecognized officially possibly because they are trivial and changing. However, they are clearly existent in reality. When an employee is changing or trying to change the factors for organizational operation in his or her unit, he or she is acting as a manager rather than as an operator at the time. For example, a worker sits in a meeting of the Labour-Management Committee is performing his or her manager-role.

By arguing for distributed managing, it is implied that absolute centralization and absolute decentralization are not sustainable. In fact, the states of centralization or decentralization in effective organizations are distributed managing in different degrees. In history, centralization was frequently sought after. The top MIP was so huge and the rest were so small and weak that it alone could "control" everything under it. As a result, mismanagement and wastage of brain-power were common. The situation started to turn when Sears, Roebuck changed its structure from a tall one (with narrow span of control) to a flat one (with wide span of management) in the early 1900s. In flatter organizations, managers have to leave more managerial work to their subordinates (Carzo and Yanouzas, 1969). Thus, more managing started to be distributed to the employees at lower-levels.

Also, "decentralization" (actually, centralization of overall policy, finance, selection of managers, etc. to the top MIP *and* divisionalization of business units) was made in the 1920s when Alfred P. Sloan tried to *reduce* the power of General Motors' then newly acquired autonomous business units. Due to Sloan's success in General Motors and the success of Du Pont's divisionalization, many corporations have followed suit (Chandler, 1977). As a result, the MIPs at the top two levels become the major players of management in most large corporations. These "falling" of management responsibility have stimulated people to put management responsibilities to as low level and as many members as possible. The results are flatter organizations, more distributed managing, and even better performance (e.g., cases in Baird, Post, and Mahon, 1989, p.192 for Scandinavian Airline System, p.207 for Digital Equipment Corp., and p.217 for Asea Brown Boveri; in Drucker, 1993, p.99 for low-skilled work organizations).

The premise of distributed managing is enough personnel with management attitudes and ability to perform the required manager-roles. This is gradually becoming a reality in more advanced countries because of better education and management techniques although Gabarro (1985, 1987) notes that the unavailability of people for key positions had prevented some of his American managers from taking charge their new jobs. The severe shortage of management talent in the former Communist countries is said to make the change to market economy difficult (e.g., Drucker, 1992). This demand of management talent could be further demonstrated by the practice in General Electric. Handy et al. (1988) note,

> General Electric reduced its 400,000 staff by 100,000 over three years and saw its turnover increase as well as its profit. The 100,000 were not shop-floor workers but mostly staffers or, as it turned out, `extras'. Fewer levels of command and fewer specialist roles mean more responsibilities devoted to the

operational unit along with more joint problem-solving by cross-functional teams. This only works if the competence of those working at this level is increased and if there is a deliberate `upskilling' in the softer skills for all managers and workers. (p. 67)

Distributed managing is not a laissez-faire; rather it is integrated. The control mechanisms supporting the effectiveness of distributed managing are:

1. *The multi-level overlappings of management responsibilities.* These overlappings ensure coopration by managers from different levels and overlapped attention to the 14 factors for organizational operation because of common interests.
2. *The different degrees of involvement in a change task by managers of different levels and functions.* For example, two specialist managers handle a task personally; the chief manager of the unit supervises it; and the superior authorizes the important decisions about it. All these managers have stakes in the success of the task and, thus, their distributed managing are integrated.
3. *The interlocking bilateral relationships between units.* Since "decision making is not a discrete event; rather it is a *continuous* and *intricate process* of brokerage" (Sayles, 1964, p.27-8), the distributed managing of peer managers could then be integrated by the formulation of collective solutions.
4. *The distribution and integration of managers' tasks.* Part of the change tasks are undertaken by the chief manager of the unit for local solutions; some are distributed downwards for even more local solutions; some upwards for collective solutions; and some outwards for special solutions. But, the chief manager of the unit is still responsible for the co-ordination and completion of all these tasks.

These control mechanisms check and balance all managers' actions. Mistakes made sometimes by a manager will be discovered and corrected soon by others. In this sense, distributed managing offers good training ground for management talent as well. Because the efforts of all managers in an organization are integrated by these four control mechanisms, senior managers are able to manage their units, which are frequently large in size, by selectively performing limited amount of actions.

In comparison with distributed managing, decentralization and empowerment are traditional prescriptions having defects in their arguments. Their main concerns are putting decision power to the lower-level employees. However, their appeals are not well argued and not attractive to managers. The reasons are as follows:

1. In traditional power- or command-based organizations, managers have no incentive to give power and, since the power- or command-based organizations are transiting to knowledge- or responsibility-based ones, the formal authority has become less important in the running of organizations.
2. The most important power, expert power, is derived from knowledge and cannot be delegated.
3. The empowerment of lower-level employees is a radical revolution to the centralization. The other extreme to an extreme could not necessarily be better. And its logic is limited to "power" and "rank" rather than about "responsibility and contribution" (Drucker, 1993, p. 99).

4. The traditional accounts concentrate on the line organizations and ignore the "staff" organizations in which authority is generally built up over time rather than given by decentralization. Moreover, the authorities of the "staff" organizations have various forms if they are analyzed in the light of Sayles' (1964) seven types of lateral relationships.
5. The traditional accounts over-simplifies the degrees of involvement by managers in a task to two: delegation and handling personally. The two degrees in the middle: authorization and supervision, are not mentioned.
6. Decentralization (and centralization) represents both the *state* and *direction of change* about the distribution of authority and, thus, confusion sometimes happens. For example, decentralization (direction of change) made by A. P. Sloan in General Motors did not create decentralization (state) below the level of divisions.
7. Managers are allowed to exercise the organizational power to hire, to dismiss, to buy, to sell, to change rules, etc. frequently because they have good justification for the decision rather than because of their formal power. The reason is that any change of the factors for organizational operation might affect many units. Hence, a decision can only be made, in the milieu of distributed managing, if it is to produce common interests across levels and functions.

6. Momentum of Organization

Haire(1959) notes that "most organizations, properly started, will largely direct themselves except for periodic, crucial decisions" (p.303). This tendency of self-guidance in operations is termed in this study as the momentum of organization. In kinetics, the momentum is the product of the mass and velocity of a moving body and represents the body's strength to maintain its movement. In organization, the size can be compared to the mass and efficiency to velocity. Thus, the larger the size and the higher the efficiency, the greater the momentum of the organization.

Accumulation is the basis of momentum. The momentum of a unit accumulates as its 14 factors for organizational operation (FOOs) accumulate in terms of their quantity and quality (including the compatibility among FOOs and ingenuity in combining FOOs). Thus, maintenance of equipment (FOO5), skill training (FOO7), improvement of work flow (FOO4), etc. lead to greater momentum of an organization. On the contrary, personnel wastage (FOO7), damage of machinery (FOO5), skill obsolescence (FOO7), deterioration of morale (FOO8), depletion of natural resources (FOO11), etc. lead to smaller momentum of an organization.

The momentum of an organization has a direction because the organization has accumulated a special combination (or configuration) of the 14 factors for organizational operation (FOOs) over a period of time. Hence, some firms are good at mass-production; some at customerized production; some at specialized parts; some at technological innovation; some at mass-selling; some at public relations; and so on. Non-profit organizations have momentums in different directions, too. For examples, the Red Cross is good at rescuing the sufferers of war and natural disaster; the Amnesty International at protecting human right; and the Green Peace at protecting environment. Also, some charity organizations are good at serving the elderly; some army forces at defending coast; some police forces at preventing crime; and so on. The direction of momentum could be described by the input and output of the organization.

Because of the momentum of organization, changes in organization might be difficult, especially if change of direction is involved. To follow the classicist prescription that you plan, organize, and then lead the organization to do it might end up with frustration. There are frequently, if not always, oppositions to change. Shrewd managers know that they have to assess the situation and, more importantly, to wait until the "heat" is ready or opportunity available. Wrapp (1967) notes, "The good manager can function effectively only in an environment of continual change. ... Only with many changes in the works can the manager discover new combinations of opportunities and open up new corridors of comparative indifference." (p. 96) By *corridors of comparative indifference,* he means the proposals of change that the organization will tolerate. An episode described by Wrapp (1967) can be marshalled to illustrate the application of this seemingly passive, opportunistic action of management. He notes,

> ... when one of the division's best customers discovered that the wrong material had been used for a large lot of parts, the heat generated by this complaint made it possible to institute a completely new system of procedures for inspecting and testing raw materials. (p. 96)

However, this seemingly passive way of change can only be used to full extent by managers in effective organizations. Their organizations have been performing well and no change seems to be emergent. These managers have no pressure except their own vague plans of ideals. Therefore, they do not need to spend much energy to nurture the situation or the heat for change. They could simply wait and capture the opportunities and exploit the power of the situation.

In contrast, the managers of ineffective organizations cannot afford to wait for the opportunities to rise. They have to nurture the situation in order to implement changes as soon as possible. Or, even worse, they have to force the changes before their organizations will tolerate these changes. As a result, the changes are difficult and more management actions and energy are required to implement them successfully. Or if a change is unfortunately failed, a new change or changes are doomed to be emergent. More immediate management actions become necessary in the time that follows.

From the perspective of the *quality* of the 14 factors for organizational operation (FOOs), the momentum of organization is a critical mechanism for explaining why effective managers have fewer actions per day and yet achieve higher organizational performance. Effective managers build and maintain effective factors, frequently through opportunistic actions, to increase the momentum of their organizations and, therefore, their organizations have fewer problems in the day-to-day operations and are largely self-directed. Thus, they are not occupied with fire-fighting and have time for innovative, constructive changes in factors. Therefore, effective managers have fewer, longer daily actions. In contrast, ineffective managers have fewer opportunistic actions and mismanage frequently and, thus, reduce the momentum of their organizations. Their plans might have contradictions; structure, redundancies;

equipment, damages; manpower, rebellions; environment, hostility; etc. Gradually they fall deeper and deeper into the fire-fighting situation for remedial changes. As a result, they have more, shorter daily actions.

From the perspective of the *quantity* of the 14 factors for organizational operation (FOOs), the momentum of organization can be used to explain why lower-level managers have more, shorter daily actions and higher-level managers have fewer, longer ones. In organizations, the level means roughly the size of the organization unit. Thus, generally speaking, the higher the level of a manager, the larger the size and momentum of his or her organization unit. With a smaller momentum of organization, lower-level managers need to direct their units by changing inadequate factors in real-time manners. On the contrary, with a greater momentum of organization, higher-level managers need not to direct their units frequently and can be almost freed from the field of operational work. As a result, they have fewer, longer daily actions while lower-level managers have more, shorter ones. This proposition is based on the conditions of same degree of organizational effectiveness and of same degree of distribution of managing. Under distributed managing, lower-level managers are responsible for the result of their units and they are required to pass problems to their superiors only if they are not allowed to decide on their own or if the problem needs collective solution. Thus, lower-level managers act as shields for their superiors to local problems and leave higher-level managers time for collective, complex, or risky problems.

The concept of the momentum of organization subsumes Sayles' (1964) "entropy and change" (p. 202). He notes that managers have to introduce well-directed *change*, or the *entropy*, i.e., lack of order and randomness, will distort the work patterns. "These include the tendency for employees to seek easier ways, to shift responsibility, and for outsiders to gain unreasonable concessions, to impose their controls and their values." (p. 203). In fact, the momentum of organization is the target of both entropy and change: entropy decreases the momentum; change increases it. Thus, the concept of momentum of organization is more parsimonious and subsumptive. In addition, it is more directly to the point in terms of management practice since the momentum of the time is relevant to the present performance of and future changes in the organization. Whereas, the concepts of entropy and change lack such properties.

Section 5

THE CONDITIONS AND MECHANISMS OF MANAGEMENT IN THE AKT THEORY

The *elements* of management and their *relationships* in the AKT theory of management are discussed in Section 3. Now, to complete the presentation of the theory, the *conditions* and *mechanisms* of management in it are discussed in this section.

The Conditions of Management in the AKT Theory

As mentioned in Chapter 1, the conditions of management in a theory of management could include the context, boundaries, premises, assumptions, and postulate of or about management. So, the conditions of management described in the AKT theory are discussed according to these elements of conditions:

The context of management in the AKT theory. The context of management in the AKT theory is described or prescribed by the six organizational concepts: the networked-cones structure, end-means chain, compatibility among FOOs, reflexivity in management, distributed managing, and momentum of organization. Specifically, any unit, large or small, in the networked-cones structure is regarded as a transformation system in which compatibility among FOOs is essential to its functioning. The management of any organization or its sub-unit which is functioning as a transformation system is subject to the application of the AKT theory. The total picture of managing in all of the units of an organization is integrated by distributed managing. Any change in a unit is a change of environment for the managers of other units and, therefore, managers have to take reflexivity in management into account if they are to initiate changes. The extended networked-cones structure, which encompasses outside organizations, portrays the wider context of management, including the managing and competing environments. The contextual side of end-means chain connects the local context to the wider context from the individual manager's perspective.

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The environment of management in such a context is a changing one; but, the pace and scale of change is checked by the momentums of organizations in the environment. The environment has been described by Sayles (1964) as "ever-changing" (p. 259) and by Drucker (1980) as turbulent. However, the change of environment is seldom drastic in a short period of time. Huge improvement or accumulation of the 14 factors for organizational operation (FOOs) could not happen over night. Only destruction of them could, as in accidents or grave disturbances. In other words, change of the environment is checked by the capacity to change which is influenced by the momentums of organizations in the environment. Thus, the environment of management is, most of the time, an incrementally ever-changing environment.

The boundaries of management in the AKT theory. Management described in the AKT theory is limited to normative, intentional managerial actions (not including happenings to managers, non-managerial operational actions, and actions of mismanagement) which are performed in manager-role (not in operator-role or non-work roles). The convention of the philosophy of action distinguishes actions from happenings. A mere happening is what happens to people. For example, falling ill, losing a job, falling over, coming across a friend, etc. are happenings. In contrast, an action is what people do with the intention to influence the course of the events. For example, reading, working, marrying, voting, bidding, etc. are actions (see Moya, 1990). Managers may come across colleagues without doing anything intentionally. Such and other happenings are not subsumed in the AKT theory. Also, actions of mismanagement which make the units worse off are not subsumed in the AKT theory because some of the six organizational concepts, e.g., end-means chain, are violated. Hence, actions of mismanagement are neither normative nor managerial.

Similarly, non-managerial operational actions are not subsumed in the AKT theory because the acting of operator-role does not improve the unit as a transformation system.

The premises of the normative, intentional relationships among the elements of management in the AKT theory. The argument that managerial actions are normative and intentional is mainly based on Moya's (1990) argument that human actions are normative and intentional and on the fact that managers are human. Although Moya's philosophical analysis of the argument is convincing, direct empirical test of the argument, using managers as subject, is still necessary for erasing this premise in the AKT theory.

The assumption about managers' actions in the AKT theory. Multi-purposes actions are regarded as ingenious combinations of single-purpose actions. For convenience, managers' actions are assumed to be single-purpose in the discussion of the AKT theory unless stated otherwise.

The postulate about the manager's tasks, or the elements of an organization unit as a system, in the AKT theory. In the discussion of the concept of compatibility among FOOs, it is stated that conflicts between or among factors for organizational operation (FOOs) reduce the capacity of a transformation system. Although this statement is self-evident, empirical evidence is welcomed for erasing this postulate in the AKT theory.

The Mechanism of Management in the AKT Theory

The underlying mechanism of management in the AKT theory is *the managers* of an organization unit. No acting manager is no management. By *managers*, it means manager-roles performed by variously talented organizational members for creating and changing the factors for organizational operation (FOOs) in their units in order to get better results from operational work. These managers, whether titled as manager or not, perform managerial actions and make management happen.

Managers are reflective agents of managerial actions. By *agents*, it regards managers "as being able to initiate changes, independently of the world's previous history" (Moya, 1990, p. 3). The opposite of agents are mere objects which are just subjecting to happenings of events passively. In other words, managers, in performing managerial actions, are able to reflect on their organizational tasks and plans of accomplishment, form intention to act in the future, and commit themselves to follow their plans correctly.

People are motivated to act in manager-role by the expected results of better-managed work system which satisfies human needs better. For examples, entrepreneur-managers are motivated by the expected economic gains from their new enterprises inspired by ingenious new plans, new technology, new uses of materials, etc. The hired managers are motivated by the expected higher pay and more perks resulted from better performance of their units. The self-employed and workers are motivated to perform manager-role by expected better work conditions, easier work methods, and higher income. Hence, there are managers whenever there are requirements for better work systems to satisfy human needs. Because the elements of work systems are perishable and human needs have no limit, the requirements for better work systems will sustain. So do the existence of managers.

When managers act, they produce the phenomena of management, including the elements of managers' actions (the 11 activities, 11 knowledges, and 14 tasks) and the normative, intentional relationships between and among them. Also, because of managers' actions in the networked-cones structure, managerial behaviours and activities are performed; organizational transformation systems established; organizational tasks achieved; and overall organizational objectives accomplished. This is a chain of interactions represented by the end-means chain. All of the managers' end-means chains in an organization are integrated by the practice of distributed managing in a networked-cones structure. Yet, these end-means chains, the networked-cones structure, and the practice of distributed managing are devised through managers' actions. Thus, management, including changes to the internal and external environments and managing in the existing environments, relies on the actions of managers.

Chapter 4

THESIS, ARGUMENTS, HYPOTHESES, AND DISCUSSION PROBLEMS

As described in Chapter 3, the conceptual framework of the study, or the AKT theory of management, has been constructed. Like any new theory, the AKT theory argues differently from its predecessors. Also, like any theory, the AKT theory needs to be tested or examined in order to further evaluate its empirical relevance. To test the AKT theory empirically, the thesis of this study needs to be clarified; the arguments of this study and those of the competing theories deduced and compared; testable hypotheses and non-testable discussion problems formulated.

In this chapter, the thesis of this study is described in Section 1; the arguments, including those of this study and the competing ones, about the nature of the elements of the AKT theory are described in Section 2; the arguments about "determinants" of the manager's activities in Section 3; the arguments about the necessity of a set of separate manager's tasks in Section 4; the arguments about the necessity of a set of separate manager's knowledges in Section 5; the arguments about a suitable theory of the structure of organizations in Section 6; the arguments about the characteristics of decision making in Section 7; the arguments about the characteristics of planning in Section 8; and the arguments about the brevity, variety, and fragmentation of managers' actions in Section 9. The hypotheses and discussion problems formulated from these arguments for empirical test and examination are described in the corresponding sections respectively.

The arguments, hypotheses, and discussion problems described in Section 2, 3, 4, 5, & 6 are for evaluating whether the AKT theory can be established or not and are empirically tested or examined in Chapter 6. Those described in Section 7, 8, & 9 are for evaluating the relevance of the AKT theory to the description of the characteristics of management practice and are empirically tested or examined in Chapter 7.

Section 1

THESIS OF THIS STUDY

The thesis of this study is that the AKT theory of management is an adequate theory for describing and prescribing the practice of management for different managers. The AKT theory argues that, in every action, managers perform or should perform one of the 11 *manager's activities* (MAs), in which they are or should be acting thinkingly with one or more of the 11 *manager's knowledges* (MKs), in order to contribute to one of the 14 *manager's tasks* (MTs) which change the corresponding factors for organizational operation (FOOs) for the accomplishment of their organizational tasks. The AKT theory is a description of management practice for those managers who have learned management well, a guidance for those who have not, and a mixture of description and guidance for those who are between the two extremes.

Specifically, the 11 manager's activities (MAs) are:

MA1: Representing the work unit,

MA2: Leading,

MA3: Liaising,

MA4: Collecting information,

MA5: Giving information downwards,

MA6: Giving information outwards,

MA7: Innovating and improving,

MA8: Disturbance handling,

MA9: Resource allocating,

MA10: Negotiating,

MA11: Operating.

The 11 manager's knowledges (MKs) are:

MK1: Organization and management theory,

MK2: Human resource management and Industrial relations,

MK3: Production/Operation management,

MK4: Marketing,

MK5: Financial management and Accounting,

MK6: Mathematical methods,

MK7: Research and development management,

MK8: Information management,

MK9: International business management,

MK10: Business and environment,

MK11: Other management knowledge.

Finally, the 14 manager's tasks (MTs) (from managers' actions' point of view) which are to contribute to the corresponding 14 factors for organizational operation (FOOs) (from the work system's point of view) are:

MT1/FOO1: Formal plan,

MT2/FOO2: Action plan for next step,

MT3/FOO3: Organization structure,

MT4/FOO4: Work flow and regulation,

MT5/FOO5: Equipment and support,

MT6/FOO6: Attention of subordinates,

MT7/FOO7: Competent subordinates,

MT8/FOO8: Motivation and work climate,

MT9/FOO9: Discipline and work ethics,

MT10/FOO10: Shared objectives of the unit,

MT11/FOO11: Smooth flow of input or output or both,

MT12/FOO12: Pro-unit environment,

MT13/FOO13: Sharing of operation,

MT14/FOO14: Enhancing own knowledge or interpersonal relationship.

The managerial tasks listed above are described in generic content categories in terms of the targeted factors for organizational operation (FOOs) by managers' actions. They are not specific in terms of the degree of a manager's involvement in the task and in terms of whether a task is to build, to maintain, or to improve the corresponding factor. Further studies of managers' tasks are suggested in Chapter 10.

Moreover, by declaring that the AKT theory is adequate in the thesis implies a need to show the inadequacy of the pre-existing theories of management and the adequacy of the AKT theory. Specifically, this part of thesis can be expressed in a particular form of retroduction process which is paraphrased from the second note in Chapter 2 to suit this stage of theory development of the AKT theory:

1. Some findings about management practice are inexplicable by the classicists' process theories or Mintzberg's (1973) ten roles theory (see Chapter 2).
2. But, these and other related findings are explicable if theory-to-be *the AKT theory* is true (see Chapter 3).
3. Therefore, there is a reason to suggest that the AKT theory *may be* true and to subject it to further evaluation (from this chapter onward until the AKT theory is shown to be false or inadequate by further studies, if it should happen).

The third statement requires the truth or the adequacy of the AKT theory to be further evaluated. The arguments, hypotheses, and discussion problems described in the following sections are to prepare the AKT theory - and its competing theories - for further evaluation.

Furthermore, by declaring that the AKT theory is for describing and prescribing the practice of management for different managers in the thesis implies a need to justify the prescriptive dimension in the theory. This point is analyzed empirically in the Section 6 of Chapter 6.

Section 2

ARGUMENTS ABOUT THE NATURE OF THE ELEMENTS OF THE AKT THEORY OF MANAGEMENT

The elements of the AKT theory include the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks. In this section, the arguments about whether they are common work contents (in the sense of variables used in natural sciences) or scopes (ranges of actions) are deduced from Mintzberg's (1973) ten roles theory and the AKT theory and compared; the discussion problems for solving the difference are formulated.

Arguments About the Nature of the 11 Manager's Activities

Mintzberg (1973) treats his ten roles as *the* content of work *common* to all managers. He notes that the "ten roles are performed by all managers" (p. 56). He marshalled empirical evidence to show that "presidents of small firms and middle managers in business and government perform these ten roles" (p.56). Therefore, the "ten roles are common to the work of all managers" (p. 55), empirically as well as logically. Since the first ten manager's activities (from *representing unit* (MA1) to *negotiating* (MA10)) of this study are adapted from the ten roles, Mintzberg's argument can be paraphrased as follows: All managers perform the first ten manager's activities and these ten manager's activities are the common work content of all managers.

Unlike Mintzberg, this study argues that the 11 manager's activities are a *scope* of managerial activity; the first ten manager's activities are not necessarily the *common* work content of all managers. Firstly, since manager's activities are learned ones, some managers might not have learned or even know all of these manager's activities. Furthermore, a level down, any one of the 11 manager's activities form a sub-scope of managers' behaviours because there are many behaviours for managers to learn and perform. Secondly, since there is no evidence of the causality of all three interpersonal manager's activities leading to all three informational manager's activities and then to all four decisional manager's activities as argued by Mintzberg (1973), managers seem free to perform any of the 11 manager's activities as it is required of their managerial tasks in their jobs. They do not have to learn and perform the first six manager's activities before performing others. Finally, a few managers might have no need to perform all of the first ten manager's activities because they have no subordinate. Therefore, that all managers perform all of the first ten manager's activities seems an unnecessary and wrong argument. Instead, that managers as a whole perform all of the 11 manager's activities is a suitable one. In other words, the 11 manager's activities are a scope of managers' activities and the performance of the first ten manager's activities are not the necessary requirements of management practice.

Argument About the Nature of the 11 Manager's Knowledges

This study argues that the 11 manager's knowledges form a scope of managerial knowledge. They represent a range of human management knowledge available to each manager. Ideally, managers are expected to learn as much management knowledge as possible. But, actually, managers are generally functional specialists and see problems through their specialities (Dearborn and Simon, 1958). Therefore, managers need to work together or to hire experts in order to exploit as much knowledge as possible for their common or particular problems. That is to say that the 11 manager's knowledges are a range of management knowledge that managers as a whole are expected to use.

Arguments About the Nature of the 14 Manager's Tasks

This study argues that the 14 manager's tasks form a scope of managerial tasks; it is unnecessary for all managers to contribute to all of the 14 manager's tasks. Ideally, all of the 14 manager's tasks must be dealt with in any organization unit since all of the 14 corresponding factors for organizational operation (FOOs) are what can be changed in order to improve the performance of the unit. Thus, in one-unit-one-manager situation, the manager might have contributed to all of the 14 manager's tasks. However, in one-unit-two-or-more-managers situation, division of labour among managers makes it unnecessary for a manager to contribute to all of the 14 manager's tasks.

Discussion Problems

To solve the difference in the above arguments, i.e., to decide which of them are true or adequate and which of them are false or inadequate, the following discussion problems are formulated for empirical examination:

DP1 (Discussion Problem No. 1): Do all managers perform all of the first ten manager's activities?

DP2 (Discussion Problem No. 2): Is it necessary for every manager to perform all of the 11 manager's activities, to use all of the 11 manager's knowledges, and to contribute to all of the 14 manager's tasks?

Section 3

ARGUMENTS ABOUT THE "DETERMINANTS" OF THE MANAGER'S ACTIVITIES

In this section, the arguments about whether the manager's activities are determined by the manager's function, level, company, and industry or they are prompted by the manager's tasks are deduced from Mintzberg's (1973) ten roles theory and the AKT theory and compared; the hypotheses for solving the differences are formulated.

Arguments

Discussion about the "determinants" of the manager's activities was started when Campbell et al. (1970) noted:

> It is difficult to describe *any* job and discover what it calls for in employee behavior, but unusually so for managerial jobs because they change so much from one setting to another. First, they are subject to time-determined changes; the things an executive does when preparing an annual budget differ from those he does when conducting labor contract negotiations. Second, there are person-determined changes; managers are typically given broad administrative assignments, but they are allowed great latitude in the means they use to accomplish them. Finally, managerial jobs are often subject to situation-determined changes; they may differ according to organizational level and function (for example, sales management versus research management), or they may differ from company to company, region to region, country to country, etc. (p.71)

Mintzberg (1973) argues in a similar vein although in different terminology and groupings of the "determinants". He notes:

> ...the work of a particular manager at a particular point in time is determined by the influence that four "nested" sets of variables have on the basic role requirements... First, and most broadly, the manager's job is influenced by the organization, its industry, and other factors in the *environment*. Second, there are work variations caused by the job itself--its *level* in the organization and the *function* it oversees (such as marketing or production). Third, there are variations within a given job stemming from the *person* in that job--the effects of his personality and style. Finally, there are variations within a particular individual's job caused by the *situation* (seasonal variations or temporary threats, for example). (p.102)

The argument of Mintzberg (1973) or of Campbell et al. (1970), the competing argument of this study, can be paraphrased, in the terminology of this study, as that the manager's function, level, company, industry, etc. determine the manager's activities. It must be admitted that the above sentence does not represent completely the argument of Mintzberg (1973) because he did not define operationally his roles and the term *manager's activity* is slightly different from his ten roles as explained in Chapter 3 or the argument of Campbell et al. (1970) because they use vague terms of jobs and behaviour. It is difficult to describe the earlier thought in new terminology if the former is not as specific as the latter. However, effort has been exercised to incorporate the essence of their argument into the sentence for the purpose of statistical test.

In contrast, this study argues firstly that the manager's tasks differ across functions, levels, companies and industries. Apparently, the 14 manager's tasks were not in the minds of former management theorists for they still had "confusion between managerial work, which is used as a synonym for 'the job', managerial behaviour, and perceptions of the job" (Stewart, 1982, p.94). However, they are roughly in managers' minds and are different in content for managers of different functions, levels, companies, and industries, i.e., the "determinants" of manager's activities proposed by Campbell et al. (1970) or by Mintzberg (1973). Conceptually, since the manager's tasks are to build or change the factors for organizational operation (FOOs) and since units in different functions, levels, companies, and industries tend to have different combinations of the factors for organizational operation (FOOs), the manager's tasks differ across functions, levels, companies, and industries.

This study also argues that the manager's tasks *prompt* the manager's activities. The word *determine* or *cause* is not used here because of the human capacity of reflection and the "normative character" of human actions (Moya, 1990, p.168). In other words, managers will not act simply because there are desires, urges, plans, rules, aims, ideals, etc. They act only if, after their reflection upon plans, aims, etc., there are good reasons for forming intentions or commitment to act and if by acting on those intentions they maintain their rationality and integrity of being a manager. Thus, the variables of function, level, company, and industry, etc. cannot *determine* a manager's activities because they provide no specific immediate reason for a manager to form intention in order to prompt activities. From this perspective, the competing argument that function, etc. determine the manager's activities is wrong and messy. It is wrong because the manager's activities cannot be determined as mentioned above. It is messy because function, etc. are not immediate reasons to prompt the manager's activities. Function, etc. are referring to an organization unit whose task a manager or a group of managers are dedicated to accomplish. Managers accomplish their organization tasks by setting and accomplishing their managerial tasks to take care of the factors for organizational operation (FOOs) of their units. The manager's activities are performed to contribute to the manager's tasks. This study argues, therefore, that the manager's tasks prompt the manager's activities.

By the arguments of this study, the manager's tasks are positioned between the manager's function, level, company, industry, etc. and the manager's activities. Hence, two tiers of new associations are created: a set of classification relationships between function, level, company, industry, etc. and the manager's tasks, represented by the first argument, *and* a direct relationship between the manager's tasks and the manager's activities, represented by the second argument. The argument that function, level, company, industry, etc. determine the manager's activities is then regarded as conceptually inadequate because of the neglect of the manager's tasks. While the manager's activities might differ across function, level, company, and industry, the magnitudes of these statistical associations are likely to be lower than those between function, level, company, and industry and the manager's tasks according to the arguments of this study.

Why?

The selection of the variables of function, level, company, and industry in this study is a matter of research design and personal judgement. Firstly, the sample size has to be very large if other variables such as sector, region, country, etc. are selected. However, it would be inappropriate to do so for an experimental study whose main interest is to test the relationship between the manager's tasks and the manager's activities in order to establish or reject a new line of thought in management theorizing and research. Secondly, the exclusion of the variable of person is because personality and style influence the way, not the kind, of the manager's activities performed and when specialization of certain managerial activities do occur, supplementary managers are always required to perform the remaining managerial activities. Therefore, it is really an issue of division of labour among managers. Finally, the exclusion of the variable of time is because time (Campbell et al., 1970), or situation (Mintzberg, 1973), is difficult to define operationally in managers' jobs - managers tend to have different cyclical patterns of tasks which account for only a small portion of their work.

Hypothesis

To solve the differences in the above arguments, the following hypotheses are formulated for empirical tests:

A. From the arguments of this study, five hypotheses are formulated:

Ho1 (Null Hypothesis No. 1): The 14 manager's tasks and the 11 manager's activities are independent.
Ha1 (Alternative Hypothesis No. 1): The 14 manager's tasks and the 11 manager's activities are associated.

Ho2 (Null Hypothesis No. 2): Function and the 14 manager's tasks are independent.
Ha2 (Alternative Hypothesis No. 2): Function and the 14 manager's tasks are associated.

Ho3 (Null Hypothesis No. 3): Level and the 14 manager's tasks are independent.
Ha3 (Alternative Hypothesis No. 3): Level and the 14 manager's tasks are associated.

Ho4 (Null Hypothesis No. 4): Company and the 14 manager's tasks are independent.
Ha4 (Alternative Hypothesis No. 4): Company and the 14 manager's tasks are associated.

Ho5 (Null Hypothesis No. 5): Industry and the 14 manager's tasks are independent.
Ha5 (Alternative Hypothesis No. 5): Industry and the 14 manager's tasks are associated.

B. From the competing arguments, four hypotheses are formulated:

Ho6 (Null Hypothesis No. 6): Function and the 11 manager's activities are independent.
Ha6 (Alternative Hypothesis No. 6): Function and the 11 manager's activities are associated.

Ho7 (Null Hypothesis No. 7): Level and the 11 manager's activities are independent.
Ha7 (Alternative Hypothesis No. 7): Level and the 11 manager's activities are associated.

Ho8 (Null Hypothesis No. 8): Company and the 11 manager's activities are independent.
Ha8 (Alternative Hypothesis No. 8): Company and the 11 manager's activities are associated.

Ho9 (Null Hypothesis No. 9): Industry and the 11 manager's activities are independent.
Ha9 (Alternative Hypothesis No. 9): Industry and the 11 manager's activities are associated.

Section 4

ARGUMENTS ABOUT THE NECESSITY OF A SET OF SEPARATE MANAGER'S TASKS

In this section, the arguments about whether it is necessary to separate a set of manager's tasks from the manager's activities or not are deduced from the classicists' process theories, Mintzberg's (1973) ten roles theory, and the AKT theory and compared; the discussion problems for solving the differences are formulated.

Arguments

The classicists' process theories do not separate the manager's tasks from activities. Their management functions (planning, organizing, etc.) represent vaguely both the manager's tasks and activities. In this way, they are arguing implicitly a one to one relationship between the manager's tasks and activities. A set of separate manager's tasks are therefore regarded as unnecessary because managerial activities and tasks are represented in pairs by their management functions.

Mintzberg's(1973) ten roles theory does not separate the manager's tasks from activities either. He did not see a need to ask why managers do those roles after he asked managers the "purpose" of their activities. For him, one purpose for an activity is enough; a series of purposes or chain-purposes were out of consideration. Therefore, a role describes an activity performed or to be performed in the situation and implies the tasks contributed to the organization. In this way, the practice of management was described by him with the ten roles only; a set of separate manager's tasks were not regarded as necessary.

This study argues that it is necessary to separate a set of manager's tasks from the manager's activities because the manager's tasks stand side by side to the manager's activities in the end-means chain; omission of them leaves the complex relationships between function, level, company, etc. and the manager's activities unclarified. A set of manager's tasks improves the parsimony of explanation greatly since the relationships between manager's tasks and manager's activities are not one to one. The real relationships of one manager's task to many possible manager's activities, and vice versa, can be very cumbersome to describe for the proponents of classicists' management functions or Mintzberg's roles.

Discussion Problems

To solve the differences in the above arguments, the following discussion problems are formulated for empirical examination:

DP3 (Discussion Problem No. 3): Do a set of manager's tasks separate from the manager's activities improve the parsimony of describing management practice?

To answer that question, the other question need to be answered beforehand:

DP4 (Discussion Problem No. 4): Does every one of the 14 manager's tasks have one to one association with one of the 11 manager's activities?

Section 5

ARGUMENTS ABOUT THE NECESSITY OF A SET OF SEPARATE MANAGER'S KNOWLEDGES

In this section, the arguments about whether it is necessary to separate a set of manager's knowledges from the manager's activities and tasks or not are deduced from the classicists' process theories and the AKT theory and compared; the discussion problems for solving the differences are formulated.

Arguments

The classicists argue that their management functions are not only representing both the manager's activities and tasks but also knowledges (e.g., Fayol, 1949; Koontz, 1980; Koontz and O'Donnell, 1978). In proposing "the right way" to develop a theory of management, Koontz (1980) notes:

> The question of what managers do day by day and how they do it is secondary to what makes an acceptable and useful classification of knowledge. Organizing knowledge pertinent to managing is an indispensable first step in developing a useful theory and science of management. ... The functions some theorists (including me) have found to be useful and meaningful as this first step in classifying knowledge are: 1. Planning ... 2. Organizing ... . (p. 83)

Most authors of contemporary management textbooks have taken this position and organized their books on the basis of management functions (Carroll and Gillen, 1987). By doing so, they are virtually arguing that their management functions have three faces: as activities, as tasks (see the last section), and as knowledges. Therefore, a set of separate manager's knowledges are not regarded as necessary.

This study argues that a set of separate manager's knowledges are necessary because the manager's knowledges are different from the manager's tasks and activities. The manager's knowledges cannot be reduced or combined into the manager's tasks or activities because firstly, they have different connections, or identities: the manager's knowledges are the guidance from the brain; the manager's tasks the contribution to the organization; and the manager's activities the performance in the situation; secondly, there is no evidence of a one to one association of the manager's knowledges with either the manager's tasks or activities. Omission of a set of separate manager's knowledges will lead to exclusion of much knowledge of management in management theory and leave the complex relationships among the manager's activities, tasks, and knowledges unclarified.

Discussion Problems

To solve the differences in the above arguments, the following discussion problems are formulated for empirical examination:

DP5 (Discussion Problem No. 5): Does every one of the 11 manager's knowledges have a one to one association with one of the 14 manager's tasks or of the 11 manager's activities?

DP6 (Discussion Problem No. 6): Does a set of separate manager's knowledges improve the parsimony of describing management practice?

Section 6

ARGUMENTS ABOUT A SUITABLE THEORY OF THE STRUCTURE OF ORGANIZATIONS

In this section, the arguments about what constitutes an adequate theory for describing the structure of organizations are deduced from the traditional pyramid/tree structure, Likert's (1959, 1961) group-form structure, and the networked-cones structure and compared; the discussion problem for solving the differences are formulated.

Arguments

The pyramid/tree structure of organization was used by Fayol (1916/1949) even when he had realized that "gang plank" (lateral interactions) "is what is most often done" (p. 35). He weighted the gang plank as as important as the "scalar chain" (p. 34). However, he did not include the lateral interactions into his structure of organization; instead, he excluded them. With the tree structure of organization, Fayol and many advocates of the tree structure are virtually arguing that an organization is a structure of vertical responsibility and legitimate authority without skipped vertical contacts, or by-passing, and without lateral responsibilities and legitimate lateral interactions.

Likert (1959, 1961) theorized a group-form structure of organization which requires the group representative to perform the "linking-pin function" (1959, p. 200), i.e. to serve as subordinate in the next higher up group, and so on up through the organization. By group-form structure, Likert was virtually arguing that there is no vertical and lateral interaction except through linking-pins.

This study argues that the networked-cones structure is the most adequate description of the structure of organizations. Every organization unit at any level has both the vertical and lateral relationships and they have to be taken into account in the theorization of the structure of organizations. Neither tree structure nor group-form structure has done so adequately.

Discussion Problem

To solve the difference in the above arguments, the following discussion problem is formulated for empirical examination:

DP7 (Discussion Problem No. 7): Which theory describes the structure of organizations most adequately: the pyramid/tree, group-form, or networked-cones structure?

Section 7

ARGUMENTS ABOUT THE CHARACTERISTICS OF DECISION MAKING

Decision making is defined as reaching a decision for solving a problem by performing actions involving decisional activities (MA7, 8, 9, & 10). In this section, the arguments about whether decision making is characterized as a discrete event, a continuous and intricate process of brokerage, or a mix of them are deduced from the leader-traits theory, rational decision making theory, Sayles' (1964) theorizing, and the researcher's theorizing and compared; the discussion problem for solving the differences are formulated.

Arguments

Sayles (1964) attacks the viewpoint of decision making as "a discrete event" (p. 27) and regards decision making as "a continuous and intricate process of brokerage" (p. 28) because a change in an organization unit will generate responses from related units and vice versa. "The responses are compromises and marginal adjustments in decisions that reflect the very different and ever changing interests and points of view of the parties to the decision" (p. 28). In this sense, decision making cannot be a one-man show and a manager is expected to be a negotiator rather than a decisive decision maker as some theorists of leader-traits (e.g. Ralph Stogdill) would suggest.

This study argues that because decision making is a process and has many contingencies, the description of it depends on its kind and the point in the process. Although Sayles might be closer to the truth than the theorists of leader-traits and rational decision theorists (e.g., Simon, 1945), they actually describe different parts of the reality.

Discussion Problem

To solve the difference in the above arguments, the following discussion problem is formulated for empirical examination:

DP8 (Discussion Problem No. 8): Which description represents the characteristics of decision making most adequately: as a discrete event, as a continuous and intricate process of brokerage, or as a mix of them?

Section 8

ARGUMENTS ABOUT THE CHARACTERISTICS OF PLANNING

Planning is defined as performing actions contributing to *formal plans* (MT1) and *action plans for the next step* (MT2). In this section, the arguments about whether planning is characterized by individual reflections, by implicit daily actions, or by longer explicit daily actions involving individual reflections are deduced from the process theories, traditional planning literature, Mintzberg's (1973) theorizing, and the researcher's theorizing and compared; the hypothesis for solving the differences is formulated.

Arguments

Mintzberg (1973; 1975/1990) attacks the viewpoint of reflective, systematic planning as false and notes that managers plan "implicitly in the context of daily actions, not in some abstract process reserved for two weeks in the organization's mountain retreat" (1990, p. 164). As to the daily actions, he notes "Half the activities engaged in by the five chief executives of my study lasted less than nine minutes, and only 10% exceeded one hour. ..." (p. 164). By this swift pace of actions, he considered reflective, systematic planning as impossible.

However, Mintzberg might have gone too far. Though his managers acted swiftly in most of the activities, they did not act swiftly most of the *time*. He has never mentioned that 19% of his managers' activities (scheduled meetings) accounted for 59% of their work time and lasted for 68 minutes on average (1973, p. 39 & 105). This duration of time cannot be said to be too short for reflection. Also, he seems to overlook the presence of planning consultants and the requirements for plans in many organizations.

This study argues that managers do have longer explicit actions for planning. These can often be seen in the situation. Managers dislike reflection but they have to do it. Planning needs longer duration not because every plan needs reflection. It needs longer duration because of higher cost once the plan happens to be wrong, because of complexity and uncertainty of the issue, and because of the large number of participants representing different ideas and interests.

Hypothesis

To solve the differences in the above arguments, the following hypothesis is formulated for empirical test:

Ho10 (Null Hypothesis No. 10): Planning actions contributing to *formal plans* (MT1) and *action plans for the next step* (MT2) have equal average duration with other non-planning actions.

Ha10 (Alternative Hypothesis No. 10): Planning actions contributing to *formal plan* (MT1) and *action plans for the next step* (MT2) have longer average duration than other non-planning actions.

Section 9

ARGUMENTS ABOUT THE BREVITY, VARIETY, AND FRAGMENTATION OF MANAGERS' ACTIONS

In this section, the arguments about whether the brevity, variety, and fragmentation of managers' actions drive managers to be superficial are deduced from Mintzberg's (1973) theorizing, and the researcher's theorizing and compared; the discussion problem for solving the differences is formulated.

Arguments

Mintzberg (1973) argues that managerial "activities are characterized by brevity, variety, and fragmentation" (p. 31). He argues that, because of the great variety of distinct issues in the content of verbal and written contacts and because significant activity is interspersed with the trivial in no particular pattern, managers must be prepared to shift moods quickly and frequently. Also, he argues that, because of the taxing work load and the "unrelenting pace" (p. 29), managers choose to do things abruptly and that those brief activities are further fragmented by interruptions. He implies that the brevity, variety, and fragmentation of managers' actions drive managers to work superficially. Because "to be superficial is ... an occupational hazard of managerial work" (p. 35), managers "must deal consciously with the pressures driving him to be superficial" (p. 178). His prescription for superficiality includes delegation, authorization, reservation of attention to special issues, and better use of specialists.

This study argues that the brevity, variety, and fragmentation of managers' actions do not necessarily drive managers to be superficial. Firstly, the variety of issues dealt with may not as great as Mintzberg imagined because managers often concentrate on a few issues at a time and because the issues can be classified into the 14 manager's tasks, or the 14 factors for organizational operation (FOOs), which managers are very familiar with after a period of time in the job. Secondly, the brevity should not be judged on the basis of the duration of actions only, especially that of some shorter actions. The complexity of the issue dealt with also needs to be taken into account. For example, three minutes of telephone talk might be quite enough for the transmission of certain information. Finally, much fragmentation of managers' actions caused by interruptions are necessary and are encouraged by managers because interruptions by subordinates may save productivity and interruptions by peers may add co-ordination, instant information, or fun to the taxing job of management.

Discussion Problem

To solve the difference in the above arguments, the following discussion problem is formulated for empirical examination:

DP9 (Discussion Problem No. 9): Do the brevity, variety, and fragmentation of managers' actions drive managers to be superficial?

Chapter 5
RESEARCH METHODOLOGY

As described in the previous chapters, the AKT theory of management has been constructed and prepared for empirical tests. This chapter describes the research methods for collecting and analyzing data for the empirical tests. Also, it describes a methodological approach, namely reflexivism, which has been devised in the study and followed in constructing theory, analyzing data, and reaching conclusions. In this chapter, reflexivism and other methodological approaches are described and compared in Section 1, and the research methods of the study are described in Section 2.

Section 1

METHODOLOGICAL APPROACH

Theorists have followed different methodological approaches to develop their theories of management. Fayol (1916/1949) demands general discussion. Other classicists stress the integration of management knowledge (e.g., Greenwood, 1974; Homans, 1976; Koontz, 1961, 1964, 1980; Koontz and O'Donnell, 1978). The behavioral empiricists emphasize the inductive method, which generalizes from empirical data (e.g., Carlson, 1951; Mintzberg, 1973; Stewart, 1989). This study follows reflexivism, which takes changeability of management practice into account. As to the method for generating theories, retroduction is stressed in the study. In this section, these methodological approaches are described and discussed as follows.

The Methodological Approaches of the Classicists

Fayol (1916/1949) distils a theory of management from his personal long-term top management experience and then asks for "general discussion" to evaluate and modify it. He notes,

> The slightest comment appropriately made is of value, and since there is no limit to the possible number of commentators it is to be hoped that once the stream has started to flow it will not be stemmed. It is a case of setting it going, starting general discussion - that is what I am trying to do by publishing this [book], and I hope that a theory will emanate from it. (p. 16)

But, after spending seven years (1918-1925) in promoting and discussing his theory of management, his theory remained in its original form except the fact that he later talked only of management functions and principles (Fayol, 1923/1937). Six groups of organizational activities were not mentioned again. This retreat from investigating the relationship between his five management functions and six organizational activities might be due to Henri Fayol's inability or unwillingness to modify his own theory (Urwick, 1937). This also raised a doubt about the viability of "general discussion" in elaborating a theory.

Perhaps, it was Henri Fayol who had misused the method of general discussion. In history, theory development has remained the job of the minority rather than the majority. Besides, in the management area where better ideas and practice are always welcomed, evaluation of a theory cannot rely only on empirical tests as the natural sciences do. To accept the congruence of theory and current empirical findings means non-progress in practice. For a theory with a prescriptive dimension, the experience and opinion of the receivers of the theory are also important. They can trigger the elaboration process of a theory and provide the input for it. This is probably what general discussion can contribute to theory development. Henri Fayol failed in the general discussion of his theory because he was adament about the feedback from it.

Unlike Henri Fayol, other classicists do not rely on general discussion. Instead, they rely on a knowledge-integration approach. Most of them have done so implicitly. A few, such as Harold Koontz, make it a rule. He notes, "Organizing knowledge pertinent to managing is an indispensable first step in developing a useful theory and science of management" (1980, p. 83). He also prescribes the following criteria of a theory of management:

1. A theory should deal with an area of knowledge and inquiry that is "manageable"; no great advances in scientific knowledge were made as long as man contemplated the whole universe.
2. A theory should be *useful* in improving management practice, and the tasks and needs of the executive himself must be the central focus.
3. No theory should be hampered by semantic obstacles; useless jargon not understandable to the practicing manager should be eliminated.
4. An effective theory should give direction and efficiency to management research and teaching.
5. Finally, a worthwhile theory must recognize that it is but a part of a larger universe of knowledge and theory and need not actually encompass that universe. (1964, p. 17 - His adaptation from his 1961 article)

These points tell us very little about an adequate theory of management. The empirical relevance is only mentioned superficially in the second point. The first and final points tell us that his ideal theory of management feeds on and is part of knowledge and theory.

Other classicist authors (e.g., Hicks and Gullet, 1981; Hodgetts, 1982) construct their theories of management implicitly by the integration of knowledge. They organize management knowledge in their books under the headings of management functions (Carroll and Gillen, 1987) because this way "allows the construction of a framework into which all new management concepts can be placed" (Hodgetts, 1982, p. 50).

Greenwood (1974), unlike Harold Koontz who argued that the management functions are the core knowledge for the integration, speculates about three alternative approaches for developing a "general theory of administration". All these approaches involve the integration or synthesis of management theories. His three alternative approaches are:

a. An evolutionary integration of intercontextual and interdisciplinary theories,
b. The development of a completely new and all embracing general management systems theory, evolving from general systems theory, and
c. A continuing refinement of traditional management process theory and practice by the voluntary integration of theories of other disciplines. (p. 22)

After all, the proponents of the knowledge-integration approach have failed to answer properly the following questions: If classification or organization of management knowledge were the first step to a theory of management, what should be the next? How can a useful synthesis of management knowledge be achieved before the analysis of management practice is available? How really should one evaluate such a theory?

The knowledge-integration approach is by no means peculiar in the study of management. It has been misused in the social sciences. Dubin (1978) criticizes the general methodological approach of social scientists in theorization. He notes,

> By way of contrast, social scientists have tended to accumulate theories and theoretical models. The social scientist funds theory and not data. It is not unusual for courses in the area of theory in a social-science discipline to be a recital of what each notable historical figure in the field believed or said. The student typically learns a history of ideas about the empirical world that falls within the range of his particular social-science discipline. But he may be singularly ignorant of the descriptive and factual character of that domain. The behavioral scientist tends to accumulate belief systems and call this the *theory* of his field. ... The social scientist's imagination, when it feeds only upon its logical capacity to combine and recombine a fixed set of elements, can create only a limited range of alternative theories. It is not surprising, therefore, that in the social sciences there are remarkably slow developments of major innovations in theory. Furthermore, there are frequent reinventions of the same theoretical models that were current in an earlier period. (p. 229)

Dubin's criticism is to the point for most classicists but not justifiable for behavioral empiricists.

The Methodological Approach of the Behavioral Empiricists

The methodological approach of the behavioral empiricists can be contrasted with that of the classicists by the following remark of Carlson (1951):

> [The classical] literature is more concerned with general speculations regarding the functions of the executives than with actual descriptions of their work. ... concepts like planning, co-ordination and control are of very limited use when we want to describe in an observational study the daily work and actual patterns of behaviour of a managing director. Most of these concepts do not fulfil the qualification of operational concepts that they should be synonymous with a clearly defined set of operations. (Carlson, 1951, p. 23)

Having been trained in modern research methods, the behavioral empiricist requires that a theory should be empirically based, concepts be operationally defined, and data be objectively collected. However, when they examined the literature, they found that the mainstream theories are only speculations or prescriptions without the understanding of the actual work of managers. Therefore, they have to develop a theory of management from scratch. Thus, Carlson (1951) started a theory development process by firstly going into the field to collect data of the actual work behaviour of managers without being preoccupied by any theory.

Carlson (1951), by applying Parsons' (1949) ideas on the foundation of general sociological theory, suggests that a theory of executive behaviour should be

> 1) "structural-functional" in character, which would make it suitable for the analysis of dynamic problems;
> 2) formulated within the "action" frame of reference, thus starting out from the individual playing the "role" of executive; and
> 3) framed in terms of genuinely operational concepts, which is a necessary condition for its empirical verification. (p. 115-6)

Besides, he also suggests that "the actor's knowledge of the situation, the goals towards which he is striving, and the attitudes which he has towards both the goals and the situation" (p. 116) must be considered. And these factors and the actions should be seen objectively "both from the point of view of the actor himself and of the functioning of the social system" (p. 116). In other words, his ideal theory of management subsumes the organization, manager's actions, manager's knowledge, manager's goals, and manager's attitudes in an objective, "structural-functional" context. However, the behavioral empiricists' achievement is still far from approaching his ideal.

Mintzberg (1973) has called such an approach "inductive research, in which the work activities of managers are analyzed systematically; conclusions are drawn only when they can be supported by the empirical evidence. ... in most [studies] there are explicit attempts to incorporate the findings of previous studies in the development of new conclusions" (p. 21). In other words, inductive method which generalizes from empirical data to theory has become the convention.

But, the inductive method rarely describes the construction of a theory even in the area of theoretical natural sciences (Hanson, 1958). To say that a theory should be generalized from empirical data without the influence of existing theories misses the evolutionary nature of theory development and of the development of management practice. Of course, theory should be empirically based. But, without the knowledge of the pre-existing theories, it is frequently difficult to generate plausible theories-to-be and evaluate their preliminary plausibility in the first place (Lamb, 1991). Thus, the behavioral empiricists' self-restriction to the inductive method was unnecessary and misleading. What they wanted to emphasize was really that the theory must be data-supported. But, the inductive method requires the construction of theory from the generalization of data without the influence of previous theories. At best, a theory describing the current practice of management will be constructed. However, current management practice is not without shortcoming. Managers are still seeking better practice. Therefore, the possibility of better management practice must be considered in the construction of a theory of management.

Fortunately, the inductive method has not been followed strictly, at least by Mintzberg (1973). He notes, "The inductive process can never be rigorously explained." (p. 266) And he quotes from Bronowski (1958) to support his point:

> A fact is discovered, a theory is invented. (p. 58) ... The creative activity of science lies here in the process of induction. For induction imagines more than there is ground for and creates relations which

> at bottom can never be verified. Every induction is a speculation and it guesses at a unity which the facts present but do not strictly imply. (Bronowski, 1958, p. 62)

Mintzberg's "inductive process" is not really inductive. It is not Marx's (1976a) inductive mode of theory construction because

> this variety of positivism (or ultrapositivism) is marked by an aversion to explicit interpretation of a theoretical sort and by the belief that once sufficient facts, or data, are accumulated they will speak for themselves. In other words, summary statement of empirical relationships will be gradually accumulated and will eventually become the kind of generalized explanatory principles that we need. (Marx, 1976a, p. 247-8)

Mintzberg's (1973) "inductive process" of deriving the ten roles is actually retroduction (or abduction) process (defined in the Note 2 of Chapter 2) because "deduction proves that something *must* be; induction shows that something *actually is* operative; abduction merely suggests that something *may be*." (Peirce, 1935, Vol. 5, § 171). Mintzberg had only the gut feel, not the evidence, for the ten roles before "there is evidence from three subsequent empirical studies using this role set to suggest that presidents of small firms and middle managers in business and government perform these ten roles." (p. 55-6)

The Methodological Approach of This Study

The methodological approach devised and followed in this study is reflexivism. Like naturalism, it employs retroduction, induction, and deduction for inference. Unlike naturalism, it searches for enlightened prescription from the empirical findings in addition to explanatory description. By employing retroduction, it encourages guesswork in the theory construction stage because data are seldom sufficient to speak for themselves and it encourages evolutionary development of theory because, in so doing, there will be gradually modified theories to guide the collection of data and to be empirically tested or examined. By searching for enlightened prescription from data, it encourages empirically-supported or implied prescription because, in so doing, there will be theory-guided progress in management practice.

not clear ASK

Unlike Koontz (1964; 1980) and other classicists who use existing management knowledge as the *materials* for building a theory of management, this researcher regards management knowledge as the *result* of theorization process. The pre-existing management theories may serve as stepping-stones for latter theorization, but they are always either liquidated by or subsumed into newer theories in the face of data. Only empirical phenomena are considered as the basis in the theorization process of this research.

Unlike the behavioral empiricists who follow the inductive method and regard management practice as fixed natural facts, this researcher regards management practice as changeable empirical phenomena. Mintzberg (1975/1990) notes, "The field of management, so devoted to progress and change, has for more than half a century not seriously addressed *the* basic question: What do managers do?" (p. 163) While accepting the importance of empirical study, this researcher believes that the inductive method alone is not enough because management is "so devoted to progress and change". Similarly, while accepting the importance of enlightened prescription, this researcher believes that pure prescriptions without an empirical basis are often inadequate, especially when the discipline is young but the practice is not.

Reflexivism requires that both the empirical tests and reflexivity of the theory-to-be are taken into account in the development of a theory of management. Only when the theory-to-be is congruent with sound empirical phenomena or is shown or believed to be a better design than the current practice, can we believe that an adequate theory of management has been established. Both the to-and-fro comparisons between empirical phenomena and theory-in-process *and* the evaluation of the usefulness of the theory-to-be are very important during the process of theory development. In other words, naturalism is respected but more has to be considered because of the changeable practice of management. Naturalism and reflexivism are compared in Table 5-1.

Table 5-1. Naturalism and reflexivism compared

	Naturalism	*Reflexivism*
Context of application	Theoretical natural sciences, e.g., Physics	Social sciences of human action
Empirical element dealt with	Variables of natural, inanimate object	Variables of human affair
Effort & process of study	To study "what is" the case	To study "what is," "what will be," "what could be," & "what should be" the case
Goal of study	Natural, deterministic laws	Normative rules or designs
Valuation	Free	Valuation for the subject involved
Belief of result increases because of	Replications	Replications and better outcome from using new rule or design
Reflexivity	None	Researcher participates actively in providing positive guidance
Falsification	Exception, failure in replication	Guidance not followed, failure in replication

As to the logic of a theory of management, or the criteria of an ideal theory of management, this researcher has followed Carlson's (1951) suggestion except that a prescriptive dimension in theory is considered and that *intention to act* instead of attitudes towards the goals and situation is used because intention is closer to action than attitudes. Therefore, the ideal theory will not only be objective, "structural-functional" but also intentional. Thus, by modifying Carlson's (1951) suggestion and incorporating the methodological arguments of the study, this researcher suggests that a theory of management should:

1. focus on the manager's actions because management is manifested in actions performed by the individual playing the *role* of manager;
2. be built on the *content* of the manager's actions, i.e., the activity, task (or goal), and knowledge of the manager, rather than on the *characteristics* which merely describe the content;
3. be situated in the context of organizations in which organization units are structured or related according to their functions or organizational tasks;
4. take the normative character of the manager's action into account because human actions are intentional rather than causal;
5. be useful for describing sound management practice and for improving inferior management practice;

6. be built on operationally definable concepts or constructs which can be measured objectively;
7. be empirically supported or justified.

Section 2

RESEARCH METHODS

This research has marshalled primary data and the findings of other studies to test the AKT theory of management. Fig. 5-1 illustrates the process and elements in the construction and empirical tests of the AKT theory. Method and tests using the findings of other related studies are described in Chapter 8. The research methods relating to primary data are described in this section: the data collection methods, sample, data collection procedure, rules for editing and coding diary data, methods of the statistical analysis, and reliability and validity of data are discussed as follows.

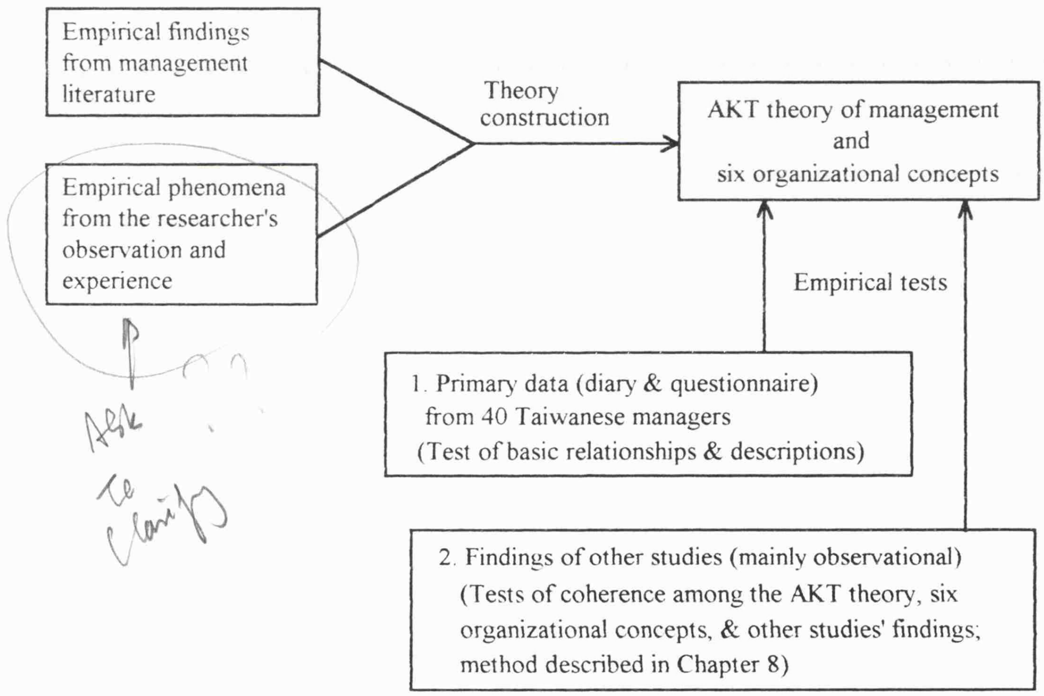

Fig. 5-1 The process and elements in the establishment of the AKT theory of management

Data Collection Methods

The methods used for collecting primary data were questionnaire and diary. The **questionnaire** (Appendix A) was administered with a *Brochure of Instructions* (Appendix B) for explaining the unfamiliar terms used in the questionnaire and the rules for using the diary. The use of a questionnaire had two purposes: for collecting personal data, organization-related data, etc. and for training the subjects to be able to use the diary accurately by exposing all new terms and concepts first in the questionnaire.

Every subject was also supplied with **a diary pad** and a piece of *Table of Work Time* (Appendix C) for collecting daily work hours. The diary pad contained 100 pages of *Manager's Action Records* (Appendix D; First named as the *Manager's Activity Record*), all glued and clipped in a file, and a *Flow-chart for Identifying the Manager's Activities* (Appendix E) was attached to the file to increase the accuracy of the identification of the 11 manager's activities.

There are prejudices against the diary method. It was wrongly criticized by Mintzberg (1973) as "a useful tool for the study of managerial characteristics, but a useless one for the study of work content. The reason for this ... is that the diary is designed to determine only the time distribution among *known* job factors" (p. 223). This criticism will become baseless if a researcher could know the managers' work content in advance by other means. The work content of management has been categorized, although provisionally, in this research. Why should I set aside the diary method which can be used to study the work characteristics and work content at the same time?

The data collected by the diary method were also criticized by Mintzberg (1973) as unreliable, especially relating to the categories of "functional area" (p. 224). He questioned, "was I to record a monthly report containing sales and production figures as 'marketing,' 'manufacturing,' or 'control'? In the case of a meeting to sort out a conflict between two manufacturing executives, was I to record 'manufacturing' or 'personnel'?" (p. 274) However, this is a wrong accusation because the use of *functional areas* as the manager's work content by Burns (1954), Horne and Lupton (1965), and Stewart (1967/1988) was really a defect in the specification of a variable and should not be seen as a shortcoming of the diary method. This research uses the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks instead of "functional areas". The use of clearly delineated variables should be able to produce reliable data, irrespective of the data collection method.

defects

The real shortcomings of the diary method are caused by the use of the subjects as their own observers and by the possibility of being squeezed out of the hectic pace of managers' work. The shortcomings include inconsistent and interrupted recordings. The data collected might be subjective, inaccurate, of major actions only, or representing two or more actions. The things a researcher could do include selection of motivated subjects, adequate training, sufficient material of instructions, and easier design of diary form. No research method is perfect, anyway. And that is why research needs replications.

Nevertheless, the diary method has been as useful as structured observation in studying managerial behaviour so far. Martinko and Gardner (1990) have compared the major findings of the diary and structured observation studies and found general agreement between them. They note,

> ... it is apparent that while different data collection procedures and categorization processes were employed in the early studies, the data are similar for some comparison. Most importantly, both the diary and structured observation studies appear to suggest ... that many differences in managerial behaviour can be explained by differences in managerial environments ... . Similarly, both groups of studies agree that managerial work is characterized by highly interpersonal, brief, varied, and fragmented activities and this same conclusion is supported by earlier observational studies of first-line

supervisors ... . Thus it would appear that the results from the various methods are complementary, triangulating the most critical findings ... . (p. 352)

The diary used in this research had been designed in many new ways compared with those used by Carlson (1951), Horne and Lupton (1965), and Stewart (1967/1988). The work content, including the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks, as well as the work characteristics, relating to time distribution and interpersonal contacts, were collected simultaneously. Also, the relationships among the manager's activities, knowledges, and tasks were for the first time collected by asking managers to associate the work content items with lines and arrows. This new diary is available because the identification of the concepts and content of the manager's activities, knowledges, and tasks has been done in this research.

This new diary is more complex than previous ones. More time is needed for recording. Therefore, continuous recording was not considered. A **once-an-hour-recording for a week** was asked instead. However, not many subjects stuck to the rule. Some managers recorded every obvious actions (with very short ones as interruptions, as asked by the study). Some other managers recorded their actions only when they remembered or it was convenient to do so. As a result, the number of actions recorded by a subject ranged widely. Since the focus of this research is to study the content of managers' work in general, the varied quantity of an individual manager's diary is considered as acceptable. The reason for and limitation of collecting a week's data are described in the Section 4 of Chapter 1.

Sample

The primary data were collected from 40 Taiwanese (or Taiwan Chinese) managers, representing a mix of quota and purposive sample. It is a quota sample in the sense that it was planned to have at least 40 managers from different functions, levels, companies, and industries evenly. However, the access difficulty and the drop-out of several managers made the actual sample not as good as planned. It is also a purposive sample in the sense that only those managers having more than one years experience of management and having a responsibility for an organization unit were selected. The researcher believes that the data from such a sample are better than those from samples involving staffs, deputies, and novices. The snowball technique was also used to reach as many qualified managers as possible.

Forty-nine managers were accessed either directly by the researcher or indirectly through other subjects. Forty-one pairs of questionnaire and diary were collected. One was discarded because it contained few data. The actual sample consists of 40 managers. The number of subjects in each category of function, level, company, and industry are as follows:

FUNCTION: production: 10, sales: 3, human resource: 2, research and development: 7, finance: 1, administration: 4, maintenance: 1, industrial engineering: 1, multi-functions: 10, quality control: 1.

LEVEL: a. (Count **from top**) level 2: 6, level 3: 11, level 4: 16, level 5: 7; b. (Count **from bottom**) level 1: 15, level 2: 6, level 3: 11, level 4: 8.

COMPANY: Company 1: 7, Company 2: 12, Company 3: 13, Company 4: 3, Company 5: 1, Company 6 (a graduate school): 1, Company 7: 1, Company 8: 1, Company 9: 1.

INDUSTRY: Electronics: 1, Food processing: 26, Textile: 3, Dyeing: 2, Financing and Insurance: 5, Cement: 1, Education: 1, Clothes (ready to wear): 1.

The statistical analyses between the above variables revealed that they are independent to each other (not significantly dependent) except between industry and level (count from top) ($\chi^2 = 33.7$, df = 21, $p < .05$). The dependent relationship was significant because the food processing companies were larger in size and had more levels in their structure; on the other hand, others, such as the financing and insurance companies, were smaller and had fewer levels.

The statistical tests between the above variables and other personal and job related data revealed that only level (count from bottom) was significantly related to the size of organization unit (number of direct and indirect subordinates) and the amount of management training (from Question 12 of the questionnaire). These two significant relationships are reasonable and readily understandable.

Such a non-probability sample is satisfactory because the main interest of this research is to test the hypothesis about the theorized universal relationships between the manager's tasks and manager's activities (The **unit of the analysis** here is the manager's action recorded on every piece of *Manager's Action Record*). However, it is necessary to be careful when (1) the pattern of distribution of data among the manager's tasks, knowledges, and activities, (2) the strength and patterns of relationships between function, level, company, and industry *and* the manager's tasks and activities respectively, and (3) the figures representing the characteristics of management practice are discussed because this sample is not large enough and not well-balanced. Further studies involving larger and proportional samples (preferably, containing effective managers only) are needed to provide more accurate findings.

Data Collection Procedure

The subjects were accessed either personally by this researcher (24 out of 40) or through other subjects (15 out of 40) or by mail (1 out of 40). In nine cases that 24 subjects were accessed personally by the researcher, a scheduled meeting of roughly one hour was held for managers to complete the questionnaire and to go through the *Brochure of Instructions* either for an individual manager or in group (up to 13 managers). During this kind of meeting, very frequent two way communications were used for subjects to ask and clear questions and for the researcher to explain and make sure that subjects understood the terminology and rules for using the diary. Subjects were asked to start recording the diary after the meeting.

In three other places, 15 subjects were accessed through three other subjects (intermediate-subjects). Two intermediate-subjects held MBA Degree, two subjects were accessed by each of them. One intermediate-subject was an experienced human resource manager with an aide holding a Master Degree who acted in my place because of company policy; 11 subjects were accessed by them. Comparisons of the questionnaires and diaries completed by subjects accessed by different approaches revealed no obvious difference.

The subject accessed only by mail was asked to read the instructions and complete the questionnaire and diary by himself because of geographic distance. The questionnaire was not returned. The researcher took this problem as an opportunity to ask for an additional administration of both questionnaire and diary for the purpose of comparison. They returned two months after the first diary. Comparisons of his data with those of other subjects revealed no obvious difference.

Rules for Editing and Coding Diary Data

Editing. A few diary records contained inconsistencies between the structured recording and written notes. Change in the structured recording according to the written information was made because the written notes were used as additional information for the structured recording. Also, some diary records contained recording of multi-actions. They were delineated into single actions. The rules for editing multi-action diaries were as follows:

1. If two or three manager's activities were recorded with a very short duration of time and were distributed in different groups of manager's activities, one activity was selected according to the *Flow-chart for the Identification of Manager's Activities* (decisional activity has higher priority than informational activity which in turn is higher than interpersonal activity) because multi-actions were thought unlikely in very short time.
2. If two or more manager's activities and a manager's task were recorded and only an activity was associated, using line and arrow, with the manager's task, then this pair of manager's task and activity were selected (other manager's activities ignored).
3. If two or more manager's tasks and an activity were recorded and only a manager's task was associated with the activity, then this pair of manager's task and activity were selected (other manager's tasks ignored).
4. If two or more manager's activities and two or more manager's tasks were recorded without association, missing data for both manager's task and activity were coded because of difficulty in the delineation of actions.
5. If either two or more manager's activities or two or more manager's tasks or both were recorded with clear associations between every activity and task, then actions were delineated according to the associations. The recorded duration of time was then divided evenly.

After the editing of diary data, **1,659 actions** from 40 managers were identified. The number of actions from an individual subject averaged 41.5 and ranged from 9 to 101, representing up to 12.5 days' recording.

Coding of the validity of a record of action. Among 1,659 records of managers' actions, 13 records were irrelevant to management and 1,646 records were relevant to management: **1,281 (77.83%) of the**

relevant records were valid and 365 records (22.17%) were invalid: 242 of the invalid records were "unlikely records" and 123 were "beyond-the-scope records". There were no significant difference of the means of duration of time, number of interruptions, and duration of interruption between valid , unlikely, beyond-the-scope, and irrelevant records. The rules for identifying irrelevant, invalid, and valid records were as follows:

1. **Irrelevant records** were those that recorded MA12 (other activity) and MT15 (other objective) at the same time or one of them only, which five subjects recorded their non-management actions, such as searching for a new job, seeing a family member, seeing doctor, etc.
2. **Beyond-the-scope records** were those that recorded one of the within-the-scope activities (from *representing the unit* (MA1) to *operating* (MA11)) *and* MT15 or without manager's tasks recorded and those that recorded one of the within-the-scope tasks (from *formal plan* (MT1) to *enhancing own knowledge or interpersonal relationship* (MT14)) and MA12 or without manager's activities recorded. (Although they might represent the failure of the AKT theory as a comprehensive framework, examinations of the additional written information on the diary forms revealed that was not the case). They represented either the failure to select an adequate activity or task for recording or the failure of a manager to identify the organization unit and his or her role in it (judgement based on the questionnaire and diary data, especially the written notes).
3. **Unlikely records** were those that recorded one of the within-the-scope activities (MA1 ~ MA11) and one of the within-the-scope tasks (MT1 ~ MT14) but whose datum of either activity or task or both was in conflict with other data on the same diary record or personal data from questionnaire. Typical examples were *representing the unit* (MA1) with boss or other managers in a scheduled planning meeting (for *formal plans* (MT1) or *action plans for the next step* (MT2)), *giving information downwards* (MA5) (inwards instead of downwards was used in Chinese.) to boss or other managers, and *operating* (MA11) for *smooth flow of input/output* (MT11). They represented either the subject's wrong recording due to misinterpretation or wrong management due to misconception of the situation. The first example might be caused by the convention of requiring at least one member from each unit to appear, or to represent in Taiwanese dialect, in the planning meetings and these subjects failed to recognize their true purposes in those meetings.
4. **Valid records** were those that recorded one of the within-the-scope activities (MA1 ~ MA11) and one of the within-the-scope tasks (MT1 ~ MT14) which were not in conflict with other data on the same diary record or personal data from questionnaire *and* those that were coded as missing data for activity and task because non-conflicting two or more activities and two or more tasks were recorded and were impossible to delineate.

Coding of the additional categories of participants. Fifteen additional categories of participants were used to code the data when two or more categories of participants were recorded. Their codes and composition were as follows:

13: **Mix of subordinates** - participants from two or more categories of 1 (assistant), 2 (direct subordinate), and 3 (indirect subordinate);

14: **Mix of superiors** - participants from categories of 4 (superior) and 5 (higher superior);

15: **Mix of lateral colleagues** - participants from two or more categories of 6 (lateral unit), 7 (company staff), 8 (other manager), and 9 (other managers' subordinate);

16: **Mix of outsiders** - participants from two or more categories of 10 (supplier), 11 (customer), and 12 (other);

17: **Mix of subordinate(s) and superior(s)** - participants from one or more categories of 1, 2, and 3 and one or more categories of 4 and 5;

18: **Mix of superior(s) and lateral colleague(s)** - participants from one or more categories of 4 and 5 and one or more categories of 6, 7, 8, and 9;

19: **Mix of subordinate(s) and lateral colleague(s)** - participants from one or more categories of 1, 2, and 3 and one or more categories of 6, 7, 8, and 9;

20: **Mix of subordinate(s) and outsider(s)** - participants from one or more categories of 1, 2, and 3 and one or more categories of 10, 11, and 12;

21: **Mix of superior(s) and outsider(s)** - participants from one or more categories of 4 and 5 and one or more categories of 10, 11, and 12;

22: **Mix of lateral colleague(s) and outsider(s)** - participants from one or more categories of 6, 7, 8, and 9 and one or more categories of 10, 11, and 12;

23: **Mix of subordinate(s), superior(s), and lateral colleague(s)** - participants from one or more categories of 1, 2, and 3, one or more categories of 4 and 5, and one or more categories of 6, 7, 8, and 9;

24: **Mix of subordinate(s), superior(s), and outsider(s)** - participants from one or more categories of 1, 2, and 3, one or more categories of 4 and 5, and one or more categories of 10, 11, and 12;

25: **Mix of subordinate(s), lateral colleague(s), and outsider(s)** - participants from one or more categories of 1, 2, and 3, one or more categories of 6, 7, 8, and 9, and one or more categories of 10, 11, and 12;

26: **Mix of superior(s), lateral colleague(s), and outsider(s)** - participants from one or more categories of 4 and 5, one or more categories of 6, 7, 8, and 9, and one or more categories of 10, 11, and 12;

27: **Mix of subordinate(s), superior(s), lateral colleague(s), and outsider(s)** - participants from one or more categories of 1, 2, and 3, one or more categories of 4 and 5, one or more categories of 6, 7, 8, and 9, and one or more categories of 10, 11, and 12.

Methods of Statistical Analysis

The data were stored in two files for different levels of analysis, one containing data of management actions and the other of individual subject. The SPSS statistical package was used to analyze the former file; the MINITAB package for the latter. The statistical methods used were cross-table analysis and χ^2 test, one way ANOVA, regressions, correlation, and percentage.

Cross-tabulations of the frequencies between the 11 manager's knowledges and 11 manager's activities and between the 11 manager's knowledges and 14 manager's tasks were firstly hand-tallied on matrix-forms for every subject and then keyed into the MINITAB package for summing up (see Table 6-12). Data relating to the manager's knowledges needed special treatment because multiple recordings were allowed. (P.S.: The researcher realized later that to keep an additional four-column file with each item of knowledges used being recorded as a record may be more efficient.)

Reliability and Validity

The reliability and validity of variables, measurement, and data used in this study are achieved satisfactorily. The procedures and evidence for them are described as follows.

Reliability of measurement of the variables, or repeatability and consistency in the measurements of data, used in this study is described as follows.

The data collected were categories (nominal data) and degrees (interval data) rather than scale measurements. Hence, the split-half method for assessing the internal consistency of measurement was not applicable. Besides, the diary method requires the subjects to act as their own observers, consistency in observations across time and subjects is important. This requirement was further complicated by the fact that the classifications of managers' work content, i.e., the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks, were new to the subjects and these new terms might confuse with daily language. To overcome the problem, a *Brochure of Instructions* was given, together with the questionnaire and diary paid to the subjects. An about an hour session was held for the researcher to explain the rules and new terms and for the subjects to finish the questionnaire and understand the terms if they were accessed by the researcher.

The *Brochure of Instructions* was helpful in obtaining consistent data. It provided the subjects with standard reference whenever doubt in recording was encountered. Comparison of the two sets of diary data of two different periods from the subject accessed only by mail revealed high consistency between the numbers, or ratios, of irrelevant records, beyond-the-scope records, unlikely-records, and valid records, between the average items of manager's knowledges used, and between the average categories of associations among the manager's activity, knowledge, and task (Table 5-2) although, during the two periods, he had acted upon quite unrelated activities ($r = -.13$, $p > .05$) and tasks ($r = .38$, $p > .05$). χ^2 test of goodness of fit for the two set of numbers of beyond-the-scope records, unlikely-records, and valid records revealed that they fitted well ($\chi^2 = 0.4$, $df = 2$, $p > .05$). The difference of the two average items of knowledges used ranged only 17% of the 95% confidence interval for all 40 managers. The difference of the two average categories of associations among manager's activity, knowledge, and task ranged only 18% of the 95% confidence interval for all 40 managers.) This information helps to illustrate the extent of effectiveness of the *Brochure of Instructions* in achieving a satisfactory level of reliability.

Table 5-2. Comparison of two periods' diary data from the subject accessed by mail

	Of 26 records of first period	*Of 23 records, two months latter*
Irrelevant records	0	0
Beyond-the-scope records	1 or 4%	1 or 4%
Unlikely records	5 or 19%	4 or 17%
Valid records	20 or 77%	18 or 78%
Average items of MKs used	1.81 MKs	1.48 MKs
Average categories of association among MA, MKs, and MT	2.65 Categories	2.13 Categories

The *Brochure of Instructions* was designed to provide minimum but sufficient instruction for data-collection purpose. Change of the subjects' understanding of management was not intended and was refrained from. Thus, managers might have consistency in their recording but many of them were unable to record or act correctly all the time, according to their data and the definitions given in the *Brochure of Instructions*. The difference in this ability is marshalled to justify the prescriptive dimension in the AKT theory in Chapter 6.

Besides, since reliability is a necessary condition for validity and is greater than or equal to validity, the reliability of measurement of the 11 manager's activities and 14 manager's tasks must be greater than or equal to 0.79 (coefficient of contingency; see construct validity discussed below).

Validity of (measurement of) the variables, or accuracy for the data to represent the concepts or constructs, used in the study is achieved at a satisfactory level. The procedures and evidence are described as follows.

Face validity of the variables used in the study was achieved satisfactorily because experts believed the scales or questions to measure them would produce data about managers' actions: four experienced managers were asked to read the drafts of the questionnaire, diary, and the *Brochure of Instructions* and to either express their understanding or comment; two experienced management researchers were asked to comment on them; and the subjects seemed to accept the measurement tools.

Content validity of the variables used in the study was achieved by the previous and this studies. Firstly, Mintzberg (1973) and its replications established satisfactorily the content validity of the ten roles. The 11 manager's activities were derived from the ten roles with only minor modifications and the total content of the two classifications remained the same. Secondly, Wu (1984) and his 17 experts established the content validity of the 11 categories of management training courses satisfactorily. The 11 manager's knowledges are just an additional label for the same content from a different angle. Thirdly, the content validity of the 14 manager's tasks was established satisfactorily when the classification was compared with the McKinsey 7-S Framework and adapted to the system theory. Finally, content validity of the diary records as a whole was further defended by screening out irrelevant, beyond-the-scope, and unlikely records before the statistical analysis. Although the screening could not ensure the valid data being entirely managerial, many (378) records of non-managerial actions, wrong recordings, or wrong actions were excluded.

As to the exhaustiveness of data, a subject noted on diary that a week's data could not represent his work content. However, this is a limitation mentioned in Chapter 1 and it is unnecessary for the study to collect exhaustive data of individual managers.

Construct validity for the data to represent the elements of the AKT theory was first established satisfactorily in the study during the analysis of data. As to the construct validity of data of the 11 manager's activities and 14 manager's tasks, the nearly constant coefficients of contingency from the overall and partial cross-tabulations between the two variables indicate that their validity are greater than or equal to 0.79 (coefficient of contingency; $p < .001$) (see Table 6-5 & 6-7). Also, data of the two variables were found to differentiate correctly the strengths of relationships argued or implied by the AKT theory: the coefficients of contingency between function, level, company, and industry and the 11 manager's activities were smaller respectively than those between function, etc. and the 14 manager's tasks; in turn, they were smaller than that between the 11 manager's activities and 14 manager's tasks (see Fig. 6-1 & 6-2). Moreover, the activity was associated graphically with the task in most of the valid records (1,145 or 89.3% of the 1,281 actions) with lines and arrows by the subjects to show the relationship between them argued by the AKT theory.

As to the construct validity of data of the 11 manager's knowledges, the χ^2 values and the coefficients of contingency for the relationships between the variable and the 11 manager's activities and between it and the 14 manager's tasks were not calculated because the AKT theory does not require such evidence. Yet, the knowledge(s) were associated graphically with the activity and task in most of the valid records (1,073 or 83.7% of the 1,281 actions) with lines and arrows by the subjects to show the relatedness argued by the AKT theory.

Chapter 6

FINDINGS ABOUT THE ESTABLISHMENT OF THE AKT THEORY OF MANAGEMENT

This chapter describes the empirical tests which support the empirical relevance of the AKT theory and the networked-cones structure and show the inadequacies of the classicists' process theories, Mintzberg's (1973) ten roles theory, traditional pyramid/tree structure, and Likert's (1959, 1961) group-form structure. It establishes the AKT theory, step by step, by using the primary data from 40 Taiwanese managers to test the hypotheses or examine the discussion problems formulated in the Section 2, 3, 4, 5, & 6 of Chapter 4 about the nature of, relationships among, and necessity of the manager's activities, knowledges, and tasks. Also, the prescriptive dimension in the AKT theory for managers with less management learning is justified empirically.

In this chapter, findings and discussions in relating to the tests about the nature of the elements of the AKT theory are described in Section 1; about the "determinants" of the manager's activities in Section 2; about the necessity of a set of separate manager's tasks in Section 3; about the necessity of a set of separate manager's knowledges in Section 4; about a suitable theory of the structure of organizations in Section 5; and about the justification of the prescriptive dimension in the AKT theory in Section 6.

Section 1

THE NATURE OF THE ELEMENTS OF THE AKT THEORY OF MANAGEMENT

As mentioned in the Section 2 of Chapter 4, whether the elements of the AKT theory are *scopes* of managerial activity, knowledge, and task or they are *common work contents* for all managers are argued. In this section, the empirical examinations which support the argument of this study that the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks are scopes and show the inadequacies of the competing argument are described and discussed.

Findings of This Study

Analysis of the 1,272 valid diary records (9 cases were excluded because they contain multiple, unassociated activities and tasks which were coded as missing data) revealed that the 40 managers as a group had performed all of the 11 manager's activities (Table 6-1), used all of the 11 manager's knowledges (Table 6-2; MK12 was undefined), and contributed to all of the 14 manager's tasks (Table 6-3). However, only four managers had individually performed all of the first ten manager's activities

(Managers No. 1, 6, 26, and 40) and no one had performed all of the 11 manager's activities (Table 6-1); only one manager had individually used all of the 11 manager's knowledges (Manager No. 9, Table 6-2); and no individual manager had contributed to all of the 14 manager's tasks (Table 6-3) according to the diary data.

Table 6-1. Distribution of individual manager's activities performed

Mgr	*MA 1*	*MA 2*	*MA 3*	*MA 4*	*MA 5*	*MA 6*	*MA 7*	*MA 8*	*MA 9*	*MA 10*	*MA 11**	*All*
1	3	25	8	5	13	6	6	3	6	1	0	76
2	0	9	0	19	1	2	8	15	9	0	3	66
3	1	13	4	13	2	2	7	8	0	0	0	50
4	2	0	0	7	0	0	8	18	8	0	1	44
5	3	0	2	7	1	4	20	12	5	4	4	62
6	1	10	6	7	8	6	7	4	7	2	0	58
7	0	5	6	7	3	3	3	5	4	0	0	36
8	1	0	1	3	1	1	2	4	0	1	0	14
9	1	11	14	25	1	6	7	0	2	2	0	69
10	0	15	0	19	2	6	7	6	4	0	0	59
11	0	10	8	14	2	3	1	0	4	6	0	48
12	0	0	6	2	7	3	2	2	2	0	1	25
13	2	0	0	3	0	0	6	0	3	4	0	18
14	0	2	0	1	0	5	2	2	1	4	0	17
15	0	1	1	0	0	2	0	1	0	7	1	13
16	1	2	1	3	1	2	0	1	0	0	0	11
17	0	0	9	5	1	0	0	1	0	0	0	16
18	1	3	8	1	2	1	1	0	4	0	0	21
19	0	0	1	4	0	0	0	0	0	0	0	5
20	2	7	2	16	3	4	5	7	5	0	0	51
21	0	12	0	5	0	0	0	7	0	0	1	25
22	1	7	0	1	0	0	0	0	0	0	0	9
23	0	2	0	2	1	1	1	1	0	0	0	8
24	0	21	6	2	2	1	5	2	1	0	0	40
25	0	1	1	2	0	0	2	2	0	0	1	9
26	2	1	11	3	11	5	9	1	4	1	0	48
27	0	17	0	22	1	2	0	0	0	0	0	42
28	0	0	0	5	3	0	2	2	2	0	0	14
29	0	8	3	5	0	0	6	1	0	0	0	23
30	0	1	7	4	0	0	1	0	0	0	0	13
31	0	1	2	3	1	0	3	1	1	0	0	12
32	0	1	1	9	1	2	4	1	3	5	0	23
33	0	4	2	2	2	2	8	3	5	0	0	28
34	3	0	3	4	5	2	1	5	0	1	6	30
35	0	1	0	1	0	6	0	3	1	0	0	12
36	0	1	1	8	0	9	0	17	5	0	0	41
37	3	0	8	5	1	2	6	3	7	2	18	55
38	1	0	1	5	4	0	2	1	3	2	0	19
39	0	2	0	2	0	0	1	11	7	1	0	24
40	1	7	5	3	4	5	3	6	2	2	0	38
All	29	200	128	254	84	93	146	156	104	42	36	1272

* The figures relating to *operating* (MA11) may contain data of non-managerial operational actions.

Table 6-2. Distribution of individual manager's knowledges used

Mgr	*MK 1*	*MK 2*	*MK 3*	*MK 4*	*MK 5*	*MK 6*	*MK 7*	*MK 8*	*MK 9*	*MK 10*	*MK 11*	*MK 12*[a]	*All*	*Mean MKs*[b]
1	16	12	42	0	0	0	0	0	0	9	3	0	82	1.08
2	0	8	62	0	0	1	1	0	0	0	0	0	72	1.09
3	13	26	35	0	0	0	12	0	0	4	0	0	90	1.80
4	0	16	15	2	0	0	4	0	0	0	4	16	57	1.30
5	10	3	16	0	17	1	7	2	0	22	0	0	78	1.26
6	22	35	21	10	5	0	5	6	4	17	9	0	134	2.31
7	3	16	5	0	0	0	14	0	0	24	9	2	73	2.03
8	2	1	7	1	0	2	4	0	0	2	1	0	20	1.43
9	8	24	39	2	1	9	14	9	4	14	5	14	143	2.07
10	3	14	33	1	5	4	1	2	0	5	0	0	68	1.15
11	12	9	47	0	0	0	3	0	0	5	2	1	79	1.65
12	6	2	0	18	0	0	0	4	3	6	0	1	40	1.60
13	10	0	13	14	7	0	3	0	0	0	0	0	47	2.61
14	5	11	2	1	3	3	2	0	0	8	2	1	38	2.24
15	2	6	1	0	2	0	2	1	0	8	6	2	30	2.31
16	1	0	1	0	0	2	10	0	0	0	0	1	15	1.36
17	10	0	0	0	0	0	1	0	2	2	0	1	16	1.00
18	3	7	12	15	0	0	0	3	1	2	6	2	51	2.43
19	0	0	4	0	0	0	0	1	0	0	0	0	5	1.00
20	0	11	21	4	1	10	4	1	0	0	8	0	60	1.18
21	9	19	24	0	0	0	0	0	0	0	3	0	55	2.20
22	0	2	4	0	0	0	0	0	0	1	0	0	7	0.78
23	0	3	2	0	1	2	1	1	0	0	1	1	12	1.50
24	20	1	21	0	0	2	0	0	0	0	1	1	46	1.15
25	1	4	0	1	1	0	0	0	0	1	3	0	11	1.22
26	4	11	12	4	0	2	28	0	1	3	4	1	70	1.46
27	0	0	0	0	0	4	13	1	1	0	1	2	22	0.52
28	0	1	4	0	0	6	10	0	0	0	0	0	21	1.50
29	6	3	9	2	0	2	9	0	0	2	0	0	33	1.43
30	0	1	1	0	0	0	6	0	0	0	0	1	9	0.69
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	4	6	1	1	4	1	2	15	0	5	4	1	44	1.91
33	16	0	11	12	0	0	0	0	0	0	1	0	40	1.43
34	0	0	15	5	11	0	3	0	0	7	14	0	55	1.83
35	7	4	0	2	3	2	1	3	0	2	0	0	24	2.00
36	1	1	3	2	22	0	0	5	6	1	0	4	45	1.10
37	38	4	3	14	6	0	1	3	5	3	12	0	89	1.62
38	3	0	3	4	7	1	0	0	2	8	1	4	33	1.74
39	0	3	15	12	0	0	2	0	1	0	0	0	33	1.38
40	6	8	13	8	3	1	5	4	0	14	3	1	66	1.74
All	241	272	517	135	99	55	168	61	30	175	103	57	1913	1.52

[a] MK12 (other knowledge) was not defined and variation in its content was likely every time it was used by a manager. However, it was included in the analysis to produce a more accurate *mean MKs*[b].

[b] Mean MKs was calculated by dividing total number of knowledges used by total number of activities performed in Table 6-1 (or total number of tasks contributed in Table 6-3) for each individual manager.

Table 6-3. Distribution of individual manager's tasks contributed

Mgr	*MT 1*	*MT 2*	*MT 3*	*MT 4*	*MT 5*	*MT 6*	*MT 7*	*MT 8*	*MT 9*	*MT 10*	*MT 11*	*MT 12*	*MT 13**	*MT 14*	*All*
1	0	3	2	2	1	2	3	4	2	0	43	12	0	2	76
2	0	0	0	0	11	7	0	2	0	0	43	0	3	0	66
3	6	3	16	1	0	11	4	2	1	0	5	0	0	1	50
4	2	3	2	8	15	2	1	2	0	1	5	2	1	0	44
5	9	12	7	3	0	0	1	2	2	2	5	13	4	2	62
6	6	5	6	6	1	9	2	3	1	0	6	7	0	6	58
7	3	14	1	0	0	1	0	2	0	2	2	8	0	3	36
8	1	1	0	1	1	2	0	0	0	0	6	1	0	1	14
9	2	5	1	0	11	8	0	1	1	3	13	3	0	21	69
10	1	5	0	7	3	7	3	4	4	1	11	4	0	9	59
11	0	13	0	5	5	6	0	3	0	1	12	1	0	2	48
12	5	4	0	1	0	2	0	2	0	0	4	1	1	5	25
13	4	5	0	0	0	2	0	0	1	3	3	0	0	0	18
14	2	2	1	6	0	1	2	1	1	0	0	1	0	0	17
15	0	1	2	1	1	0	0	0	0	0	0	6	1	1	13
16	0	2	0	0	0	2	0	1	0	1	0	1	0	4	11
17	0	14	1	0	0	0	0	0	0	0	0	0	0	1	16
18	1	2	2	6	0	0	0	0	0	0	3	2	0	5	21
19	0	0	0	0	1	1	0	0	0	0	1	1	0	1	5
20	1	4	0	3	5	6	2	3	1	0	9	13	0	4	51
21	0	0	0	5	1	3	2	3	2	2	1	2	1	3	25
22	0	0	1	1	0	2	0	3	1	1	0	0	0	0	9
23	0	2	0	0	0	2	1	0	0	0	0	1	0	2	8
24	0	2	0	4	0	23	0	0	0	0	8	1	0	2	40
25	0	0	1	2	0	0	0	1	1	1	0	0	1	2	9
26	0	1	2	8	0	3	0	4	0	1	12	6	0	11	48
27	3	6	0	2	0	11	1	1	1	2	0	1	0	14	42
28	0	5	0	2	4	0	1	0	0	0	2	0	0	0	14
29	0	4	0	1	1	7	0	0	0	0	8	0	0	2	23
30	0	1	0	1	0	1	0	0	0	0	0	0	0	10	13
31	2	1	4	0	3	0	0	0	2	0	0	0	0	0	12
32	1	5	0	0	7	1	0	0	1	0	1	2	0	5	23
33	0	8	0	1	0	1	0	4	0	0	11	1	0	2	28
34	0	0	1	3	0	1	1	1	2	0	4	10	6	1	30
35	3	0	1	4	0	0	1	0	2	0	1	0	0	0	12
36	0	22	0	0	1	0	0	2	0	1	13	0	0	2	41
37	6	5	2	0	0	1	0	0	0	0	9	13	18	1	55
38	0	11	0	1	0	0	1	1	0	0	0	1	0	4	19
39	0	5	0	2	1	6	0	1	0	0	6	2	0	1	24
40	4	5	4	0	0	3	1	2	2	5	2	5	0	7	38
All	62	181	57	87	73	134	27	53	28	27	249	121	36	137	1272

* The figures relating to *sharing of operation* (MT13) may contain data of non-managerial operational actions.

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Discussion

The nature of the 11 manager's activities. Findings suggest that the 11 manager's activities are a scope of managerial activity rather than a common work content for all managers. Mintzberg's (1973) argument that all managers perform all of the ten roles, or the first ten manager's activities, is neither supported nor refuted by the findings because his argument does not specify the term of time and the diary data were collected discontinuously during a period of about a week. However, only 4 out of 16 managers who had recorded more than 38 records had individually performed all of the first ten manager's activities in the recording period. This low percentage (25%) should be seen as a signal warning us of the inadequacy of Mintzberg's argument (Answer to DP1 asked in the Section 2 of Chapter 4).

Moreover, although Mintzberg (1973) claimed that several studies (e.g., Bex, 1971; Choran, 1969; Costin, 1970) supported his argument, two other studies (Ley, 1978; Morris et al., 1981) did show that their managers as a group had not performed all of the ten roles in the observation periods (Table 6-4). Furthermore, although four other studies (Feilders, 1979; Martinko and Gardner, 1990; Pavett and Lau, 1983, 1985) showed that their managers as a group performed all of the ten roles or perceived all of them as parts of their job, they did not show that every individual manager in their samples had performed all of the ten roles or perceived all of them as part of his or her job.

Table 6-4. Findings about the managerial roles/manager's activities (percents of time/events) by various studies

Roles	*Feilders (1979)*	*Ley (1978)*	*Martinko & Gardner (1990)*	*Morris et al. (1981)*	*MAs*	*This study*
Figurehead	4/2	12/NA*	4/3	4/NA	MA1	2/2
Leader	12/15	12/NA	24/32	27/NA	MA2	13/16
Liaison	7/3	6/NA	3/2	7/NA	MA3	14/10
Monitor	12/33	28/NA	28/29	31/NA	MA4	18/20
Disseminator	5/7	14/NA	13/14	8/NA	MA5	6/7
Spokesperson	36/14	12/NA	9/6	16/NA	MA6	7/7
Entrepreneur	12/8	7/NA	3/2	1/NA	MA7	13/12
Disturbance handler	3/5	6/NA	4/4	5/NA	MA8	11/12
Resource allocator	9/2	4/NA	8/6	3/NA	MA9	8/8
Negotiator	1/0	0/NA	5/0	0/NA	MA10	4/3
Subordinate	--	--	1/0	1/NA	--	--
--	--	--	--	--	MA11	3/3

Source: Findings of other studies are cited from Martinko and Gardner (1990, p. 349).

* NA: Not available.

This researcher argues that Mintzberg's argument is inadequate because management is not necessarily about performing *all* of the ten roles, or the first ten manager's activities. In reality, a few managers do not perform all of these activities. For example, a manager without subordinates, such as the self-employed and some public relations managers, does not perform *leading* (MA2) and *giving information downwards* (MA5).

The argument of this study that the 11 manager's activities are a scope of managerial activity is borne out by the findings of this and several other studies mentioned above. These findings show that managers as a group had performed all of the 11 manager's activities or the ten roles and few individual managers had performed all of them during the observation period. Besides, because performing any one of the 11 manager's activities is a learned phenomenon rather than a natural one, it is more suitable to argue that the 11 manager's activities are the scope of managerial activity than to argue that all managers perform all of the ten roles, or the first ten manager's activities. Therefore, the 11 manager's activities can be described as a scope of managerial activity and it is not necessary for every manager to perform all of the 11 manager's activities (Answer to part of DP2 asked in the Section 2 of Chapter 4).

The nature of the 11 manager's knowledges. Similarly, findings suggest that the 11 manager's knowledges are a scope of managerial knowledge rather than a common work content for all managers. The subjects as a group had used all of the 11 manager's knowledges but only one individual manager had used all of the 11 manager's knowledges according to the diary data. Besides, the 11 manager's knowledges represent a range of management knowledge that managers of an organization unit as a group are expected to use and that an individual manager is expected to learn to use part of it because of the enormous amount of management knowledge. Therefore, the 11 manager's knowledges can be described as a scope of managerial knowledge and it is not necessary for every manager to use all of the 11 manager's knowledges (Answer to part of DP2).

The nature of the 14 manager's tasks. Also, findings suggest that the 14 manager's tasks are a scope of managerial task rather than a common work content for all managers. The subjects as a group had contributed to all of the 14 manager's tasks but no individual manager had done so according to the diary data. If the division of labour among managers is added into consideration, it is safe, therefore, to say that the 14 manager's tasks are a scope of managerial task and that it is unnecessary for every manager to contribute to all of the 14 manager's tasks (This does not imply that some managers can overlook the compatibility among the 14 factors for organizational operation (FOOs).) (Answer to part of DP2).

Careful investigation, as described in Chapter 5, on the written information made by the subjects, especially on the 123 beyond-the-scope records, had not found any need to add additional categories to the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks. Therefore, it is safe, at this moment, to say that they are the scopes of managerial activity, knowledge, and task respectively and that it is not necessary for every manager to perform all of the 11 manager's activities, to use all of the 11 manager's knowledges, and to contribute to all of the 14 manager's tasks.

The evidence mentioned in this section justifies the scope-nature of the elements of the AKT theory.

Section 2

THE "DETERMINANTS" OF THE MANAGER'S ACTIVITIES

As mentioned in the Section 3 of Chapter 4, whether the manager's activities are prompted by the manager's tasks or they are determined by the manager's function, level, company, and industry are argued. In this section, the empirical tests which support the argument of this study that the 14 manager's tasks prompt the 11 manager's activities and show the inadequacies of the competing argument are described and discussed.

Findings of This Study

Sample size Adequacy of χ

The null hypotheses for testing the independence between function, level, company, industry, the 14 manager's tasks (MTs), and the 11 manager's activities (MAs) formulated in the Section 3 of Chapter 4 (Ho1 ~ Ho9) were all rejected ($p < .001$) by the χ^2 tests (Table 6-5). In other words, the associations between the manager's tasks and activities; between function, etc. and the manager's tasks; and between function, etc. and the manager's activities were all statistically significant. Thus, the arguments of this study and that of Mintzberg (1973) or of Campbell et al. (1970) were all borne out by the data in the first place.

However, a further investigation into the relative magnitude of associations by firstly normalizing the χ^2-values (z-value for the level of significance) and secondly computing the coefficients of contingency (C-value for the strength of association[1]) revealed that the *most significant* and *strongest* association was between the manager's tasks and activities, that the *intermediate* associations were between function, etc. and manager's tasks, and that the *weakest* associations were between function, etc. and the manager's activities in terms of one by one comparison with those for function, etc. and the manager's tasks respectively (Table 6-5)[2]. Alternatively, analysis using data of reduced categories for producing more cautious χ^2-values and fewer cells with expected frequencies of five or less showed the same pattern of results (Table 6-6). A sign test on the five pairs of z-values (or C-values) for function, etc. *and* the manager's tasks and activities respectively showed that the more significant and stronger associations between function, etc. and the manager's tasks than those between function, etc. and the manager's activities were not produced by chance ($N = 5$, $x = 0$, $p < .05$).

To investigate whether the associations between the manager's tasks and activities; between function, etc. and the manager's tasks; and between function, etc. and the manager's activities were affected by other variables or not, partial cross-tabulations for each category (or a group of categories) of a third variable were analyzed. The findings showed that the *strength of association* between the manager's tasks and activities remained the same ($p < .05$, using C-value as the estimator for correlation coefficient; risk of misusing statistical test for correlation coefficient involved) for all of the partial tables across function, level, company, and industry (Table 6-7) and for the overall table, although the *pattern of association* was not the same for each partial table. For examples, the production managers had 143 (out of 461) actions

Table 6-5. χ^2 tests of independence between function, level, company, industry, the manager's tasks, and the manager's activities

	MTs				Cells	*MAs*				Cells
	χ^2	*df*	z^a	C^b	e.f.≤5	χ^2	*df*	z^a	C^b	e.f.≤5
MTs	--	--	--	--	--	2107***	130	**48.83**	$\boxed{.79}$	47%
Function	595***	117	**19.23**	**.57**	62%	299***	90	**11.07**	**.44**	56%
Level-T[c]	271***	39	**14.50**	**.42**	5%	146***	30	**9.40**	**.32**	2%
Level-B[d]	192***	39	**10.84**	**.36**	5%	130***	30	**8.44**	**.30**	2%
Company	556***	104	**18.97**	**.55**	56%	475***	80	**18.21**	**.52**	50%
Industry	647***	91	**22.52**	**.58**	55%	462***	70	**18.59**	**.52**	47%

[a] Approximate z-values for χ^2-values calculated by $z = \sqrt{2\cdot\chi^2} - \sqrt{2\cdot df - 1}$ (Fisher and Yates, 1963).

[b] Coefficient of contingency, $C = \sqrt{\chi^2/(\chi^2 + N)}$, N: Sample size (number of actions).

[c] Level-T: Level, count from top.

[d] Level-B: Level, count from bottom.

*** for $p < .001$

Table 6-6. Alternative table for Table 6-5[a]

	MTs				*Cells*	*MAs*				*Cells*
	χ^2	*df*	*z*	*C*	e.f.≤5	χ^2	*df*	*z*	*C*	e.f.≤5
MTs	--	--	--	--	--	672[b]	45	**27.23**	**.59**	0
Function	259[c]	27	**15.50**	**.42**	0	88[c]	27	**5.98**	**.26**	2.5%
Level-T	216	27	**13.49**	**.39**	0	112	27	**7.66**	**.29**	2.5%
Level-B	142	27	**9.56**	**.32**	0	84	27	**5.72**	**.25**	2.5%
Company	174[d]	27	**11.37**	**.35**	0	158[d]	27	**10.50**	**.34**	0
Industry	247[e]	27	**14.96**	**.41**	0	151[e]	27	**10.11**	**.33**	10%

[a] To reduce the percentage of cells with expected frequencies of five or less and to make the relative magnitudes of associations easily comparable. As the first step, *operating* (MA11) and *sharing of operation* (MT13) were dropped out and data of MT7, 8, 9, & 10 combined as a group for all of the analyses in this table.

[b] Data of MA1, 5, 6, 9, & 10 were combined. This z-value is about the same, after the dropping of MA11 and MT13, to those from analyses with degrees of freedom equal to 108, 81, 63, & 54 resulting from gradual combinations of categories of manager's activities. A radical reduction of the category of manager's activities to three groups produces z = 17.29 which is still higher than any other z-values in this table.

[c] Data of functions of sales, human resource, finance, administration, maintenance, industrial engineering, and quality control were combined.

[d] Data of companies No. 4, 5, 6, 7, 8, & 9 were combined.

[e] Data of industries of textile and dyeing were conbined and so were data of industries of cement, education, and clothes.

Table 6-7. Strength of association between the manager's tasks and activities across function, level, company, and industry

Third variable controlled	*Sample*	C^a
Function: Production	461	.82
Function: Multiple	387	.79
Function: others	424	.81
Level-T[b]: 3	427	.80
Level-T: 4	393	.82
Level-T: 2 & 5	452	.81
Level-B[c]: 3	467	.81
Level-B: 4	316	.80

(continued)

Third variable controlled	*Sample*	C^a
Level-B: 1 & 2	489	.81
Company: No. 1	392	.80
Company: No. 2	316	.82
Company: No. 3	317	.83
Company: others	247	.82
Industry: Food	671	.81
Industry: others	601	.79

[a]Coefficient of contingency. [b]Level-T: Level, count from top. [c]Level-B: Level, count from bottom

Table 6-8. Strengths of associations between function and the manager's tasks and between function and the manager's activities across level, company, and industry

Third variable controlled	*Sample size*	*C (Function--MTs)*[a]	*C (Function--MAs)*[b]
Level-T: 2	207	.54	.44
Level-T: 3	427	.61	.57**
Level-T: 4	393	.67**	.51
Level-T: 5	245	.40**	.35
Level-B: 1 & 2	489	.69***	.63***
Level-B: 3	467	.54	.49
Level-B: 4	316	.54	.42
Company: No. 1	392	.53	.19***
Company: No. 2	316	.64	.54*
Company: No. 3	317	.66*	.50
Company: others	247	.63	.53
Industry: Food	671	.57	.45
Industry: others	601	.59	.44

[a]Coefficient of contingency for the strength of association between function and manager's tasks in partial tables in which a third variable was "controlled."

[b]Coefficient of contingency for the strength of association between function and manager's activities in partial tables in which a third variable was "controlled."

* $p < .05$, ** $p < .01$, *** $p < .001$ for rejecting Ho: C (Function--MTs) for partial table = C (Function--MTs) for overall table, which was found to be 0.57, or Ho: C (Function--MAs) for partial table = C (Function--MAs) for overall table, which was found to be 0.44; coefficients of contingency used as estimators of correlation coefficients and tests applied; risk of misusing statistical method involved.

for *smooth flow of input/output* (MT11) while other managers had only 106 (out of 811) of them; the managers of food industry had 67 (out of 671) *leading* (MA2) for *attention of subordinates* (MT6) while other managers had only 12 (out of 601) of them. The findings also showed that the strengths of associations between function and the manager's tasks and between function and the manager's activities varied ($p < .05$) across some levels and companies (Table 6-8). Similar findings were found for the strengths of associations between level, company, and industry *and* the manager's tasks and activities respectively. "Interactions" among function, level, company, and industry were evident.

Not clear ??

Graphically, the subjects drew lines and arrows, as asked, to associate the recorded activity, knowledges, and task in most of the diary records. Among the 1,281 valid ones, the subjects drew three (full) categories of associations in 276 (21.5%) records, two categories of associations in 797 (62.2%) records, and one category of association in 72 (5.6%) records. Altogether, the subjects drew 1,145 (89.3%) of the valid records to show either a clear relationship between the manager's tasks and activities or an implied one between them *via* the manager's knowledges. Analysis of the influence of the manager's level on the drawing of associations revealed that 23 junior managers (Level 4 & 5, count from top) drew significantly fewer categories of association (averaged 1.6 associations per record) than their 17 more senior counterparts (Level 2 & 3, count from top, averaged 2.26 associations per record) ($F = 8.99$, $df = 1$, $p < .01$).

The importance of the issues dealt with in the diary actions was found to have more significant and stronger association with the manager's tasks than with the manager's activities (Table 6-9).

Table 6-9. χ^2 tests of independence between the importance of the issues and the manager's tasks and activities respectively

	MTs			*Cells*	*MAs*			*Cells*
	χ^2	*df*	z^a	e.f.≤5	χ^2	*df*	z^a	e.f.≤5
Importance[b]	218	26	**13.73**	17%	125	20	**9.58**	9%
Importance[c]	103	9	**10.20**	0	70	9	**7.68**	0

[a]Approximate z-values for χ^2-values calculated by $z = \sqrt{2 \cdot \chi^2} - \sqrt{2 \cdot df - 1}$ (Fisher and Yates, 1963).

[b]Original data used.

[c]Alternative sub-table: Data of categories of *important* and *not important* were combined; categories of MA11 and MT13 dropped; and data of MT7, 8, 9, & 10 combined.

Discussion

The findings of the χ^2 tests and further investigations support the arguments of this study that the manager's tasks prompt the manager's activities and that the manager's tasks differ across the manager's function, level, company, and industry. In contrast, the findings suggest that the argument of Mintzberg (1973) or of Campbell et al. (1970) that the manager's function, level, company, and industry determine the manager's activities is inadequate: a part of the findings considered *in isolation* support the argument statistically but not when all of the findings are considered statistically and conceptually.

Firstly, the findings support the argument of this study that the manager's tasks prompt the manager's activities: the findings of the most significant and strongest association between the manager's tasks and activities (Table 6-5) indicate that the relationship between them has statistical significance and theoretical importance; the findings of the nearly constant coefficients of contingency, or strength of association, from the overall and partial cross-tabulations between them (Table 6-5 & 6-7) suggest that this is a *direct* relationship independent of the manager's function, level, company, and industry; and the findings of the more significant and stronger association of the manager's tasks, than of the manager's activities, with the importance of the issues dealt with (Table 6-9) suggest that the manager's tasks prompt the manager's activities, rather than the way round, because the manager's tasks, which relate to the 14 factors for organizational operation (FOOs), are more central to management and less flexible than the manager's activities for a manager to choose to act upon. Thus, the findings indicate that the manager's tasks prompt the manager's activities. This evidence is vital to the establishment of the AKT theory. It justifies the relationship between the manager's tasks and activities.

The findings of graphical associations also indicate that the manager's tasks prompt the manager's activities. Line associations between the recorded activity and task on most (1,145 out of 1,281, or 89.3%) of the valid diary records (21.5% of them with three (full) categories of associations, 62.2% of them with two, and 5.6% of them with one) indicate that the manager's tasks are regarded or implied by the subjects as the objectives of their activities. Moreover, if the subjects' hectic work pace which imposes pressure on time for drawing the line associations, especially at junior levels (Mintzberg, 1973), is taken into account, the figure for the portion of diary records being graphically associated must be higher. The findings of on average fewer line associations being drawn by junior managers than by the more senior ones support this point.

Before discussing the meaning of the intermediate significant associations between function, etc. and the manager's tasks and of the weakest significant associations between function, etc. and the manager's activities, two types of applications of χ^2 test of independence: for classification and for relationship, need to be delineated (see Table 6-10). If two variables are representing the matters of different entities, the χ^2 test of independence between them is for testing relationship. But, if one variable is a classifier representing the typology and the other the classified representing the matter of, preferably, the same entity, the χ^2 test of independence is for testing classification. From this perspective, the intermediate associations between function, etc. and manager's tasks are for classifications rather than for relationships.

Table 6-10. Two types of application of χ^2 test of independence

	χ^2 test of independence for	
	Classification	***Relationship***
Variables	Classifier and the classified, preferably of same entity	Independent and dependent variables of different entities
Meaning of statistical significance	Difference in the classified according to the classifier	Direct or causal relationship, if not shown otherwise
Meaning of the strength of association	Differentiating capacity of the classifier to the classified	Importance of relationship; strength of influence

Secondly, the findings of the intermediate significant associations between function, level, company, and industry and the manager's tasks (Table 6-5) support the argument of this study that the manager's tasks differ across functions, levels, companies, and industries. Function, etc. and the manager's tasks have a common entity, i.e., an organization unit. In these χ^2 tests of independence, function, etc. are the classifiers and the manager's tasks the classified. The findings indicate that managers of different functions, levels, companies, and industries act upon different tasks.

Function, etc. are typologies, specifically, function for the purpose, level for status of authority, company for legal identity, industry for economic identity, of an organization unit. They are not really immediate classifiers for manager's tasks. But, they are remoter classifiers if applied to manager's activities (Fig. 6-1). Also, they are not categorical classifiers. Being of the same function, level, company, or industry does not always make sense in terms of the manager's tasks. For example, two level 2, count from top, production managers, one for a small labour-intensive company and the other for a large capital-intensive one, might have very different tasks. Thus, findings indicate that the strengths of associations between function, etc. and the manager's tasks are only moderate ones (Table 6-5) and subject to "interactions" among function, level, company, and industry (Table 6-8).

Finally, although the findings of the weakest significant associations between function, etc. and the manager's activities (Table 6-5) considered in isolation support the argument of Mintzberg (1973) or of Campbell et al. (1970) that function, etc. determine manager's activities, the overall findings reveal the inadequacy of their argument. The strengths of these associations are much lower than that between the manager's tasks and activities *and* lower than those between function, etc. and the manager's tasks respectively. In other words, function, etc. are not as good as the manager's tasks in accounting for the variations in the manager's activities and the manager's tasks are classified more clearly than the manager's activities by function, etc. (Fig. 6-2).

Conceptually, this can be explained by two reasons. On the one hand, the manager's activities are prompted by manager's tasks as discussed. On the other hand, function, etc. are typologies for an organization unit. They are suitable classifiers for organization related matters (the contextual side) only.

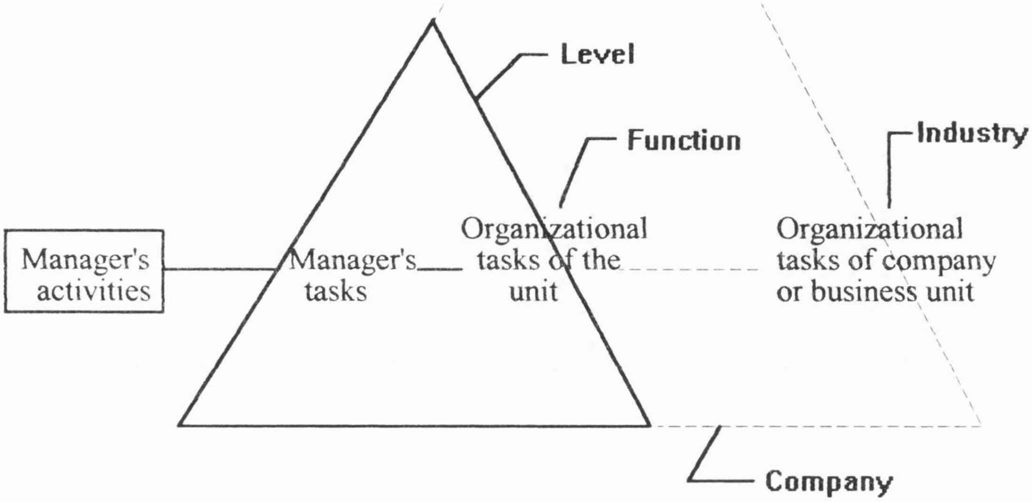
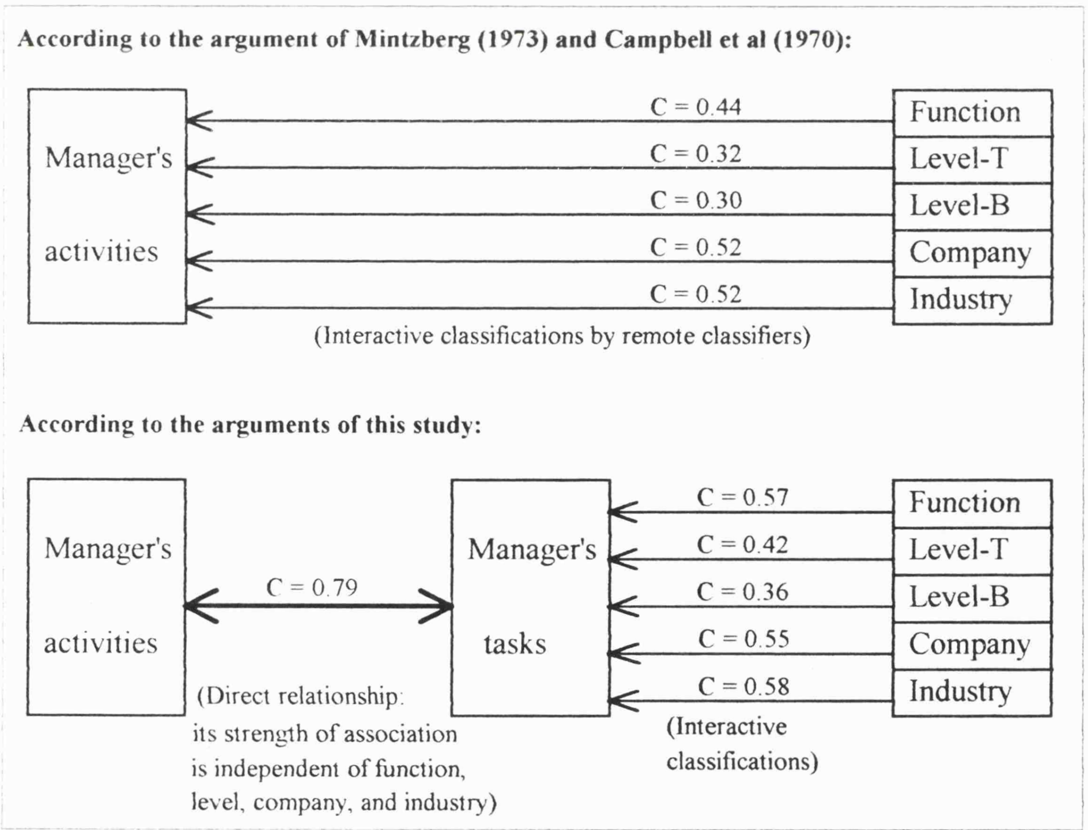


Fig. 6-1 The entities of function, level, company, and industry



(Data from Table 6-5; judgement of interactions based on Table 6-7, Table 6-8, and similar analyses)

Fig. 6-2 Relationships among function, level, company, industry, the manager's tasks and the manager's activities

As to the manager's activities, which belong to the behavioral side of managerial actions, function, etc. are distant classifiers. Therefore, the weakest associations between function, etc. and the manager's activities are explained by the application of remote classifiers to the manager's activities. Thus, the relationships between function, etc. and the manager's activities argued by Mintzberg (1973) and Campbell et al. (1970) are shown to be better replaced by a set of classifying relationships by function, etc. to the manager's tasks *and* a direct relationship between the manager's tasks and activities.

As to the general pattern of the content of management practice, the frequency distributions of managers' actions between the manager's tasks and activities (Table 6-11) and between function, etc. and the manager's tasks (tables not shown) cannot be regarded as fully representative for any population, not even for the 40 managers in the sample, because the practice of management seems still changing and the primary data is not from a sample large enough to represent the total content of managerial work,. One of the subjects noted that his diary was not representative of his work because he did other things at other time. The data of 1,281 valid diary records can only be seen as snapshots of management practice. Findings from them are useful for empirical tests but not enough for representing the general pattern of the content of management practice, even just a contemporary one.

In summary, the findings support the argument that the manager's tasks prompt the manager's activities. The strength of this relationship is supported as a direct one, independent of the manager's function, level, company, and industry. But, the pattern of this relationship varies because the manager's tasks differ across function, etc., an argument supported by the findings as well.

Section 3

THE NECESSITY OF A SET OF SEPARATE MANAGER'S TASKS

As mentioned in the Section 4 of Chapter 4, whether it is necessary to have a set of separate manager's tasks from the manager's activities or not are argued. In this section, the empirical tests which support the argument of this study that it is necessary to separate the 14 manager's tasks from the 11 manager's activities and show the inadequacies of the competing arguments are described and discussed.

Findings of This Study

The frequency distribution of the 40 Taiwanese managers' actions between the manager's tasks and activities is shown in Table 6-11. As it shows, the manager's tasks did not have a one to one association with the manager's activities (Answer to DP4 of the Section 4 of Chapter 4). Nearly all of the manager's tasks were associated with all of the manager's activities, except *operating* (MA11) and *sharing of operation* (MT13), in spite of enormous concentrations of data in a few cells. (Note: Some zero figures might be due to the scarcity of the action and the "not-large-enough" sample.)

Table 6-11. Cross-tabulation of 40 Taiwanese managers' actions between the manager's tasks and activities

	MT 1	*MT 2*	*MT 3*	*MT 4*	*MT 5*	*MT 6*	*MT 7*	*MT 8*	*MT 9*	*MT 10*	*MT 11*	*MT 12*	*MT 13*	*MT 14*	*All*
MA1	0	0	0	3	0	2	2	0	0	2	6	7	0	7	29
MA2	1	12	10	6	0	79	9	27	14	9	28	1	0	4	200
MA3	3	17	4	3	10	0	0	2	1	2	10	25	0	51	128
MA4	15	44	7	10	8	9	3	3	1	5	63	28	0	58	254
MA5	3	14	2	7	1	18	1	6	2	1	22	5	0	2	84
MA6	11	22	5	8	4	0	0	3	0	3	11	14	0	12	93
MA7	22	33	8	14	12	6	2	3	0	1	25	18	0	2	146
MA8	0	19	12	22	29	15	3	6	6	2	34	7	0	1	156
MA9	5	16	6	10	5	5	7	2	2	2	37	7	0	0	104
MA10	2	4	3	4	4	0	0	1	2	0	13	9	0	0	42
MA11	0	0	0	0	0	0	0	0	0	0	0	0	36*	0	36
All	62	181	57	87	73	134	27	53	28	27	249	121	36	137	1272

* The figure and the related ones may contain data of non-managerial operational actions.

Discussion

The finding supports the argument of this study that it is necessary to have a set of separate manager's tasks from the manager's activities. In contrast, the finding reveals that, without conceptual separation of the manager's tasks from activities, Mintzberg (1973) ten roles and the classicists' management functions are clumsy in describing management practice because they are incomplete in scope and ill-structured in concept.

Firstly, the finding reveals that Mintzberg's (1973) ten roles are clumsy in describing management practice. Mintzberg's ten roles theory is parsimonious if it is used to describe the manager's activities. But, it is not if it is also used to describe the manager's tasks. Without a set of separate manager's tasks, the comprehensive discussion of each one of his roles needs to repeat the discussion of nearly every category of the 14 manager's tasks because nearly all of the manager's tasks are associated with all of the manager's activities. Moreover, without an understanding of the manager's tasks and their functions, the discussion of the ten roles is unable to relate to the organizational tasks.

Secondly, the finding reveals that the classicists' management functions are clumsier than Mintzberg's (1973) ten roles in describing management practice. Comparing the classicists' management functions (Table 2-1) with the manager's activities or the manager's tasks respectively, only slight overlaps can be found. However, comparing them with the combinations of the manager's activities and tasks (cells in Table 6-11), more concrete overlaps can be found. For examples, planning matches with cells of *collecting information* (MA4) for *formal plan* (MT1), *innovating and improving* (MA7) for *formal plan* (MT1), and *resource allocating* (MA9) for *formal plan* (MT1); organizing matches with cells of *innovating and improving* (MA7) for *organization structure* (MT3) and *resource allocating* (MA9) for *organization* *structure* (MT3); staffing matches with *resource allocating* (MA9) for *competent subordinates* (MT7); and leading with *leading* (MA2) for *motivation and work climate* (MT8).

Unfortunately, not every management function matches complete cells in the Table 6-11 and some functions mean more than the combinations of the manager's activities and tasks. For examples, commanding matches partially with cells of *giving information downwards* (MA5) for *formal plan* (MT1), *giving information downwards* (MA5) for *action plan for next step* (MT2), *giving information downwards* (MA5) for *organization structure* (MT3), and *giving information downwards* (MA5) for *work flow and regulation* (MT4); co-ordinating matches partially with *innovating and improving* (MA7), *disturbance handling* (MA8), *resource allocating* (MA9), and *negotiating* (MA10) with an emphasis of compatibility among FOOs (one of the six organizational concepts); and controlling matches with *leading* (MA2) for *attention of subordinates* (MT6) and partially with *collecting information* (MA4) and decisional activities with an emphasis on *reflexivity in management* (an organizational concept, too) on the part of superiors.

These comparisons seem to be congruent with the perceptions of non-classicist researchers that the management functions are mixes of tasks, activities, etc. The nature of management functions has never been clearly defined. The definitions of management functions by the classicists include: "responsibility ... activity" (Fayol, 1949, p.6) and "the actual practice of managing" (Koontz, 1980, p.181). Such words are vague and open to interpretation. Therefore, other researchers perceive management functions as responsibilities, as tasks, as objectives, as characteristics, as activities, or as mixes of them (e.g., Carlson, 1951; Stewart, 1967/1988; Mintzberg, 1973, 1975/1990; Mumford, 1988). Also, the above comparisons reveal that the existing classicists' management functions are incomplete since there are many cells in Table 6-11, such as *liaising* (MA3) for *pro-unit environment* (MT12), *negotiating* (MA10) for *smooth flow of input output* (MT11), etc., not being matched by them and that they are ill-structured because some functions, such as co-ordinating and controlling, involve organizational concepts whereas others, such as planning, do not.

Though the classicists' management functions look neat, they are actually not parsimonious. Redundancies in content between the management functions can be found from the mentioned comparison. Both co-ordinating and controlling involve, in different degrees, decisional activities which planning matches more concretely. In other words, co-ordinating includes collective planning and, after measurement, controlling includes planning for the future. Also, their nature of being pair-wise combinations of the manager's activities and tasks makes they themselves not parsimonious to be a complete theory of management. If the management functions are meant to be one, the list of management functions shall be inefficiently long to compensate for the incompleteness common to the existing sets of management functions. The above analyses seem explain Montrone's (1984) experience that "as managers, we know that the process of management is simple in concept, but almost impossible in execution." (p. x) The classicists' management functions look neat in theory but difficult to use in practice because they are incomplete in scope, redundant in content, ill-structured in concept, and inefficient in the way of theorizing if they are to be complete theories of management.

Finally, the finding supports the argument of this study that a set of separate manager's tasks from the manager's activities are necessary. Because nearly all of the manager's tasks are associated with all of the manager's activities, neither of them can be reduced to each other or to another set of variables, such as the management functions, efficiently. With the separation of the 14 manager's tasks, contribution to the unit, from the 11 manager's activities, performance in the situation, the AKT theory achieves parsimony in describing management practice completely and practically (Answer to DP3 of the Section 4 of Chapter 4).

The evidence described in this and the last sections justifies the inclusion and the place of the manager's tasks, in addition to the manager's activities, in the AKT theory.

Section 4

THE NECESSITY OF A SET OF SEPARATE MANAGER'S KNOWLEDGES

As mentioned in the Section 5 of Chapter 4, whether it is necessary to have a set of separate manager's knowledges from the manager's activities and tasks or not are argued. In this section, the empirical tests which support the argument of this study that it is necessary to separate the 11 manager's knowledges from the 11 manager's activities and 14 manager's tasks and show the inadequacies of the competing argument are described and discussed.

Findings of This Study

The frequency distributions of the manager's knowledges by the manager's activities and tasks respectively from the 1,260 valid diary records are shown in Table 6-12 (The analyses were based on the diary data of 39 subjects because Manager No. 31 failed to provide data of the knowledges used). As the table shows, the 11 manager's knowledges did not have a one to one association either with the 11 manager's activities or with the 14 manager's tasks (Answer to DP5 of the Section 5, Chapter 4). Nearly all of the manager's knowledges were associated with all of the manager's activities and all of the manager's tasks in spite of enormous concentrations of data in a few cells. (Note: Some zero figures in the table might be due to the scarcity of the action and the "not-large-enough" sample.)

Moreover, the number (of categories) of the manager's knowledges used for a managerial action was found to vary across the manager's activities, tasks, and level. The number was found to range from zero to six and averaged 1.52. The average number for different activities was found to range from 1.31 for *collecting information* (MA4) to 1.81 for *giving information outwards* (MA6); that for different tasks was found to range from 1.29 for *enhancing own knowledge or interpersonal relationship* (MT14) to 2.05 for *formal plan* (MT1) (Table 6-12). Besides, individual differences were found: the average number of the manager's knowledges used by an individual manager ranged from 0.52 (Manager No. 27) to 2.61 (Manager No. 13) (Table 6-2); the number of knowledges used *in an action* was found to correlate significantly to the manager's level (count from bottom) ($r = .12$, $N = 1,260$, $p < .001$); and the range of

Table 6-12. Cross-tabulations of frequencies between the manager's activities, knowledges, and tasks

	MT 1	*MT 2*	*MT 3*	*MT 4*	*MT 5*	*MT 6*	*MT 7*	*MT 8*	*MT 9*	*MT 10*	*MT 11*	*MT 12*	*MT 13*	*MT 14*	① *All*
MA1	0	0	0	3	0	2	2	0	0	2	6	7	0	7	29
MA2	1	12	10	6	0	79	9	27	13	9	28	1	0	4	199
MA3	3	17	4	3	8	0	0	2	1	2	10	25	0	51	126
MA4	15	43	6	10	7	9	3	3	1	5	63	28	0	58	251
MA5	3	14	1	7	1	18	1	6	2	1	22	5	0	2	83
MA6	11	22	5	8	4	0	0	3	0	3	11	14	0	12	93
MA7	20	33	7	14	12	6	2	3	0	1	25	18	0	2	143
MA8	0	19	11	22	29	15	3	6	6	2	34	7	0	1	155
MA9	5	16	6	10	5	5	7	2	1	2	37	7	0	0	103
MA10	2	4	3	4	4	0	0	1	2	0	13	9	0	0	42
MA11	0	0	0	0	0	0	0	0	0	0	0	0	36*	0	36
③All	60	180	53	87	70	134	27	53	26	27	249	121	36	137	1260

* The figure and the related ones may contain data of non-managerial operational actions.

	MK 1	*MK 2*	*MK 3*	*MK 4*	*MK 5*	*MK 6*	*MK 7*	*MK 8*	*MK 9*	*MK 10*	*MK 11*	*MK 12*	② *All*	②÷①
MA1	6	5	8	2	3	0	3	1	0	5	6	4	43	1.48
MA2	72	79	108	3	0	4	11	1	0	6	10	3	297	1.49
MA3	24	17	27	22	0	1	18	6	11	44	23	13	215	1.71
MA4	24	40	105	20	19	11	40	17	8	36	11	6	328	1.31
MA5	12	11	38	12	0	8	19	6	1	10	7	2	126	1.52
MA6	15	19	27	18	14	11	12	8	4	29	5	6	168	1.81
MA7	28	26	56	19	23	7	40	9	1	16	7	3	235	1.64
MA8	19	31	83	9	16	6	15	3	3	5	13	15	218	1.41
MA9	23	33	40	14	11	4	8	6	2	12	5	3	161	1.56
MA10	5	8	14	9	6	3	2	4	0	11	5	2	69	1.64
MA11	13	3	12	6	7	0	0	0	0	1	11	0	53	1.47
All	241	272	517	135	99	55	168	61	30	175	103	57	1913	1.52

	MT 1	*MT 2*	*MT 3*	*MT 4*	*MT 5*	*MT 6*	*MT 7*	*MT 8*	*MT 9*	*MT 10*	*MT 11*	*MT 12*	*MT 13*	*MT 14*	*All*
MK1	15	38	19	8	4	45	3	17	7	11	31	13	13	17	241
MK2	13	26	28	27	7	45	18	22	9	5	41	18	3	10	272
MK3	14	49	21	48	41	85	10	18	10	12	162	22	12	13	517
MK4	16	29	3	8	1	8	0	2	1	5	23	20	6	13	135
MK5	11	29	4	3	1	2	1	1	1	4	18	13	7	4	99
MK6	6	15	2	2	4	3	0	2	1	0	12	6	0	2	55
MK7	16	33	7	12	8	16	3	6	0	7	22	21	0	17	168
MK8	6	14	0	7	11	3	0	1	0	0	5	4	0	10	61
MK9	3	8	1	0	0	0	0	0	0	0	1	6	0	11	30
MK10	18	31	7	6	2	3	0	3	3	4	11	47	2	38	175
MK11	4	7	4	9	6	2	1	4	3	1	8	18	11	25	103
MK12	1	8	1	4	14	2	2	1	1	0	3	3	0	17	57
④All	123	287	97	134	99	214	38	77	36	49	337	191	54	177	1913
④÷③	2.05	1.59	1.83	1.54	1.41	1.59	1.41	1.45	1.44	1.81	1.35	1.57	1.50	1.29	1.52

knowledges used *by a manager* during the diary-recording period was found to correlate significantly to the manager's level (count from bottom) ($r = .34$, $N = 34$, $p < .05$; or Range of MKs = 5.35 + 0.61 Level).

Discussion

The findings support the argument of this study that it is necessary to have a set of separate manager's knowledges in addition to the manager's activities and tasks. In contrast, the findings reveal that, without conceptual separation of the manager's knowledges from activities and tasks, the classicists' management functions are inefficient and unclear in describing management practice.

The findings reveal that the classicists' use of the management functions as "the classification of knowledge" (Koontz, 1980, p.183; Carroll and Gillen, 1987), in addition to activities and tasks, is preventing us from describing management practice efficiently and clearly. The findings indicate that the relationships between the manager's knowledges and activities and between the manager's knowledges and tasks are not one to one associations (Table 6-12). In other words, nearly all of the manager's knowledges associate with all of the manager's activities and with all of the manager's tasks. Also, the findings indicate that managers use more than one manager's knowledges on average for a managerial action and the number of knowledges used for each action varies. To call both the following two actions: A. *innovating and improving* (MA7) using *organization and management theory* (MK1), *production/operation management* (MK3), and *business and environment* (MK10) for *formal plans* (MT1) and B. *collecting information* (MA4) using *production/operation management* (MK3) for *formal plans* (MT1), planning is an oversimplification in describing management practice and stifles management discussion and learning. Thus, if the management functions are to represent three faces: as activities, as tasks, and as knowledges, not only the list of management functions shall be unnecessarily long for describing management practice completely (see last Section) but also the discussion of each management function needs repetition of mentioning nearly all of the manager's knowledges and, yet, the words *planning, etc.* still lack clear specifications in operational terms.

Some may argue that the one-function-three-faces argument will be borne out by the data if the classicists' management functions were used as the classification of management knowledge in diary. Although the argument might be valid, it is vulnerable. Firstly, not every textbook of management is organized under the management functions. To overclaim the importance of management functions as *the* classification of knowledge seems to ignore to other more practical schemes. Secondly, if the management functions are to be used, which set of management functions is to be chosen? Thirdly, the manager's knowledges used in this study are adapted from a formal Delphi-method study (Wu, 1984). If the management functions are valid and effective for the classification, why should Wu and 17 management academics, experts, and well-known CEOs bother to develop a new classification, although originally of management training courses? Finally, even if a set of management functions were selected and used at last, its application is at the expense of parsimony and clarity in describing management practice.

The findings support the argument of this study that a set of separate manager's knowledges in addition to the manager's activities and tasks are necessary. The findings indicate that nearly all of the manager's knowledges are associated with (or used in) all of the manager's activities and with all of the manager's tasks. Thus, the manager's knowledges cannot be reduced to either the manager's activities or the manager's tasks without loss of parsimony and clarity in describing the practice of management (Answer to DP6 of the Section 5, Chapter 4).

Moreover, the findings of graphical associations mentioned in the last section support the inclusion and the place of the manager's knowledges, in addition to the manager's tasks and activities, in the AKT theory. Line associations among the recorded activity, knowledges, and task on most (1,073 out of 1,281, or 83.7%) of the valid diary records (21.5% of them with three (full) categories of associations and 62.2% of them with two) indicate that the manager's knowledges are regarded by the managers as an element of their actions and are regarded or implied as occupying a place in between the manager's activities and tasks. If a set of separate manager's knowledges were unnecessary and not in between the manager's activities and tasks, the subjects would have felt difficult to use the diary and would not have associated the data, as asked, on most of the records. Moreover, if the subjects' hectic work pace is taken into account, the figure for the portion of diary records being graphically associated must be higher, as mentioned in Section 3.

The evidence described in this section justifies the inclusion and the place of the manager's knowledges in the AKT theory.

So far in the thesis, as to the elements of the AKT theory, the evidence for the necessity of a set of separate manager's tasks (Section 3) and for the necessity of a set of separate manager's knowledges (this section) supports that the manager's activities, knowledges, and tasks are the necessary building blocks. As to the relationships among them, the evidence supports that the 14 manager's tasks prompt the 11 manager's activities (Section 2) and, in each action, managers use more than one of the 11 manager's knowledges (this section), as described in the AKT theory. As to the usefulness of the AKT theory, the evidence supports that, with three related elements: the 11 manager's activities - performance in the situation, the 11 manager's knowledges - guidance from the brain, and the 14 manager's tasks - contribution to the unit, the AKT theory describes management practice more completely and clearly in a parsimonious manner than its competing theories.

Section 5

A SUITABLE THEORY OF THE STRUCTURE OF ORGANIZATIONS

As mentioned in the Section 6 of Chapter 4, what constitutes an adequate theory for describing the structure of organizations are argued. In this section, the empirical examinations which support the argument of this study that the networked-cones structure is a suitable theory of the structure of organizations and show the inadequacies of the competing arguments are described and discussed.

Findings of This Study

Analysis of the participants recorded in the 1,164 valid diary records (other 117 records contain missing data) is shown in Table 6-13. Further calculations reveal that the subjects were alone in 261 cases (22%) of their actions and were with one or more participants in 903 cases (78%). Among the 903 cases of actions which required verbal contacts, the directions of the interactions can be identified easily in 722 cases (80% of 903 cases):

- 348 cases (38%) to subordinates (Categories 1, 2, 3, & 13),
- 71 cases (8%) to superiors (Categories 4, 5, & 14), and
- 303 cases (34%) to lateral colleagues or outsiders or both (Categories 6, 7, 8, 9, 10, 11, 12, 15, 16, & 22).

The other 181 cases (20%) of actions involved more complex mixes of participants and the directions of the interactions cannot be identified easily. However, they were divided into two groups: 116 cases (13%) with the presence of superiors (Categories 17, 18, 21, 23, 24, 26, & 27) and 65 cases (7%) without the presence of superiors (Categories 19, 20, & 25). Adding up the two mentioned classifications, another one emerged:

- 187 cases (21%) with the presence of superiors (Categories 4, 5, 14, 17, 18, 21, 23, 24, 26, & 27) and
- 716 cases (79%) without the presence of superiors (Categories 1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 19, 20, 22, & 25).

Among 303 cases of lateral verbal contacts, 64 cases (21%) can be classified as Sayles' (1964) work-flow relationships (Category 6) and 69 cases (23%) as trading relationships (Categories 10 & 11). The other 170 cases are difficult to classify because the research design did not cover them.

Table 6-13. Analysis of participants in managers' actions

Codes and descriptions of the categories of participants	*Cases*
0: None (Alone)	261
1: Assistant(s)	10
2: Direct subordinate(s)	207
3: Indirect subordinate(s)	34
4: Superior(s)	58
5: Higher superior(s)	3
6: Member(s) of lateral unit(s)	64
7: Company staff(s)	15
8: Other manager(s)	38
9: Other manager's subordinate(s)	11
10: Supplier(s)	60
11: Customer(s)	9
12: Other outsider(s)	68
13: Mix of subordinates	97
14: Mix of superiors	10
15: Mix of lateral colleagues	17
16: Mix of outsiders	2
17: Mix of subordinate(s) and superior(s)	26
18: Mix of superior(s) and lateral colleague(s)	54
19: Mix of subordinate(s) and lateral colleague(s)	41
20: Mix of subordinate(s) and outsider(s)	15
21: Mix of superior(s) and outsider(s)	1
22: Mix of lateral colleague(s) and outsider(s)	19
23: Mix of subordinate(s), superior(s), and lateral colleague(s)	19
24: Mix of subordinate(s), superior(s), and outsider(s)	4
25: Mix of subordinate(s), lateral colleague(s), and outsider(s)	9
26: Mix of superior(s), lateral colleague(s), and outsider(s)	7
27: Mix of subordinate(s), superior(s), lateral colleague(s), and outsider(s)	5
Total cases of actions	1164

Note: The composition of participants of Category 13 ~ 27 are described in Chapter 5.

Discussion

Why?
Expand

The findings suggest that the networked-cones structure is a suitable theory of the structure of organizations whereas the traditional pyramid/tree structure and Likert's (1959, 1961) group-form structure are inadequate because they subsumes only a part of the reality.

Firstly, the findings indicate that the traditional tree structure is hardly a suitable theory of the structure of organizations. The composition of participants in many actions cannot be explained by the tree structure mainly because the lateral relationships were not considered in the theorization although Fayol (1916/1949) knew that the "gang-plank ... is what is most often done" (p.35). Moreover, Sayles (1964) informs us that lateral interactions are more than the "gang-plank". Some other actions are not explained because they involved participants from non-adjoining levels and violated the principle of scalar chain which dictates step-by-step commanding or reporting.

Specifically, from the perspective of the tree structure, the diary-recorded verbal actions can be delineated into three groups:

1. up to 329 cases (36%) of the verbal contacts are explained by the tree structure (Categories 1, 2, 4, & part of 18);
2. 315 cases (35%) of the verbal contacts are not explained by the tree structure because of involving lateral interactions (Categories 6, 7, 8, 10, 11, 12, 15, 16, 20, 21, 22, & 26);
3. more than 259 cases (29%) of the verbal contacts are not explained by the tree structure because of violation of the scalar chain principle (Categories 3, 5, 9, 13, 14, 17, part of 18, 19, 23, 24, 25, & 27).

A theory which explains less than 36% of the practice is hardly a suitable one because the majority of the practice is not congruent with it.

Secondly, the findings indicate that Likert's (1959, 1961) group-form structure is hardly a suitable theory of the structure of organizations, either. The composition of the participants in many actions are not explained by the group-form structure mainly because they involved participants from non-adjoining levels and skipped the "linking-pins". Some other actions are not explained because the lateral relationships involved were not considered in the theorization of the group-form structure.

Specifically, from the perspective of the group-form structure, the diary-recorded verbal actions can be delineated into three groups:

1. up to 463 cases (51%) of the verbal contacts are explained by the group-form structure (Categories 1, 2, 4, 6, part of 7, 8, part of 15 , & 18);
2. 259 cases (29%) of the verbal contacts are not explained by the group-form structure because they skipped the "linking-pins" (Categories 3, 5, 9, 13, 14, 17, 19, 23, 24, 25, & 27);
3. more than 181 cases (20%) of the verbal contacts are not explained by the group-form structure because they involved non-theorized lateral relationships (Categories part of 7, 10, 11, 12, part of 15, 16, 20, 21, 22, & 26).

A theory which explains less than 51% of the practice is weak because about half of the practice is not congruent with it.

The proponents of the tree structure or the group-form structure might argue that their theories are prescriptions representing better designs and that the data of this study consist partly of inferior practice. The counter-arguments are: Firstly, these actions were from 40 managers in nine reasonably well-run companies. If half of the actions were bad practice, those managers and those companies shall not be able to survive. Secondly, the tree structure is widely known and the group-form structure has been published for more than 30 years but neither is followed by managers in their actions. There must be something wrong with them (see also Stryker et al., 1954). Finally, Sayles' (1964) observation of seven types of lateral relationships in reality highlights the poverty of lateral relationships in the tree structure and the group-form structure.

Perhaps, the pyramid/tree and group-form structure of organizations should be reduced to be the structure of formal authority, or of legitimate power, indicating the lines of commanding and reporting and the places for resolving differences if other means fail. Although the structure of formal authority is the skeleton of the structure of organizations, it describes only a small portion of actions in organizations. Although the group-form structure subsumes a part of lateral relationships, it is far from complete.

Finally, the networked-cones structure is congruent with the findings and, therefore, is a suitable theory of the structure of organizations because:

1. With cones representing organization units and with smaller cones enclosed in a larger cone to represent units at lower levels, the networked-cones structure subsumes and allows that the organization members act at different levels of units. A manager might participate in the management of the higher levels or help the management of the lower levels if necessary. Therefore, the findings of the participants from the adjoining levels (Categories 1, 2, 4, & part of 18), the contacts skipping at least a level (Categories 3 & 5), and the participants from three or more levels (Categories 13, 14, & 17) are all congruent with the networked-cones structure;
2. With Sayles' (1964) seven types of lateral relationships, the networked-cones structure subsumes all the observable lateral interactions in the workplace and is, therefore, congruent with the findings of Categories 6, 7, 8, 9, 10, 11, 12, 15, 16, & 22;
3. By combining the smaller-cones-in-a-larger-cone representation and seven lateral relationships, the networked-cones structure subsumes the phenomena that managers of different levels and of different units work together for their common interests and is, therefore, congruent with the findings of Categories 18 (part of), 19, 20, 21, 23, 24, 25, 26, & 27. (Answer to DP7 of the Section 6, Chapter 4).

The evidence supports the use of the networked-cones structure in the illustration of the AKT theory (see the right-hand block of Fig. 3-3).

In addition, four **characteristics of management practice** emerges by seeing the findings through the networked-cones structure:

1. Managers as a group seem to have similar pattern of contact time spent with superiors, subordinates, and others. From this study, among 722 cases of verbal actions which the direction of interaction can be identified easily, 8% of time were spent with superiors, 41% with subordinates, and 51% with peers and others. The figures are in agreement with the findings of Jasinski (1956), Mintzberg (1973), Monk (1994), and Stewart (1967/1988) (Table 6-14) ($\chi^2 = 8.26$[3], df = 8, using percentage figures, $p > 0.4$).
2. Managers work without direct assistance or supervision of their bosses most of the time. This includes the time spent on about four fifth of the verbal contacts (716 out of 903 cases) and when they are alone (261 cases). They work with their superiors only in about one fifth of the verbal contacts.
3. The work-flow relationship (more than 21%) and trading relationship (more than 23%) account for about half of the lateral interactions;
4. Contacts with higher cost, such as involving more managers (e.g., Category 27) or risking resistance (e.g., Category 5), are used rarely.

Table 6-14. Direction of interaction and the distribution of managers' contact time by various studies

Authors	*Sample*	*Superiors*	*Subordinates*	*Peers & others*
Mintzberg (1973)	5 US CEOs	7%	48%	44%
Stewart (1967/1988)	160 UK senior & middle managers	12%	41%	47%
Monk (1994)	30 UK managing directors	12%	54%	34%
This study	40 Taiwanese managers	8%	41%	51%
Jasinski (1956)	56 foremen	10%	46%	44%

Section 6

JUSTIFICATION OF THE PRESCRIPTIVE DIMENSION IN THE AKT THEORY OF MANAGEMENT

As mentioned in the Section 1 of Chapter 4, to declare that the AKT theory is for describing and prescribing the practice of management for different managers in the thesis implies a need to justify the prescriptive dimension in the theory. In this section, the empirical tests for the justification are described.

Findings of This Study

The overall rate of valid records (1,281 cases) out of 1,646 relevant diary records (for definitions, see Chapter 5) was found to be 77.83%. However, there were individual differences: the figure ranged from 44.44% to 100%. An individual manager's rate of valid records was found to correlate ($p < .01$) positively to the amount of management training (12, the figure indicates the related question number in the questionnaire), width (number of functions or departments) of management experience (15), and level (count from bottom) (2 & 4) (Table 6-15). Besides, the amount of management training was found to correlate positively to the width of management experience ($p < .001$) and level (count from bottom) ($p < .05$).

Table 6-15. Analyses of the rate of valid diary records and the related variables from questionnaire

	Amount of management training	*Width of management experience*	*Level (count from bottom)*
Rate of valid records	r = .49**	r = .42**	r = .41**
Amount of management training	-	r = .51***	r = .35*
Width of management experience	r = .51***	-	r = .27
Level (count from bottom)	r = .35*	r = .27	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Adding level (count from bottom) to the width of management experience to form a ***combined management experience***, 26.9% (or r = .52, $p < .001$) of the variations in the rate of valid records were explained by it (method: simple regression analysis), 9.7% more than by level (count from bottom) alone or 9.3% more than by the width of management experience alone. Again, adding the amount of management training to the combined management experience to form a ***combined management learning***, 33.4% (or r = .578, $p < .001$) of the variations in the rate of valid records were explained by it (Fig. 6-3), 6.5% more than by the combined management experience alone or 9.3% more than by the amount of management training alone.

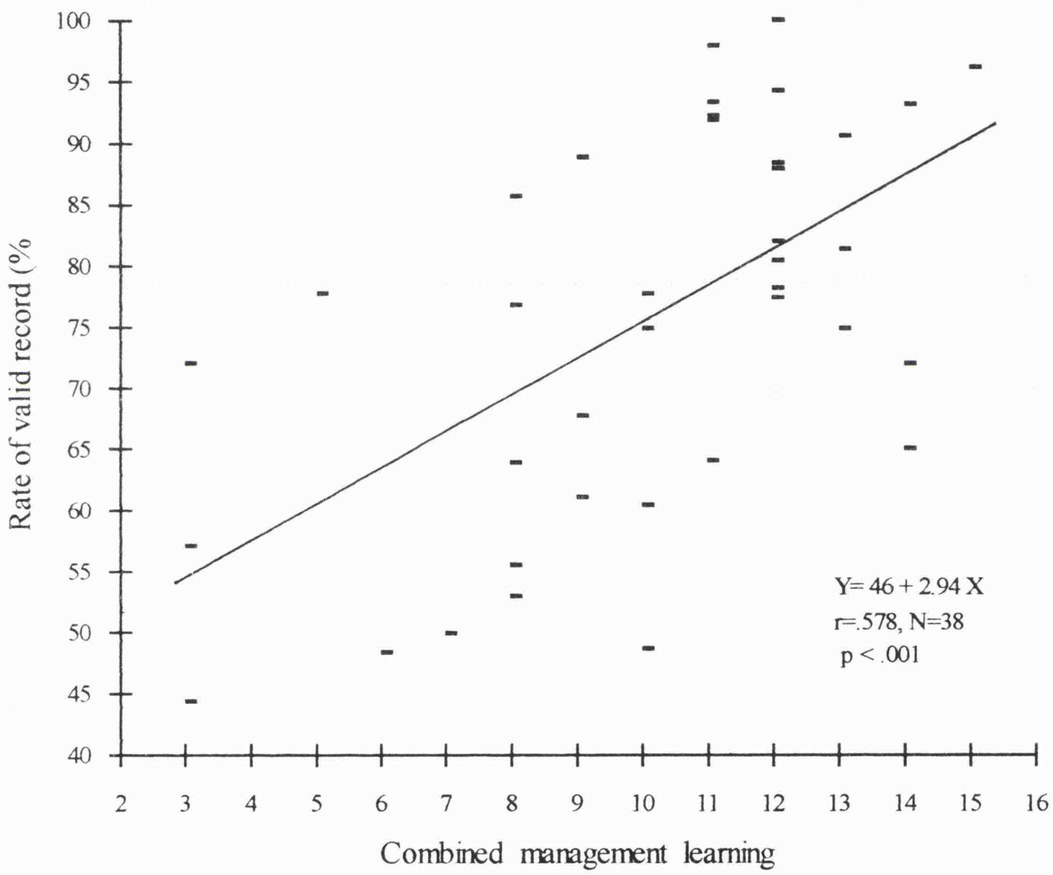


Fig. 6-3 Scatter diagram of the rate of valid diary records by the combined management learning

The rate of valid records was found to be uncorrelated ($p > .05$) to the following variables: education (10), subject majored (11), management ambition (13), size of organization (14), years in current job (15), number of management positions experienced in current company (15), years in current company (15), number of companies worked for (15), years of management experience (15), number of functions or departments experienced (15), and level (count from top).

Discussion

The findings reveal the pre-existence of a prescriptive dimension in the AKT theory and suggest a further development of the prescriptive dimension after the dissemination of the findings; hence, the thesis of this study that the AKT theory is *to explain or to guide* the management practice *or both* is justified. Firstly, the rate of valid diary records was found to correlate positively to the amount of management training, width of management experience, and level (count from bottom) (Table 6-15). Secondly, the rate of valid records was found to positively correlate more strongly to the simple sum of the amount of management training, width of management experience, and level (count from bottom) (Fig.6-2). Thirdly, the findings suggest that the managers with more management learning are able to produce a higher rate of valid diary records than those with less management learning. Fourth, this difference in the ability to produce a higher rate of valid records reveals the pre-existence of a prescriptive dimension in the AKT theory because the findings suggest that managers' learning is towards the AKT theory, although not explicitly. Finally, if the findings are disseminated to the learning managers and would-be managers, they will learn the AKT theory explicitly. These points are further discussed as follows.

Meaning of the correlations. The three variables found correlating positively to the rate of valid records can be divided into two groups: A. The amount of management training representing the learning in the classroom setting, and B. The width of management experience and level (count from bottom) both representing the learning on the job with different career strategies or opportunities. On the one hand, a greater width of management experience is a result of more cross-functional or cross-departmental transfers which leads to wider understanding of management. On the other hand, a higher level (count from bottom) is, for most managers, a result of more vertical promotions which leads mainly to deeper knowledge in a speciality. Data indicate that it is not very common for a manager to have a wide management experience and occupy a high level simultaneously (r = .27, p = .09) because these two issues compete for the manager's limited time and energy. Thus, by adding up the width of management experience and level (count from bottom), a fair estimate of management learning on the job is reached which increases substantially the explained variations in the rate of valid records to 26.9%.

Moreover, although the amount of management training goes hand in hand frequently with the width of management experience ($p < .001$) and with level (count from bottom) ($p < .05$), they represent different kinds of learning which enhance each other. Thus, by adding up those three variables, a fair estimate of combined management learning, both on the job and in the classroom setting, is reached which increases substantially the explained variations in the rate of valid records to 33.4%.

33.4% of the variations in the rate of valid records is not a small portion in this case because of the complexity involved. On the one hand, these managers had different learning abilities, different learning settings, and different levels of motivation to learn about management. On the other hand, they had different work pressure, different levels of the complexity of work settings, and different levels of motivation to record their actions properly. Together, these factors made the issue complex. In such a situation, the finding of 33.4% of the variations in the rate of valid records being explained by the simple sum of the amount of management training, width of management experience, and level (count from bottom) indicates clearly that those managers with more management learning are able to produce a higher rate of valid records, or, in other words, to have a larger proportion of their actions described by the AKT theory, than those with less learning.

The deeper meaning of the correlations. The findings reveal the pre-existence of a prescriptive dimension in the AKT theory. The reason why those managers with more management learning can have larger proportion of their actions described by the AKT theory must lie in the fact that they have personal theories of management which are quite similar to the AKT theory. And the reason why they have personal theories quite similar to the AKT theory must lie in the fact that they have been learning the management practice which is best described by the AKT theory. Thus, the findings have a deeper meaning in revealing the pre-existence of a prescriptive dimension, in addition to a descriptive one, in the AKT theory.

The reflexive meaning of the correlations. The findings suggest a further development of the prescriptive dimension in the AKT theory if they are disseminated. The learning of management has been difficult (see e.g., Handy et al., 1988; Hill, 1992; Mumford, 1988). In a world of difficult learning, the learning managers and would-be managers would grasp any useful learning tool. Here in this study, the managers with more management learning are revealed to have quite similar theories of management to the AKT theory. If the learning managers and would-be managers are aware of the findings, they would learn the AKT theory explicitly. Thus, the findings of those correlations have a reflexive meaning in suggesting, or predicting, a further development of the prescriptive dimension in the AKT theory from its receivers.

The evidence described in this section justifies the prescriptive dimension in the AKT theory. The size of this dimension varies for different managers with different levels of management learning. Although the prescriptive dimension in the AKT theory might cease to exist for an individual manager, it will continue to exist for managers in general because wastage of people acting in manager-role is inevitable and replacement for them is necessary.

CONCLUSION

By marshalling evidence in this chapter to support that

1. the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks are scopes of managerial activity, knowledge, and task respectively (Section 1);
2. the 14 manager's tasks prompt the 11 manager's activities (Section 2);
3. the 14 manager's tasks - contribution to the organization unit - and the 11 manager's activities - performance in the situation - cannot be reduced to each other or reduced efficiently to the management functions (Section 3);
4. the 11 manager's knowledges - guidance from the mind - cannot be reduced to either the 11 manager's activities or 14 manager's tasks and these three variables cannot be reduced efficiently and clearly to the management functions (Section 4);

5. the 11 manager's knowledges have a place in between the 11 manager's activities and 14 manager's tasks (Section 4); and
6. managers work in the networked-cones structure of organizations (Section 5) (triangles as the front view of cones are used in the illustration of the AKT theory),

the AKT theory is then established as the **description of validly recorded managerial actions** without considering the individual differences in managerial ability among managers. However, the existence of the individual differences in managerial ability is beyond question because the strength of one's managerial ability is the result of one's management learning. Therefore, by adding the evidence that

7. the managers with more management learning are able to produce a higher rate of valid records, or to have a larger proportion of their actions described by the AKT theory, than those with less management learning (Section 6),

the AKT theory is then **justified as the description of managerial actions for those managers who know management well** (although how well is enough is still a question), **as the prescription of managerial actions for would-be managers, and as mixes of description and prescription of managerial actions for those managers who know management less well if they are to improve their management practice.** While a manager who knows management less well learns more about management and acts accordingly, the descriptive dimension of the AKT theory increases and the prescriptive dimension decreases in parallel for him or her. For such a manager, the AKT theory is the description of the actions that he or she masters and the prescription of the actions that he or she needs to learn.

Obviously, the above conclusion is not valuation-free. The conclusion is reached because the researcher's judgement on the value system of organizational stakeholders, including managers, in general reasons that *the management practice of those managers with more management learning is more desirable than that of those with less management learning because the former is more likely to bring about efficiency, harmony, etc. and to avoid waste, conflict, etc. than the latter.* The judgement of other people's value system relating to organizations and its influence on the mentioned conclusion represent the researcher's *active participation in the reflexivity of the research findings to integrate positive guidance into the AKT theory* rather than leave the reflexive process to the receivers of the findings. Meanwhile, the researcher has tried very hard to make the study free of his values.

Besides, the evidence indicates that the process theories and Mintzberg's (1973) ten roles theory are inadequate because they are incomplete and ill-structured.

Notes

[1] The coefficient of contingency is adopted to represent the strength of association because, when it is used as the estimator of the coefficient of correlation, its normalized Student t-value is roughly equal to Fisher and Yates' (1963) z-value. Cramer's V lacks such a property. However, the conclusion remains the same if the Cramer's V were used.

[2] In addition to subjective judgements on the magnitudes of associations, Ferguson's (1971) test of difference of correlation coefficients was applied using contingency coefficients as estimators of correlation coefficients. The null hypotheses that contingency coefficient between the manager's tasks and activities is equal to those between function, level, company, and industry *and* the manager's tasks; that contingency coefficient between the manager's tasks and activities is equal to those between function, etc. and the manager's activities; and that contingency coefficients between function, etc. and the manager's tasks are equal to those between function, etc. and the manager's activities were all rejected ($p < .001$), except for the null hypothesis that contingency coefficient between company and the manager's tasks is equal to that between company and the manager's activities ($p < .05$). Warning: Risk of misusing statistical method involved.

[3] Kelly (1964) has quite different data which shows that his four section managers averaged 22% of their contact time with superiors, 46% with subordinates, and 32% with peers and others. If this data were included, the null hypothesis of similar contact time pattern would be rejected ($\chi^2 = 21.4$, df = 10, $p < .01$). However, Kelly's managers had *three* superiors. Two of them could be classified as peers.

Chapter 7

FINDINGS ABOUT THE CHARACTERISTICS OF MANAGEMENT PRACTICE

This chapter examines the *characteristics* of management practice, or the way managers practice management, from the perspectives of the *content* of managers' actions, or the elements of the AKT theory of management established in the last chapter. In this chapter, the primary data from 40 Taiwanese managers is analyzed to test the hypotheses or to answer the discussion problems formulated in the Section 7, 8, and 9 of Chapter 4. Specifically, the findings and discussion about the characteristics of decision making, the characteristics of planning, and the brevity, variety, and fragmentation of managers' actions are described. The findings suggest modifications to the previous views.

The characteristics of decision making are analyzed and discussed in Section 1; the characteristics of planning in Section 2; and the brevity, variety, and fragmentation of managers' actions in Section 3.

Besides the findings discussed in the following sections, two findings that agree with the literature are discussed in this paragraph. First, the time spent with others by the 40 Taiwanese managers was found to be 79% in this study. The equivalent figures were 80% by Burns (1954), 78% by Mintzberg (1973), 66% by Stewart (1967/1988), 65% by Choran (1969), and 57% by Guest (1956). These findings support the arguments about the characteristics of "attraction to the verbal media" (Mintzberg, 1973, p. 38) and that "it's mainly talk" (Stewart, 1967/1988, p. 114). Secondly, 32 managers (8 others failed to provide data) were found to work on average 8.36 hours a day and the individual manager's working hours were found to correlate significantly to the hierarchical level (count from bottom) ($r = .44, p < .01$) and to the size of the unit (in terms of the number of subordinates) ($r = .39, p < .05$). This finding agrees with the findings that middle managers worked normal hours (Horne and Lupton, 1965) and that top managers worked longer hours (Carlson, 1951; Mintzberg, 1973).

Section 1

THE CHARACTERISTICS OF DECISION MAKING

As mentioned in the Section 7 of Chapter 4, the rational decision theorists (e.g., Simon, 1945) and the leader-traits theorists (e.g., Ralph Stogdill), on the one side, regard decision making as "a discrete event" and Sayles (1964), on the other, regards it as "a continuous and intricate process of brokerage" (p. 28). The findings of this study suggest that a more comprehensive description is required.

In the AKT theory, the performing of decisional actions can be seen as decision making. The decisional actions are those involving decisional activities: *innovating and improving* (MA7), *disturbance handling* (MA8), *resource allocating* (MA9), and *negotiating* (MA10). Hence, this section analyzes the characteristics of decision making through these four decisional activities.

Findings of This Study

Decisional actions were found to have many kinds of contingencies.

Firstly, cross-tabulation of 431 decisional actions (17 others consist of incomplete data) in Table 7-1 revealed that the means of activity and the categories of decisional activities were significantly associated ($\chi^2 = 74.48$, df = 12, $p < .001$). In other words, different categories of decisional activities tended to be performed with different means of activity. In particular, half of the activities of *disturbance handling* (MA8) were performed in unscheduled meetings. Activities of *innovating and improving* (MA7) and *negotiating* (MA10) were most frequently performed in scheduled meetings. And *resource allocatings* (MA9) were most frequently performed alone. However, these contingencies accounted for only 43% of the decisional actions. There were other contingencies.

Secondly, cross-tabulation of the categories of participants and the categories of decisional activities in Table 7-2 revealed that different kinds of decisional activities tended to have different kinds of participants (The χ^2-value was not calculated because the frequencies in many cells are small. But, the pattern can be easily seen). Particularly, managers were found to perform *innovating and improving* (MA7) and *resource allocating* (MA9) most frequently alone (Category 0) and to perform *disturbance handling* (MA8) most frequently with direct subordinates (Category 2). Besides, there were many other contingencies in terms of the category of participants.

Thirdly, cross-tabulation of the number of participants and the categories of decisional activities in Table 7-3 revealed that different kinds of decisional activities tended to be performed with different numbers of participants ($\chi^2 = 46.85$, df = 15, $p < .001$). Specifically, managers were found to perform about half of *disturbance handling* (MA8) with 2 to 5 people and about half of *resource allocating* (MA9) alone. The number of participants in *innovating and improving* (MA7) was found to vary widely.

Finally, examination of the sequence of decisional actions recorded in diaries revealed that decisional activities performed alone were frequently followed later by those performed with others and vice versa and that some decisional actions were not repeated later. And examination of the maximum duration for each category of decisional activities revealed that the longest *resource allocating* (MA9) lasted for 9.5 hours, that the longest *innovating and improving* (MA7) lasted for 7 hours, that the longest *disturbance handling* (MA8) lasted for 4.83 hours, and that the longest *negotiating* (MA10) lasted for 4.67 hours.

Table 7-1. Cross-tabulation of decisional actions between the means of activity and decisional activities

Means of activity	*MA 7*	*MA 8*	*MA 9*	*MA 10*	*All*
Scheduled meeting	**58**	29	26	**14**	127
Unscheduled meeting	34	**74**	26	13	147
Tour	7	14	3	0	24
Telephone	11	17	8	9	45
Alone	32	15	**39**	2	**88**
All	142	149	102	38	431

Table 7-2. Cross-tabulation of decisional actions between the category of participants and decisional activities

*Cate-gory**	*MA 7*	*MA 8*	*MA 9*	*MA 10*	*Cate-gory**	*MA 7*	*MA 8*	*MA 9*	*MA 10*
0	**32**	**15**	**39**	1	*14*	4	1	1	0
1	0	3	0	0	*15*	1	3	1	2
2	**15**	**31**	**17**	0	*16*	0	1	0	0
3	3	11	1	1	*17*	10	4	2	0
4	**18**	12	4	0	*18*	**16**	8	2	0
5	2	0	1	0	*19*	7	7	5	5
6	5	9	6	3	*20*	3	1	1	5
7	1	4	5	1	*21*	1	0	0	0
8	4	7	1	2	*22*	0	1	2	4
9	0	2	0	0	*23*	4	2	3	1
10	6	4	3	6	*24*	0	1	0	0
11	0	0	0	1	*25*	1	1	1	1
12	5	1	2	3	*26*	0	1	0	0
13	5	**14**	2	0	*27*	0	0	0	0

* Descriptions of the categories of participants are given in Chapter 5 & Table 6-13.

Table 7-3. Cross-tabulation of decisional actions between the number of participants and decisional activities

Number of participants	*MA 7*	*MA 8*	*MA 9*	*MA 10*	*All*
0 (Alone)	**32**	15	**39**	1	87
With 1 people	20	20	20	3	63
With 2 people	24	**26**	9	**8**	67
With 3 to 5 people	20	**26**	10	4	60
With 6 to 10 people	18	11	4	1	34
With 11 or more people	7	8	1	1	17
All	121	106	83	18	328

Discussion

The findings indicate that there are many contingencies of decisions, or decision making situations. The major contingencies, according to above tables, include *resource allocating* (MA9) performed alone, *disturbance handling* (MA8) performed with subordinates in unscheduled meetings, *innovating and improving* (MA7) performed alone or with others in scheduled meetings, and so on. The minor ones include *negotiating* (MA10) with peers on telephone, *innovating and improving* (MA7) with suppliers, and so on. Besides, from the perspective of the sequence of decisional actions, decisions can be classified into *serial, collective* decisions, such as *innovating and improving* (MA7) for a divisional yearly plan, and *isolated, one-off* decisions, such as *resource allocating* (MA9) for a routine purchase of office supplies. Moreover, from other perspectives, they can be classified into *emergent* or *non-emergent* decisions and *consequential* or *inconsequential* decisions.

Both the pre-existing accounts about the characteristics of decision making: as a discrete event by both rational decision theorists and leader-traits theorists and as a continuous and intricate process of brokerage by Sayles (1964), are not borne out by the findings. On the one hand, the contingencies of short isolated, one-off decisions are not accounted for by Sayles' account. On the other, the consecutive phases of changed alternatives created by "compromises and marginal adjustments" (Sayles, 1964, p. 28) in the contingencies of long serial, collective decisions are not accounted for by the rationalists' and leader-traits theorists' account.

However, they are not without support from the findings. The part of the findings about the serial, collective decisional actions suggest that Sayles' account describes a part of the reality. And the part of the findings about the isolated, one-off decisional actions suggest that the rationalist account of decision as a discrete event describes another part of the reality, although whether the rationalist decision making process is followed or not is a question. But, this does not matter because the rationalist decision making process has been meant to be normative. And above all, there is no better substitute. In other words, although managers might not follow the rationalist process completely to make inconsequential, emergent, isolated decisions, they would probably like to or might be required to do so in the contingencies of consequential, non-emergent decisions.

So, both the pre-existing accounts are partial. Sayles emphasizes the interactions between managers of different units but failed to account for the rationalist process followed or tried by many managers to follow in every consecutive phase of the interaction process. The rationalists emphasize that decision making is an event which needs a normative procedure but failed to account for the change of phases created by marginal adjustments of the alternatives and compromises. Thus, a more comprehensive account is necessary to account for all the contingencies of decisions.

Fortunately, the rationalist account about the characteristics of decision making is not incompatible to that of Sayles. If every phase in Sayles' interaction process is seen as a discrete event from the rationalist point of view, a combined account would be that regards decision making as a *potentially and frequently* continuous and intricate process of brokerage in which every phase is a distinct situation, or a discrete event, demanding a rational decision making procedure. Thus, a decision made in the first phase is an isolated, one-off decision and a decision thought and argued in more than one phase and finally made is a serial, collective one, especially if it involves long duration or several observable decisional actions.

In such a process of decision making, effective managers could still be seen as more decisive than others if they have a pre-thought agenda and a network of other managers to support them. Kotter (1982) found that better performing general managers were more opportunistic and "central to their ability to do so were their networks and agendas" (p. 91). With a more thoughtful agenda, a manager could create and evaluate alternatives more quickly. With support from more other managers, a manager could feel safer to propose and accept an alternative. However, to be decisive does not always mean to make decision quickly, especially in large organizations. Managers could only be decisive on their own parts of decision making.

Section 2

THE CHARACTERISTICS OF PLANNING

As mentioned in the Section 8 of Chapter 4, Mintzberg (1973, 1975/1990) attacks the classic view of managers as reflective, systematic planners. In other words, he claims that *planning by individual reflections* is a myth and not in accord with reality. Instead, he argues that managers *plan implicitly in the context of daily actions*. The findings of this study suggest a modified description to these two views.

In the AKT theory, the performing of actions contributing to the tasks of *formal plans* (MT1) and *action plans for the next step* (MT2) can be seen as planning. Hence, this section analyzes the characteristics of planning through the actions contributing to these two tasks.

Findings of This Study

Planning actions contributing to *formal plans* (MT1) and *action plans for the next step* (MT2) were found to have lasted significantly longer than other non-planning actions (Table 7-4). Calculations using figures of the means of real duration revealed that an average of 23.4% of managers' work time were spent in planning actions. However, some managers spent more time than others in planning.

Planning actions were found to be performed in many contingencies. As shown in Table 7-5, planning actions contributing to *formal plan* (MT1) were frequently performed in scheduled meetings and those contributing to *action plan for next step* (MT2) were frequently performed alone or in unscheduled and scheduled meetings. As shown in Table 7-6, nearly half of the planning actions were performed alone, with direct subordinates (Category 2), or with direct superiors (Category 4). Also, about 63% of the planning actions were unit-based, or were participated by managers of the "same unit" (Categories 0, 1, 2, 3, 4, 5,

Table 7-4. A comparison of duration between planning and non-planning actions

	Sample (actions)	*Mean of total duration (min./action)*	*Mean of real duration (min./action)*
MT1	62	75.08	72.16
MT2	176	67.40	65.06
MT3 ~ MT14	1026	52.64*	50.28*
All	1264	55.80	53.41

* The mean duration for MT3 ~ MT14 (non-planning actions) is significantly shorter (Scheffe-test, $p < .05$) than those for MT1 and MT2 (planning actions), or is significantly shorter ($F(1, 1262) = 19.76$ and 20.71 respectively, $p < .001$) than that for combined MT1 and MT2 both in terms of total duration (including time for interruption) and real duration (excluding time for interruption).

Table 7-5. Cross-tabulation of planning actions between the means of activity and planning tasks

Means of activity	*MT1*	*MT2*	*All*
Scheduled meeting	**26**	49	75
Unscheduled meeting	12	50	62
Tour	3	8	11
Telephone	6	19	25
Alone	12	**51**	63
All	59	177	236

Table 7-6. Cross-tabulation of planning actions between the category of participants and planning tasks

*Category**	*MT1*	*MT2*	*Category**	*MT1*	*MT2*	*Category**	*MT1*	*MT2*
0	**11**	**51**	*10*	2	6	*20*	0	2
1	0	3	*11*	0	0	*21*	0	0
2	**8**	**22**	*12*	**5**	**14**	*22*	0	3
3	1	0	*13*	3	9	*23*	4	2
4	**6**	**12**	*14*	2	2	*24*	1	0
5	0	1	*15*	1	1	*25*	1	2
6	3	8	*16*	0	1	*26*	0	0
7	2	4	*17*	3	6	*27*	1	1
8	2	6	*18*	2	8			
9	0	3	*19*	2	5			

* Descriptions of the categories of participants are given in Chapter 5 & Table 6-13.

Table 7-7. Cross-tabulation of planning actions between the number of participants and planning tasks

Number of participants	*MT1*	*MT2*	*All*
0 (Alone)	11	**51**	62
With 1 people	8	26	34
With 2 people	11	19	30
With 3 to 5 people	**13**	21	34
With 6 to 10 people	4	6	10
With 11 or more people	3	8	11
All	50	131	181

13, 14, 17, & 23). Moreover, as shown in Table 7-7, most of the planning actions (88%) were performed alone or with 1 to 5 people.

During the data collection period, the researcher had a number of conversations with some managers in the sample. From these conversations, a number of anecdotes relating to planning were collected although it was not intended to collect unstructured data. These planning anecdotes were:

1. A project manager whose responsibility was to set up a new cement factory said that he frequently woke up with ideas relating to his tasks during the night and put them down on papers.
2. A manager who was responsible for a department in a turnaround situation said that he was always thinking about problems in his unit and trying to find solutions for those problems during driving to and back from work places. He also talked about a car accident in which his superior was so absorbed in reflection when he was driving from headquarters to factory that he hit a roadside tree. A professional driver was hired for him afterwards.
3. A manager who had just spent three days in a recreational retreat (belonging to one of the group's divisions) with other higher level managers in the company talked about how they did planning under the guidance of consultants and showed this researcher the materials they used.

Discussion

The Ho10 (Null Hypothesis No. 10) of equal average duration for *formal plans* (MT1) and *action plans for the next step* (MT2) and for other tasks is rejected. The findings indicate that planning actions have longer average duration than other actions. Thus, Mintzberg's (1973, 1975/1990) argument that managers plan *implicitly in the context of daily actions* is not borne out by the findings. If Mintzberg were right, planning actions should not have lasted longer than other daily actions. Likewise, the classic view of managers as planners who stay away from their organizations and think great thoughts has only a little support from the findings. The anecdotal data suggest that some managers plan in the company retreat or reflect at home or even while driving. But, the diary data indicate that the majority of planning actions are *longer* daily actions.

Because Mintzberg's argument of *planning implicitly in the context of daily actions* is refuted, his claim that "to be superficial is, no doubt, an occupational hazard of managerial work" (1973, p. 35) should be questioned. Superficiality was argued partly because reflection by managers was doubted. However, reflection in human actions (Moya, 1990) and in managerial actions (Weick, 1983; Isenberg, 1984) has been shown to be the case. If longer duration of actions means more time for reflection, the findings certainly indicate that planning actions involve more reflection than other kinds of actions. And an average real duration of 72.16 minutes for actions for *formal plans* (MT1) and of 65.06 minutes for actions for *action plans for the next step* (MT2), compared with 50.28 minutes for actions for other tasks, are certainly *some* time for reflection. Also, Kotter (1982) found that the general managers he studied were not superficial. Instead, they were all very knowledgeable about the businesses they were in. He notes,

> Although some were clearly more knowledgeable than others, the typical GM was an "expert" in his business. He knew a great deal about the specific products, competitors, markets, customers, technologies, unions, and government regulations associated with his industry. In addition, all were very knowledgeable about their companies. The typical GM knew an enormous amount about different people, organizational procedures, the history of the company, specific products, and so on. ... the GMs seemed to possess encyclopedic detail on their businesses and corporations. (p. 39)

Likewise, Mintzberg's claim that "the manager works in an environment of stimulus-response" (1973, p. 38) should be questioned. The findings indicate that managers plan explicitly. Also, Kotter (1982) found that managers set agendas which lead to opportunistic actions. By these actions, they are seen responsive to environmental stimulus but are using the stimulus actively. Both Kotter (1982) and Wrapp (1967) found that effective managers were better performers of opportunistic actions.

The findings suggest that the two existing views describe only parts of the reality and that a modified description of the characteristics of planning is necessary. Findings indicate that managers spend a substantial amount of time (23% in the study which is in agreement with Monk's (1994) finding) in planning for which actions are significantly longer and are performed in many contingencies: individual reflections, collective reflections, and mixes of them. Among these contingencies, the ones involving *individual reflections* for the preparatory planning and deeper thinking and *collective reflections* for instant feedback and co-ordination might be very effective in terms of time and the requirements of distributed managing and of reflexivity in management. Thus, managers adopt this planning practice in addition to that by implicit daily actions and that by individual reflections.

Therefore, a comprehensive description about the characteristics of planning supported by the findings would be that managers *plan by individual and collective reflections in special, longer daily actions.* This description encompasses a wide range of planning contingencies. Because planning and plans are managers' *constructions* (Steier, 1991), managers might do planning in whatever ways they like and have plans in whatever forms they want. However, the constraints would force managers to behave in the most suitable ways according to their contexts. Hence, this section describes the characteristics of planning of the 40 Taiwanese managers and, probably, of many others.

Section 3

THE BREVITY, VARIETY, AND FRAGMENTATION OF MANAGERS' ACTIONS

As mentioned in the Section 9 of Chapter 4, Mintzberg (1973) argues that the degrees of brevity, variety, and fragmentation of managers' actions are so high that managers are driven to be superficial at their work. However, the findings of this and other studies suggest that managers might be very proficient, rather than superficial, at their work.

Findings of This Study

As shown in Table 7-8, 34% of managers' actions were found to have lasted less than 9 minutes and account for 3% of managers' work time; 51% of actions were found to have lasted between 9 and 60 minutes and account for 48% of time; and 15% of actions to have lasted more than an hour and account for 49% of time (the duration categories are first used by Mintzberg (1973); half of his CEOs' activities lasted less than 9 minutes (see Table 7-15)).

Table 7-8. Percentages of actions in different duration categories and of time spent in them

Duration category	*% of actions**	*% of time**
Less than 9 minutes	34%	3%
9 - 60 minutes	51%	48%
More than 60 minutes	15%	49%

* Managers' actions performed during interruptions were also included in the analyses of this table; duration of interruptions was divided evenly if more than one interruption were recorded on a record of action; each interruption was assumed to be *an* action; in total, 1,901 actions were analyzed; and real duration of action was used for calculating the percentage of time.

In Table 7-9 and Table 7-10, the brevity and fragmentation of 40 Taiwanese managers' actions were analyzed from the perspective of the importance of the issue dealt with. Managers were found to spend on average significantly longer time in actions involving *very important* issues than in those dealing with *important* ones (Table 7-9). Actions involving *unimportant* issues were found to have the shortest average duration although analysis revealed only nearly significant difference from that for those dealing with *very important* issues because of significantly larger variation ($F(590, 93) = 2.33, p < .001$). These *unimportant* actions were found to involve fewer, longer interruptions compared with *very important* and *important* actions (Table 7-10). In other words, managers had longer and more fragmented actions for *very important* issues and had more fragmented but insignificantly longer actions for *important* issues than for *unimportant* ones.

In Table 7-11, the brevity and fragmentation of managers' actions were analyzed from the perspective of managers' activities. The longest average duration was found for *liaising* (MA3) and shorter ones were found for *leading* (MA2), *collecting information* (MA4), *giving information downwards* (MA5), and *disturbance handling* (MA8). The most frequent interruption was found for *operating* (MA11) and fewer ones were found for the rest of activities, especially for interpersonal activities (MA1 ~ 3).

The variety of managers' actions was analyzed from the perspectives of all the content of actions, or the three elements of the AKT theory. Managers' activities performed as shown in Table 6-1, managers' knowledges used as shown in Table 6-2, and managers' tasks dealt with as shown in Table 6-3 were all found to have high degrees of concentration. Firstly, each manager's largest figure of the activity performed accounted for 33% of total activities performed and each manager's three largest figures of the

Table 7-9. Duration of managers' actions dealing with different importance of the issue

Importance of the issue	*Sample (actions)*	*Mean of total duration (min./action)*	*Mean of real duration (min./action)*
Very important	529	61.58*	58.74*
Important	591	51.50	49.43
Unimportant	94	49.89	48.01
All	1214	55.76	53.38

* The average duration for *very important* issues was found to be significantly longer (Scheffe-test, $p < .05$) than that for *important* issues in terms of both total and real duration.

Table 7-10. Interruption in managers' actions dealing with different importance of the issue

Importance of the issue	*Sample (actions)*	*Interruption*		
		Mean of times (interruption/action)	*Mean of duration (min./action)*	*Mean of duration (min./interruption)*
Very important	532	0.57	2.82	4.95
Important	594	0.48	2.06	4.26
Unimportant	96	0.24*	1.84	7.70
All	1222	0.50	2.37	4.73

* The average times of interruption for *unimportant* issues was found to be significantly fewer (Scheffe-test, $p < .05$) than those for *very important* and *important* issues.

Table 7-11. Duration of and interruption in managers' activities

	Total duration		*Interruption*	
	Sample (actions)	*Mean of duration* (min./activity)	*Sample* (actions)	*Mean of times* (interruption/activity)
MA1	29	56.24	29	0.24
MA2	198	44.82	200	0.34
MA3	128	77.38*	128	0.32
MA4	253	51.89	254	0.50
MA5	84	49.88	84	0.43
MA6	91	56.14	93	0.63
MA7	146	62.71	146	0.68
MA8	154	50.57	156	0.45
MA9	103	57.07	104	0.47
MA10	42	64.86	42	0.67
MA11	36	59.64	36	1.19*
All	1264	55.80	1272	0.49

* (1) The mean of total duration (and of real duration, although not shown) for MA3 was found to be significantly longer (Scheffe-test, $p < .05$) than those for MA2, MA4, and MA8; (2) The average times of interruption for MA11 was to be significantly more frequent (Scheffe-test, $p < .05$) than those for MA1 ~ 5 and MA8, or to be significantly more frequent ($F(1, 1270) = 23.16$, $p < .001$) than that for the rest of activities (averaged 0.47 times of interruption per activity).

Table 7-12. Concentration of managers' activities performed as shown in Table 6-1

	Sum	*% of total activities*	*% accumulated*		*%, if no concentration*
Of each manager's **largest** figure of activity performed	426	33%	**33%**	Against	9%
Of each manager's **second largest** figure of activity performed	266	21%	**54%**	Against	18%
Of each manager's **third largest** figure of activity performed	176	14%	**68%**	Against	27%

Table 7-13. Concentration of managers' knowledges used as shown in Table 6-2

	Sum	*% of total* knowledges	*% accumulated*		*%, if no concentration*
Of each manager's **largest** figure of knowledge used	745	40%	**40%**	Against	9%
Of each manager's **second largest** figure of knowledge used	401	22%	**62%**	Against	18%
Of each manager's **third largest** figure of knowledge used	258	14%	**76%**	Against	27%

* The figures of MK12 were not included in the analysis because the content was undefined.

Table 7-14. Concentration of managers' tasks dealt with as shown in Table 6-3

	Sum	*% of total tasks*	*% accumulated*		*%, if no concentration*
Of each manager's **largest** figure of task dealt with	448	35%	**35%**	Against	7%
Of each manager's **second largest** figure of task dealt with	253	20%	**55%**	Against	14%
Of each manager's **third largest** figure of task dealt with	159	13%	**68%**	Against	21%

activity performed accounted for 68% of total activities performed (Table 7-12). Secondly, each manager's largest figure of the knowledge used accounted for 40% of total knowledges used and each manager's three largest figures of the knowledge used accounted for 76% of total knowledges used (Table 7-13). Finally, each manager's largest figure of the task dealt with accounted for 35% of total tasks dealt with and each manager's three largest figures of the task dealt with accounted for 68% of total tasks dealt with (Table 7-14).

Discussion

The answer, suggested by the findings, to the DP9 (Discussion Problem No. 9) asked in Chapter 4 is that the brevity, variety, and fragmentation of managers' actions do not necessarily drive managers to be superficial. Specifically, the findings suggest that the degrees of brevity and fragmentation of managers' actions vary across culture and other factors, that managers cope consciously with the brevity and fragmentation of their actions, and that managers might be very proficient at their work because of repetitions in the content of their actions.

Originally, Mintzberg (1973) argues that "to be superficial is, no doubt, an occupational hazard of managerial work." (p. 35) Superficiality was argued partly because reflection by managers was doubted, as mentioned in the last section, and mainly because "the work is disjointed and fragmented; activities are characterized by variety and brevity; major decisions are taken in incremental steps. It is too easy in this job to operate continuously on a superficial level, so that all issues are dealt with quickly, as if none needs much attention." (p. 178).

But, Mintzberg's argument of superficiality has its weaknesses. Firstly, he also prescribed four measures to deal with it: to delegate, to authorize and involve in a marginal way, to reserve attention to special issues, and to make better use of specialists. If his prescription is effective, the managers using it will become not superficial. Hence, to argue that management is superficial is not generalizable. Secondly, he found that it was largely the chief executives themselves who terminated their activities. If they felt that their activities were too brief, they would not have done so. Of course, managers have pressures to cut their actions short. But, as he described, his chief executives did so frequently because the task of the action was done and actions of next step became clear. Finally, he mentioned that the chief executives applied supervisory techniques to run a large number of improvement projects. These projects were subjecting to frequent delays, or fragmentation, between successive steps because of waiting for information or because of timing. Why should we think that waiting for information and division of labour cause a manager to be superficial whereas we do not think so for a doctor?

Perhaps, superficiality is a problem for some managers, especially if they are selected on unsound basis. But, it is definitely not a common problem caused by brevity, variety, and fragmentation of managers' actions. The followings are evidence supporting this argument.

Firstly, the findings of this and other studies (Table 7-15) suggest that the degrees of brevity and fragmentation of managers' actions vary across cultures and other factors. Doktor (1990) found that Korean and Japanese chief executives' actions were less brief and less fragmented compared with their American counterparts and that Hong Kong Chinese CEOs had action pattern between them but more similar to the American one. He suggests that culture causes the differences. Monk's (1994) finding suggest that British managing directors have a unique degree of brevity and fragmentation of actions. The findings of this and Doktor's studies suggest that Taiwanese managers might share an action pattern with Hong Kong Chinese CEOs.

Table 7-15. Percentage of actions in different duration categories - a comparison

Duration category	*American*[1]	*Canadian*[2]	*British*[3]	*Korean*[4]	*Japanese*[4]	*H. K. Chinese*[4]	*Taiwanese*[5]
Less than 9 minutes	49%	90%	18%	10%	14%	37%	34%
9 - 60 minutes	41%	9.98%	59%	48%	42%	51%	51%
More than 60 minutes	10%	0.02%	23%	42%	44%	12%	15%

[1] The finding of Mintzberg (1973) about 5 American CEOs.

[2] The finding of Choran (1969) about 3 presidents of small Canadian firms.

[3] The finding of Monk (1994) about 30 British managing directors.

[4] The findings of Doktor (1990, 1994) about 7 Korean CEOs, 8 Japanese CEOs, and 5 Hong Kong Chinese CEOs.

[5] The finding of this study of 40 Taiwanese managers.

Also, findings indicate that other factors, in addition to culture, influence the degree of brevity and fragmentation of managers' actions. *Level* (count from bottom), or the size of organization, seems to be another factor. Choran's (1969) finding represents a highly brief and fragmented action pattern which is more similar to that for foremen than the one for CEOs. Foremen were found by Guest (1955-1956) and Ponder (1958) to have actions lasted for about one or two minutes on average. Also, *effectiveness* seems to be another factor. Ponder found that effective foremen had 200 actions per day whereas ineffective foremen had 270 actions. Besides, Stewart's (1967/1988) *job profile* seems to be another factor. She found that managers in "the trouble-shooters" group had the most fragmented action pattern whereas managers in "the emissaries" group and "the writers" group had less fragmented actions.

Moreover, the findings of this and Mintzberg's (1973) studies indicate that managers do not act briefly most of the *time*. This study found that 66% of managers' actions, which had lasted for 9 minutes or longer, accounted for 97% of work time and that 34% of actions, which were brief and had lasted for less than 9 minutes, accounted for only 3% of work time (Table 7-8). Even these brief actions cannot be said to be *too brief*. Many actions just involve a brief exchange of information. Kotter (1982) notes that "the networks [of co-operative relationships with other people] allowed terse (and very efficient) conversations to happen" (pp. 91-2). Besides, Mintzberg (1973) found that 19% of his managers' actions, which were held in scheduled meetings and had lasted an average of 68 minutes, accounted for 59% of work time.

Secondly, the findings of this study suggest that managers cope consciously with the brevity and fragmentation of their actions. Findings indicate that managers spend longer duration in actions dealing with *very important* issues (Table 7-9), that they use more frequent and shorter interruptions in "normal" actions dealing with *very important* and *important* issues, and that they need fewer interruptions and allow them to last longer for more leisurely actions dealing with *unimportant* issues (Table 7-10). Findings also indicate that managers keep their actions short if possible and that they use interruption whenever it is convenient and polite to do so (Table 7-11). Specifically, on the one hand, managers keep their contacts with subordinates only (*leading* (MA2) & *giving information downwards* (MA5)) short for efficiency; they keep their *disturbance handling* (MA8) activities short because of timing; and they keep their *collecting information* (MA4) activities short to save time. And above all, to cut these activities short is not considered rude. On the other hand, managers interrupt or are interrupted most frequently during their *operating* (MA11) activities because it is convenient to do so and they refrain from doing so in case of interpersonal activities (MA1 ~ 3) because the ceremonial climate and interpersonal affairs involved in these activities make interruption inconvenient and rude.

Finally, the findings suggest that managers might be very proficient at their work because of repetitions in the content of their actions. The findings of high degrees of concentration of managers' activities performed (Table 7-12), knowledges used (Table 7-13), and tasks dealt with (Table 7-14) suggest that superficiality is not a common problem for managers because most of the actions are repetitions of a few activities, a few knowledges, and a few tasks. These findings are in agreement with the findings of Wrapp (1967) and Isenberg (1984). Wrapp found that good general managers focused on three or four issues of the time. He notes,

> Recognizing that he can bring his special talents to bear on only a limited number of matters, he chooses those issues which he believes will have the greatest long-term impact on the company, and on which his special abilities can be most productive. Under ordinary circumstances he will limit himself to three or four major objectives during any single period of sustained activity. (p. 92)

Similarly, Isenberg found that most senior managers had a few overriding concerns. He notes,

> Approximately two-thirds of the senior managers I studied were preoccupied with a very limited number of quite general issues, each of which subsumed a large number of specific issues. This preoccupation persisted for anywhere from a month to several years and, when in effect, dominated the manager's attention and provided coherence to many of his or her ... activities. (p. 84)

Because concentration of work content is common for managers at different levels, Mintzberg's (1973) argument of superficiality is not in accord with the reality. For him, "the great *variety* in the content of verbal contacts and mail" was manifested by that "the chief executives averaged 36 written and 16 verbal contacts each day, almost every one dealing with a *distinct* issue" (p. 31, italics added). However, the findings of Wrapp (1967) and Isenberg (1984) seem to suggest that the issues dealt with are limited.

Moreover, the findings of this study reveal that managers do not deal with a totally different issue in each action. Instead, a few activities, a few knowledges, and a few tasks recur frequently. Thus, managers might be very proficient, rather than superficial, at their work after a period of time in their jobs because of those repetitions. This argument is in agreement with Kotter's (1982) finding that general managers "were all very knowledgeable about the businesses they were in" (p. 39).

To summarize, the brevity, variety, and fragmentation of actions do not necessarily cause a manager to be superficial. In fact, the degrees of brevity and fragmentation vary across culture and the level and effectiveness of a manager's unit. Moreover, managers do not act briefly most of the time; they seem to cope consciously with the brevity and fragmentation of their actions; and they concentrate on a few activities, a few knowledges, and a few tasks at a time rather than deal with various distinct issues. Thus, managers are not driven to be superficial at their work because of unbearably high degrees of brevity, variety, and fragmentation of actions.

SUMMARY AND CONCLUSION

From the perspectives of the *content* of managers' actions, or the elements of the AKT theory, a more complete analysis of the *characteristics* of management practice is described in this chapter. As a result of viewing from new, multiple perspectives, new insights are gained. In particular, the findings indicate that managers' actions have many contingencies. Hence, simple phrases in the literature for describing management practice are found to be inadequate and more comprehensive descriptions are suggested.

Firstly, findings indicate that actions of decision making have many contingencies in terms of the means of activity, participant, sequence, importance, and timing of action. Traditional descriptions of the characteristics of decision making as a discrete event by the theorists of rational decision making and of leadership-traits and as a continuous and intricate process of brokerage by Sayles (1964) are shown to be partial. A comprehensive description suggests that *decision making is a potentially and frequently continuous and intricate process of brokerage in which every phase of marginal adjustments of the alternatives and compromises is a distinct situation, or a discrete event, demanding a rational decision making procedure.*

Secondly, findings also indicate that planning actions have many contingencies in terms of the means of activity, participant, sequence, and place of action and that they last on average longer than other actions. Traditional accounts of the characteristics of planning as individual reflections in isolated situations by the so called classic view and as implicit daily actions by Mintzberg (1973; 1975/1990) are shown to represent parts of the reality. A comprehensive account suggests that *managers plan by individual and collective reflections in special, longer daily actions.* The existence of explicit planning suggest that Mintzberg's arguments that managers work superficially and that they are stimulus-responsive should be questioned. Without plans, Wrapp's (1967) and Kotter's (1982) good managers would be unable to act, or, for Mintzberg, to react, in an opportunistic way.

Thirdly, the findings of this and other studies suggest that the degrees of brevity and fragmentation of managers' actions vary across culture, level, effectiveness, and job profiles. Replications suggest that managers in other cultures work more deliberately than Mintzberg's chief executives. Also, findings indicate that repetitions of managers' activities, knowledges, and tasks are high, or that the degree of variety is not as high as Mintzberg claimed. Besides, findings suggest that managers cope consciously with the brevity and fragmentation of their actions. Thus, Mintzberg was not right to argue that managers work superficially because of *activity characterized by brevity, variety, and fragmentation.*

Finally, another two of Mintzberg's (1973) six characteristics of managerial work need also be questioned. Findings indicate that managers do not act briefly most of the time. Also, Doktor's (1990) Japanese and Korean CEOs work more deliberately and Ponder's (1958) effective foremen have fewer, longer actions per day than their ineffective counterparts. Thus, Mintzberg's *much work at unrelenting pace* characteristics seems to be ungeneralizable to all managers. Likewise, his *preference for live action* characteristics rests on the argument that managers are adaptive information-manipulators rather than reflective planners and, therefore, needs to be questioned. For senior line managers, live actions carrying important instant information receives priority. However, they do not prefer any live action without screening and they are unable to do so without company staff. For back-room managers, aggregate data is also important. Perhaps, we are still not in a situation to extract inductive descriptions about these three characteristics before more data from different groups of managers is collected. Or, perhaps, inductive characteristics for different groups of managers should be analyzed instead of treating managers as a homogeneous group.

Chapter 8

OTHER RELATED STUDIES' FINDINGS EXPLAINED AND SUBSUMED

Hanson (1958) points out that once the pattern in phenomena is perceived, data patches become explicable. He also notes, "Theories put phenomena into systems. They are built up `in reverse' - retroductively." (p. 90) Since the development of the AKT theory of management and six organizational concepts, not only the phenomena which are used in the theorization become explicable but also many related data patches which are not used in the earlier development of the theory become understood gradually. The purpose of this chapter is to examine whether all these additional data patches are really explicable by the AKT theory and six concepts or not. In other words, the aim is to test the coherence among the AKT theory, six concepts, and findings of other related studies which are still unexplained or partially explained.

The AKT theory of management and six organizational concepts are developed in Chapter 3 to form the basic body of an organization and management theory using literature which is quite obviously supportive. In Chapter 6, the AKT theory and the concept of networked-cones structure are shown to be empirically supported by the findings of this study. Yet, evidence is required for the remainder and more evidence is welcomed for all. Now, from the theory-development's point of view, the generality of this organization and management theory needs to be expanded and to account for more findings of other related studies which are less obviously supportive. If these findings are successfully explained and subsumed by the AKT theory and the six concepts, the empirical domain and generality of this organization and management theory are expanded and the confidence in it is strengthened.

The **method of test** used in this chapter is to detect the need of re-entering the process of retroduction for generating and suggesting a new theory. The criteria are that the AKT theory and six concepts fail the test if re-entry into the retroduction process is necessary and that they succeed the test if no re-entry is required. The need of re-entry is detected by the first statement of the form of retroduction process proposed in the second note in Chapter 2 and re-iterated as follows:

1. A related phenomenon P (or Ps) is inexplicable by the existing theory.
2. But, P (or Ps) and other related phenomena are explicable if theory-to-be H is true.
3. Therefore, there is a reason to suggest that H *may be* true and to subject it to further evaluation.

Now, the form of retroduction process is paraphrased specifically to suit the situation of this chapter, or the particular stage of theory development of the AKT theory:

1. A finding (or findings) of a related study is inexplicable by the AKT theory of management and six organizational concepts.
2. But, this finding (or these findings) and the findings of this and other related studies are explicable if theory-to-be H is true.
3. Therefore, there is a reason to suggest that H *may be* true and to subject it to further evaluation.

The first statement above detects the need to re-enter the retroduction process, or the need to proceed with the second and the third statements. If a finding of a related study is inexplicable by the AKT theory and six concepts, re-entry into the retroduction process for suggesting a new theory becomes necessary; if it is explicable by the AKT theory and six concepts, no re-entry is necessary. If re-entry is not triggered by a finding of a related study, the AKT theory and six concepts can be said to have stood another test and their likelihood of being true improves.

Perhaps, researchers who advocate the H-D (hypothetical-deductive) method might disagree that the tests described in this chapter are empirical tests because they presuppose non-existence of empirical datum before the *invention* of a theory or because they regard the pre-existing data as irrelevant to the supporting of a theory. However, this standpoint towards the pre-existing data is wrong. Mintzberg (1973) uses pre-existing data to support his ten roles theory. So do Isaac Newton, Albert Einstein, and many others in the area of physics. Because retroduction "consists in studying facts and devising a theory to explain them" (Peirce, 1935, Vol. 5, § 146), the pre-existence of empirical data is beyond question. But, it is difficult to study *all* the phenomena before generating and suggesting a theory to explain them as are the case in Mintzberg's (1973) and this studies. Thus, later test and subsumption become necessary. Despite that, this chapter may still be regarded as the theoretical implications to the literature or a part of conclusion for the advocates of H-D method.

In this chapter, the findings of other related studies explained and subsumed principally by the concept of networked-cones structure is discussed in Section 1; those by the concept of compatibility among FOOs in Section 2; those by the concept of distributed managing in Section 3; and those by the concept of momentum of organization in Section 4. However, the content of this chapter is intended to be demonstrative rather than exhaustive. Omission is both intended and inevitable. Besides, the subsumption of other findings and theories by the AKT theory is quite straightforward and no change of explanation is required. Hence, it is discussed in Chapter 10.

Section 1

OTHER RELATED STUDIES' FINDINGS EXPLAINED AND SUBSUMED PRINCIPALLY BY NETWORKED-CONES STRUCTURE

As argued in Chapter 3, an organization and all of its units are represented as cones which are networked, or connected, by the seven kinds of bilateral relationships. These relationships were found by Sayles (1964) to exist between managers and are adapted in this study to represent the relationships between units as well. Thus, the structure of an organization is represented as a networked-cones structure. As described in Chapter 6, this structure is the most suitable *organization structure* (MT3/FOO3) according to the empirical data. Furthermore, some findings of other related studies are later realized to support the networked-cones structure and disagree with the traditional pyramid/tree structure and Likert's (1959, 1961) group-form structure of organizations. They are discussed in this section.

Other Related Studies' Findings

1. Carlson (1951), based on the diary data of nine Swedish executives, found that *a managing director had a wide range of contacts*, ranging internally from his direct subordinates to the lowest rank (Fig. 8-1 and Fig. 8-2) and externally from customers to government officials (Fig. 8-2). The findings were not from nomothetic analyses. They were findings of exemplar individual case from 24 days' investigation of nine Sweden executives. The contacts shown in Fig. 8-1 were made in the meetings of internal committees whereas those shown in Fig. 8-2 were made in other occasions. Fig. 8-1 shows that the participants of internal committees were from various hierarchical levels. Fig. 8-2 shows that short-cuts, or by-passings, in the communication lines accounted for about one-third (28 meetings or 50 communications if telephones and letters included) of all the 92 meetings or 142 communications between the chief executive and indirect subordinates.

2. Stewart (1991b), in a longitudinal study in the UK National Health Service, found that most (ratio not given) of the 20 district general managers and their chairmen were working as *partners* rather than as subordinate and boss. They were mutually dependent and shared the leadership role in many different ways. The chairmen were dependent on their general managers for information because they worked part-time; the general managers were dependent on their chairmen for conducting authority meetings and for defining their relative roles; both were dependent on each other for conducting negotiations and handling difficult public meetings. To provide their district with leadership, the chairman and general manager shared the job by leading in their distinctive domains of issues. Besides, a few other chairmen worked as an executive, a mentor, a consultant, or a distant role to their general managers.

3. Jaques (1976/1990) reports a time-span pattern of *general depth-structure*, a underlying structure "from which neither the manifest nor the extant structure can depart too far without collapsing" (p. 16). This pattern "has so far appeared constantly in over 100 studies" (p. 23). The regularity was first found

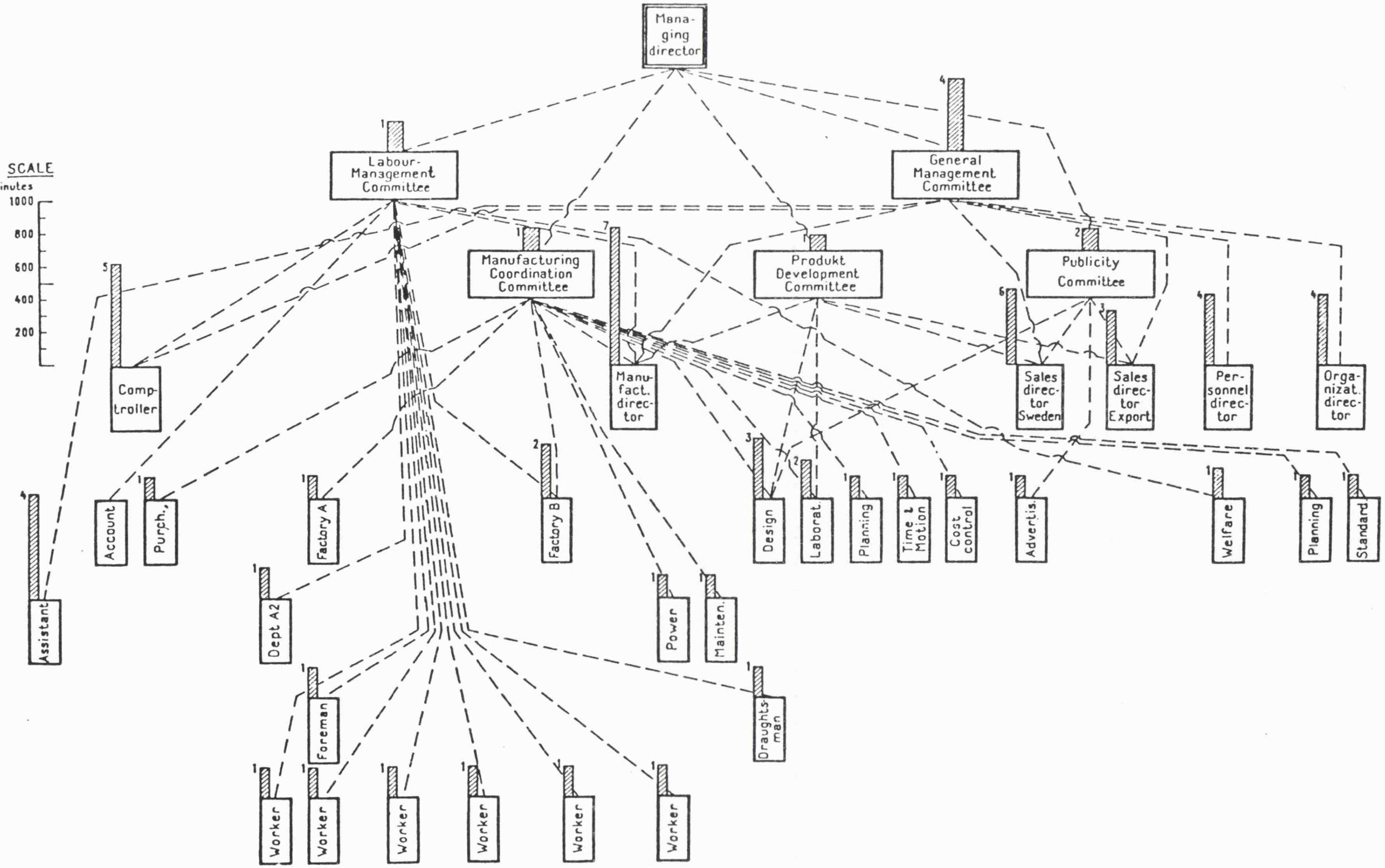
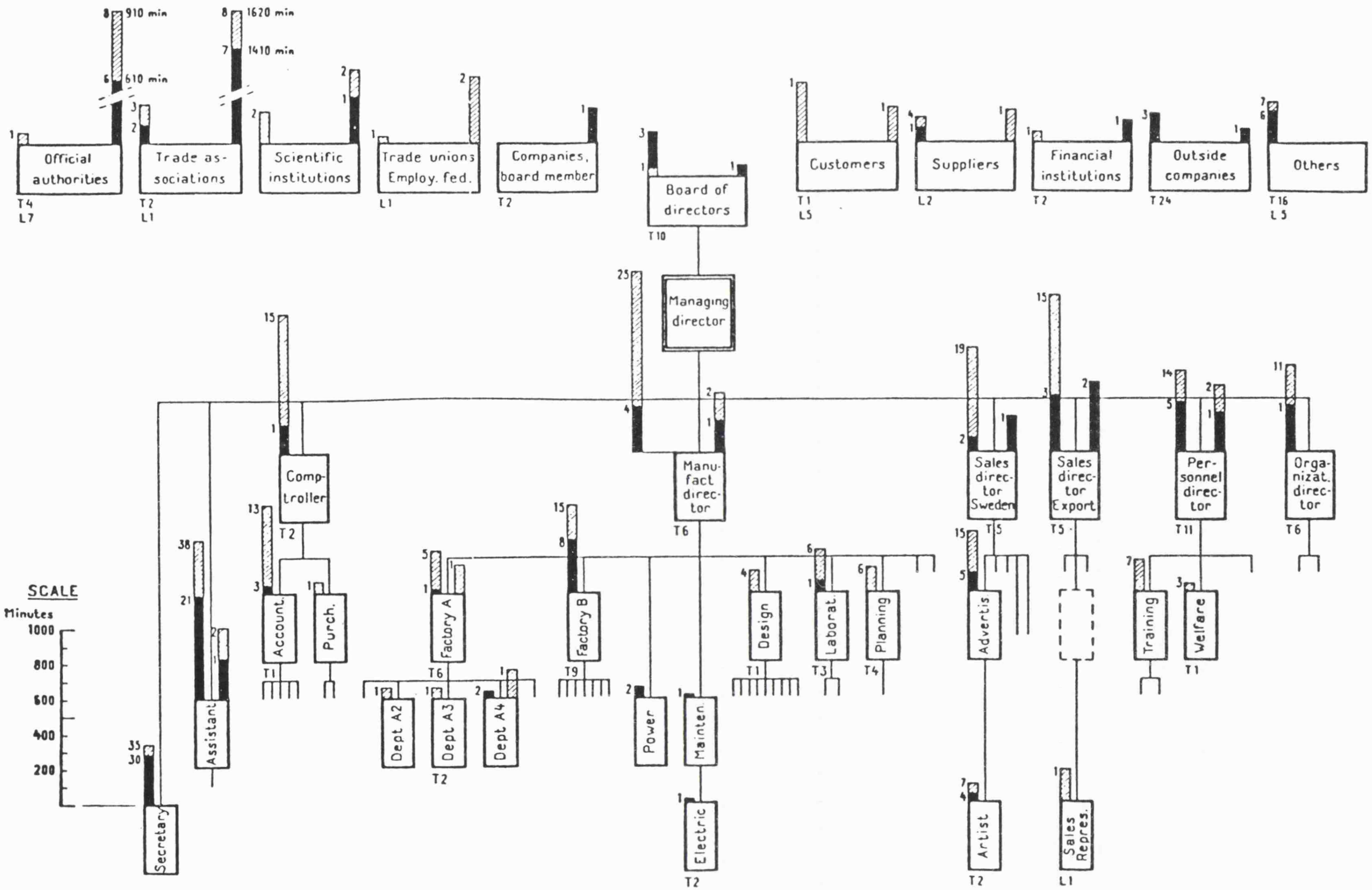


Fig. 8-1 Number of times and length of time of a managing director's contacts made in the meetings of internal committees

Source: Adapted from Carlson (1951, facing p.88).



Right-hand bars: For contacts outside the firm
Left-hand bars: For contacts within the firm
Height of the bars: Length of time of contacts
Shaded bars: For contacts with other(s) presented
Black bars: For contacts of one to one
Figure on the bars: Number of times of contacts
L + figure: Number of letters
T + figure: Number of telephone calls

Fig. 8-2 Number of times and length of time of a managing director's contacts *except* the formal meetings of internal committees

Source: Adapted from Carlson (1951, facing p.96).

independently in Holland by F. C. Hazekamp and his associates at the Dutch General Employers Confederation in 1957 and in England at the Glacier Metal Company in 1958 by asking who is the real manager. Jaques notes,

> Everyone in a role below 3-month time-span feels the occupant of the first role above 3-month time-span to be his real manager; between 3-month and 1-year time-span, the occupant of the first role above 1-year time-span is felt to be the real manager; between 1- and 2-year time-span, the occupant of the first role above the 2-year time-span is felt to be the real manager; between 2- and 5-year time-span, the occupant of the first role above the 5-year time-span is felt to be the real manager; between 5- and 10-year time-span, the occupant of the first role above the 10-year time-span is felt to be the real manager. ... (pp. 22-3)

4. Burns (1954), by using diary method to investigate the interactions between four managers of a production department in a factory, found that *lateral interactions* as well as vertical ones were clearly existent in reality. He notes,

   > The "vertical" links of communication stand out, but ... "lateral" communication assumes rather larger proportions than is commonly supposed. ... there appears to be a reluctance to sustain fully the vertical line of authority. (p. 88)

   Besides, among the vertical interactions, he found that, "half of the time, what the manager thought he was giving as instructions or decisions was being treated as information or advice" (p. 95) by the subordinate managers.

5. Mintzberg (1989), by observing and theorizing organization structure at the level of configuration, found the *truncation of the operating component* from the administrative one in the organizations of administrative adhocracy. He notes,

   > This truncation may take place in a number of ways. First, when the operations have to be machinelike and so could impede innovation in the administration (because of the associated need for control), it may be established as an independent organization. Second, the operating core may be done away with altogether - in effect, contracted out to other organizations. That leaves the organization free to concentrate on the development work, as did NASA during the Apollo project. A third form of truncation arises when the operating core becomes automated. This enables it to run itself, largely independent of the need for direct controls from the administrative component, leaving the latter free to structure itself as an adhocracy to bring new facilities on line or to modify old ones. (p. 203)

6. Drucker (1993), by observing, theorizing, and consulting in a broad area of management, found that contracting-out, or out-sourcing, of service work was becoming a policy in a increasing number of organizations in both private and public sectors. This contracting-out applies particularly to support work, such as maintenance, and to a lot of clerical work, such as billing, in large businesses, large hospitals, law firms, and government. On the government's contracting-out, he notes,

   > The most successful social policies of the last 10 or 15 years have been those in which governments - local governments primarily - `contract out', either to a business or to a non-profit agency. The number of programmes successfully `contracted out' is growing, and growing fast. Originally, services such as cleaning the streets were contracted out. But now the United States is contracting out social programmes ... . And, in the United States at least, we will increasingly contract out schooling. ... (p. 123)

7. Hinterhuber and Levin (1994), based on case studies, propose that strategic networks are the most effective form of organization. They note,

> The organization of international business has moved from an uncontrolled chaos to diversified conglomerates, to focused business units. However, the most successful organizations today (ABB or NEC for example) are moving beyond this form of organization, reorganizing themselves into a collection of units with core competencies and creating a network of strategically structured business cells. A similar movement can be observed among smaller firms, already focused on their competencies, building strategic networks. (p. 43)

They delineate four basic types of strategic networks:

- Internal networks (profit centres, SBUs (strategic business units)),
- Vertical networks (franchising, subcontracting),
- Horizontal networks (alliances), and
- Diagonal networks (interdisciplinary combinations).

Discussion

1. Carlson (1951) suggests that the reason for having the meetings of internal committees (Fig. 8-1) is "that these committees often represent an important means for the chief executives to keep in regular contact with their subordinates" (p. 85). But, the chief executives were also found to have many other contacts with their subordinates (Fig. 8-2). Therefore, other explanation is wanted. According to the networked-cones structure, the internal committees are periodical temporary units organized for reviewing regularly the organization-wide issues in important areas, drawing knowledge from various sources, and making collective decisions at the top management level of an organization. It is an efficient way for the chief executives to manage their organizations as integral units. The participants in the meetings of the internal committees are managers of the organization during the time of meeting, even if they are not titled. In other words, Carlson's findings of the contacts in the meetings of internal committees can be explained by the concept of networked-cones structure by regarding those contacts as managers' actions at the top MIP (management intervention point) of an organization. Whereas, the traditional pyramid/tree structure and Likert's (1959, 1961) group-form structure have no explanation for them.

Carlson (1951) indicates that the reasons for the chief executive to have *short-cuts*, or direct contacts with indirect subordinates without the presence of direct subordinate (Fig. 8-2), are, firstly, the unavailability of the direct subordinate when the indirect subordinates wanted to consult their superiors and, secondly, the by-passing, unconsciously or consciously by the chief executives, of their direct subordinates. But, Carlson does not really explain *why* chief executives and their indirect subordinates have to meet each other. In contrast, this study suggests that the fundamental reason for short-cuts is the overlaps of responsibilities among managers at various levels in a networked-cones structure. In such a milieu, managers of different levels must work together; chief executives need to probe into their organizations to ensure that they are truly well-informed and that subordinates are trustworthy; and they need to consult special knowledges possessed by some indirect subordinates before making decisions.

After the short-cut contacts, the absent manager of the middle level needs to be informed of any change in the 14 factors for organizational operation (FOOs) if managers are to maintain as a team.

2. Stewart (1991b) explains her finding that the district general managers and their chairmen were most commonly partners by the mutual dependency in their closely related jobs. They could "share the leadership role. ... Each had a distinctive domain [of issues] within which to lead" (p. 518). But, she failed to position her discussion in a wider theory of organization. However, from the perspective of a networked-cones structure, her finding supports the *job sharing at the top level*, or the sharing of managing at the top MIP in a networked-cones structure. The job at the top MIP is frequently shared, especially in large organizations of business and government, because of the complexity of issues dealt with and different viewpoints involved. Few individuals are able to or are allowed to make decisions alone at the top MIPs. Thus, job sharing at the top MIP, not only between general managers and their chairmen but also among other managers and staff, is very common. In contrast, from the perspective of pyramid/tree structure, the district general managers and their chairmen would be seen as subordinates and bosses. Stewart suggests that is misleading.

Moreover, Stewart's finding that most of the district general managers and their chairmen were partners can be seen from different viewpoints: as evidence of job sharing at top level (an outsider's viewpoint as discussed in the previous paragraph) or as evidence of distributed managing in the top MIPs (an insider's viewpoint). Even the top MIP needs a structure for the division and integration of managerial efforts. For this, Stewart's district general managers depended on their chairmen to define their closely related roles in order to complement each other by leading in their own distinctive domains.

3. Jaques (1976/1990) suggests that the regularity in the time-span of tasks relating to being a real manager "points to the existence of a structure underlying bureaucratic organization, a sub-structure or a structure in depth, composed of managerial strata with consistent boundaries measured in time-span" (p. 23). These boundaries of time-span are 3-month, 1-year, 2-year, 5-year, and 10-year. For Jaques, a general depth-structure composed of levels responsible for the tasks of those time-spans can be derived from the findings. For this researcher, they are commonly adopted time-spans of tasks of an organization's important units and of the chief managers of these units. These units and chief managers are very formal ones. Thus, these managers are the "real" managers. Other managers are less formal and are frequently deputies, staff, or assistants to the chief managers. They are either apprentices to the chief managers and responsible for the management of a part of the unit under the chief managers' supervision or helping hands to the chief managers and responsible for a position in the MIP of the unit. Thus, these less formal managers are not felt to be the "real" managers by the people below their levels (as measured in the traditional pyramid/tree structure). However, from the perspective of a networked-cones structure, all the members who participate actively in the improvement of their organizations as a transformation system are real managers although most of them are not chief managers or even not titled as a manager.

4. Burns (1954) suggests that the findings of lateral as well as vertical communications between managers indicate the inadequacy of the traditional structure of organization. He notes, "it is difficult to conceive of the executive structure simply as a system existing to pass decisions and other information up and down a pyramidal hierarchy of management. It might better be conceived as a series of circuits, some wide, some small, formed of groups of individuals of the same, or similar, status. Of course, information pass up and down, but should, perhaps, be seen as flowing through contacts between status circuits rather than along an administrative line." (p. 93) But, his structure of *a series of status circuits* is difficult to conceive and he was not sure about how to explain the vertical communications. Unlike Burns' *circuits* thesis, the networked-cones structure can be used to explain his findings: lateral communications are because of local issues between two units and vertical ones are because of vertical overlaps of responsibilities.

Burns also suggests that the finding of the tendency for managers to interpret their superior's instructions and decisions as information or advice indicate a rejection of subordination or "status protection" (p. 95). He notes, "[The subordinate managers'] status as executives ... appears to act as a force compelling them to treat their situation as one in which they could proceed for the most part not in response to instructions from a superior but as a result of their own judgments arrived at after consulting and obtaining information from the [superior] as well as from other sources. ... `decisions are taken' at their level, too" (p. 95). Unlike Burns who thought of status, this researcher uses vertical overlaps of responsibility to explain the finding: subordinate managers, like their superior, have to "take decisions" and be responsible for the performance of their units. That is clearly a picture of *distributed managing* in the milieu of *networked-cones structure*. Besides, the finding indicate that managers at middle levels are not just "middle managers" who relay information up and down the hierarchy. They can be real managers.

5. Mintzberg (1989) explains the truncation of organization by that, whereas the administrative component in an administrative adhocracy has to be organic and concentrate on innovation, the truncated operating component needs to be machinelike and focus on efficiency. In other words, they need to be managed differently. They are composed of different talents; focus on different core competencies; have different reward systems; etc. Thus, they need to be organized separately. Mintzberg (1989) illustrates the truncation of organization as a vertical cut-off. However, it may be easier to conceive it as a delineation of lateral units, probably of *innovation and trading* relationships, in a networked-cones structure. From the perspective of the networked-cones structure, although the administrative and operating components are structurally or legally separate, the two units (or organizations) are laterally connected.

6. Whereas Mintzberg's (1989) truncation of organization describes the delineation of lateral units in the organizations of administrative adhocracy, Drucker's (1993) contracting-out describes the truncation of servicing units in a wider range of organizations. The similarity between them is that either truncation of organization or contracting-out lets organizations to have their own units, purposes, relationships, managers, etc. and, thus, makes them easier to manage. Drucker (1993) notes about the management of the cleaning service in a hospital before and after contracting out to a maintenance company,

In the hospital, ... the value system is that of doctors and nurses. They are concerned with patient care. No one therefore pays much attention to maintenance work, support work, clerical work - even though that is where half the hospital's costs are likely to be. Nobody from these support activities will ever get into a senior hospital position. ... [In contrast,] the maintenance company has a financial interest in improving the productivity of menial jobs. It has people in executive positions who know first-hand the work needed to maintain a hospital. The company was therefore willing to work for years on the redesign of all the tools needed ... . It was willing to invest substantial capital in the new methods. None of this a hospital would have done. (p. 85)

From the perspectives of the AKT theory and six organizational concepts, contracting-out improves performance by the distributed managing motivated by career advancement, higher salary, dignity of work, a sense of achievement, and fear of losing job in the part of new servicing organizations. The formerly service relationship between the serviced organization and a servicing subordinate unit changes into the *trading and service* relationship between the serviced organization and independent servicing organizations. Other kinds of relationship change as well. By contracting out, a new set of units and relationships, or a new networked-cones structure, is created and so is a new arrangement of distributed managing for these units and relationships. Hence, contracting-out makes both the serviced and servicing organizations easier to manage.

The degree the managing is distributed in the new servicing organizations can be high in order to be highly effective. According to Drucker (1993), "they have achieved these productivity increases by demanding responsibility from the lowliest of their employees, ... These people *know* more about the job than anybody else. And being held responsible, they act responsibly." (p. 99) In contrast, these people might have never acted in manager-role if they were staying in the serviced organizations.

7. Hinterhuber and Levin's (1994) strategic networks are new concepts of the structure of organizations beyond the legal right. They are bound together by common interests, contract, and ownership*s* rather than by single ownership only. But, in practice, they are not new. They are teamwork in large scales and have been practiced by many organizations for decades, if not centuries. Besides, to say that they are networks without mentioning the organizational units connected misses one point: those units, original or additional, are necessary for building the strategic networks. Extra-units, beside or above the original ones, are frequently created in the formation of these organizations. Thus, they are still networked-cones structures. So, the seven kinds of bilateral relationships between organizational units can be applied in the formation of strategic networks and in the analysis of management in these networks.

Section 2

OTHER RELATED STUDIES' FINDINGS EXPLAINED AND SUBSUMED PRINCIPALLY BY COMPATIBILITY AMONG FOOS

As argued in Chapter 3, any unit in a networked-cones structure is regarded as a transformation system and, by the concept of system, it is assumed that the elements, or the 14 factors for organizational operation (FOOs), of a unit must be compatible between and among them in order for the unit to be efficient. During the theorization of the concept of compatibility among FOOs, the empirically supported theories of *socio-technical systems* by Emery and Trist (1960/1969), of *structure follows strategy* by Chandler (1962), of *manufacturing organization structure depends on production technology* by Woodward (1965) and Pugh (1973/1990), of *alignment or FIT among and between the McKinsey 7 S's* by Waterman (1982/1987) and Pascale and Athos (1981), and of *configuration of the elements of organizations* by Miller and Mintzberg (1988) and Mintzberg (1989) have been marshalled to support the concept. In this section, additional findings of other related studies which are later realized to support the compatibility among FOOs are described and discussed.

Other Related Studies' Findings

Wrapp (1967), by working together with many general managers and observing them informally, found that effective general managers were always trying to find opportunities to relate and combine proposals from various sources. He notes, "Whenever he identifies relationships among the different proposals before him, he knows that they present opportunities for combination and restructuring." (p. 96) Likewise, Isenberg (1984) found that division heads saw problems as interrelated.

More specifically, Kotter (1982), by applying multiple research methods to study 15 US general managers, found the criteria of tasks to be included in their agendas. He notes,

> In selecting specific programs or projects or activities to include in their agendas, the GMs seem to have looked for possibilities *which could accomplish multiple goals at once, which were consistent with all other goals and plans, and which they had the power to implement.* Projects and programs that seemed "important" and "logical" but did not meet these criteria tended to be discarded or at least resisted. (p. 64, italics added)

Discussion

For Wrapp (1967), Kotter (1982), and Isenberg (1984), their findings indicate that general managers see programmes or problems as interrelated and, thus, tend to improvise their own plans by borrowing bits and pieces from the planning staff's plans and other sources. Their findings also imply that the grand plans devised by the organization's planning unit are seldom adopted completely by general managers. Perhaps, planning staff's scope of perspective is not wide enough to foresee the potential conflicts and enhancements between and among some elements of their plans and the proposals of other sources. Whereas, general managers have the widest range of up-to-date information and ideas and personal feeling of the situation for restructuring and combining plans. Thus, general managers adapt their final plans to the ever-changing milieu from time to time to maintain the interrelatedness among programmes.

Moreover, from the perspectives of the AKT theory and compatibility among FOOs, their findings of seeing and maintaining programmes as interrelated are also evidence for the compatibility among elements of *formal plans* (FOO1), *action plans for next step* (FOO2), and other FOOs. As mentioned in Chapter 3, the compatibility among FOOs has three degrees: conflicting, harmonious, and enhancing. Kotter's findings indicate that general managers do not only prevent the elements of plans from conflicting with each other;

they do not even just seek harmony among them and the situation; they seek enhancements: they try to include into their agendas the programmes accomplishing multiple goals. The concept of compatibility among FOOs covers the interrelatedness of programmes.

Section 3

OTHER RELATED STUDIES' FINDINGS EXPLAINED AND SUBSUMED PRINCIPALLY BY DISTRIBUTED MANAGING

As described in Chapter 3, distributed managing argues that the management responsibility of an organization unit be distributed to the chief manager of the unit and the management tasks in a unit be distributed to the manager (role) with time and expertise. In Section 1 of this chapter, Stewart's (1991b) finding of the job sharing at top level and Burns' (1954) finding of the tendency for the subordinate managers to regard their superior's instructions and decisions as information and advice have been marshalled to support distributed managing in the top MIP (management intervention point) of an organization and among managers at different hierarchical levels. In this section, additional findings of other related studies which are later realized to support distributed managing are described and discussed.

Other Related Studies' Findings

1. Carlson (1951), based on the diary data of nine Swedish chief executives, found four decision patterns of executives in relating to effective division heads (their direct subordinates). He notes, "Although the amount of evidence is limited one may describe the patterns associated with strong and able leadership of a division ... as follows:

   relatively few questions classified by the chief executive as related exclusively to that field of activity;
   questions concerning that field alone being decided upon by the division head himself; ...
   relatively few instances when questions in that field of activity were discussed without the presence of someone from the division; and
   fewness of occasions when subordinates from the division took part in the discussion without the presence of the division head." (p. 104)

2. Martin (1956), by using observation, interview, and examination of correspondence to study the decision situations, or tasks, encountered by managers at four levels: works manager, division superintendent, departmental foreman, and shift foreman, found that decisions or tasks at lower levels involved shorter time span (Table 8-1), that they were more frequent and their time limits were clearer and less elastic, and that the execution of them was more continuous: they arose and were completed in single quick sequences. For example, the shift foreman must take action immediately when a pipe breaks. In contrast, he found that decisions or tasks at higher levels involved longer time horizons (Table 8-1); that they were less frequent and their time limits were ambiguous and more elastic; and that the execution of them was less continuous: with long intervals of time separating the phases of decision. He also found that higher-level managers frequently delegated a task to a subordinate and returned to it at a later date.

Table 8-1. Time spans of task at four levels of management

Time-span	*Works Manager*	*Division Superintendent*	*Department Foreman*	*Shift Foreman*
Short (0 - 2 weeks)	3.3	54.2	68.0	97.7
Moderate (2 weeks to 1 year)	46.1	41.4	30.4	2.1
Distant	50.0	4.3	1.5	0.0
Total	99.4%	99.9%	99.9%	99.8%

Source: Martin (1956, p. 251).

3. Sayles (1964), by acting as a participant to observe and interview 75 middle- and lower-level managers in a division of a large American corporation, found that managers in dispute frequently act independently of the above-imposed rules and their superiors in resolving their differences. He notes,

> Administrative theory assumes that, when there is a disagreement between two managers, there are readily available and "legally" correct means of resolving the differences. The two most often cited are the existence of rules that automatically settle the dispute and an appeal to a common, higher authority. We have observed rather little use of either. ... Rules lag behind a dynamic technology. ... Managers similarly avoid "running to the boss" for help or fiat to settle an issue, except under certain prescribed circumstances ... . (pp. 187-8)

4. Hill (1992), by studying the process of learning to be a manager from the status of an independent contributor experienced by 19 new managers in two US firms, found that *a boss was generally a threat* rather than an ally to the new managers. She notes, "the new managers did not perceive their current bosses to be resources for coping with their first-year challenges. Most saw the current boss as more of a threat than an ally" (p. 221). It was until the new managers felt more confident in their positions, they became more willing to ask their superiors for advice. "Eventually, about half the managers, often because of a looming crisis, turned to their bosses for assistance. They were relieved to find the superiors were more tolerant of their questions and mistakes than anticipated." (p. 225). She also found that those managers who experienced hostile, judgmental, or disinterested reactions from their superiors rarely sought their superiors' advice again.

5. Barry (1991), by observing and interviewing 15 bossless self-managed teams (SMTs) in manufacturing and education over a three-year period, found *distributed leadership*. He notes, "As different people seek - and are tacitly or openly granted - responsibility for different leadership functions, a dynamic pattern of distributed leadership gradually takes form. Over time, the predominance of various leadership types shifts as the team's needs shift." (p. 34) He first delineated the leadership roles needed in SMTs into four types: (1) envisioning leadership (for introducing new ideas), (2) organizing leadership (for building structure and procedures), (3) spanning leadership (for linking outwards), and (4) social leadership (for building teamwork from socio-psychological dimension). He then found that "there are normally at least two people acting as leaders at any given time. ... This is not to say that multiple leadership roles cannot be handled by the same person; it is just that in high performing teams, they are frequently person-specific." (p. 39)

Discussion

1. Carlson (1951) did not have a theory to explain his findings about the four decision patterns of executives in relating to effective division heads. He mentioned only that the introduction of rules regarding the preparation of the questions brought up to the executive in a firm he studied was an efficient devise for saving the executive's time. By that case, he implied that those rules prevented divisional local problems from being brought up to the executive, made division heads more responsible, and saved the executive's time. However, rules cannot really make every division head effective and save executives' time.

For this researcher, Carlson's findings indicate some features of distributed managing. Firstly, the finding of "questions concerning that field alone being decided upon by the division head himself" indicate that divisional local problems are distributed to the effective division heads for decision and the chief executives do not intervene even if a few of them are brought up for discussion (See the first decision pattern). Secondly, the finding of "relatively few questions classified by the chief executive as related exclusively to that field of activity" indicate that effective division heads bring fewer divisional local problems to their superiors than their ineffective counterparts. However, they participate in the discussion of multi-divisional collective problems relating to their field with their chief executives most of the time (See the third and fourth decision pattern). Thirdly, the finding of "relatively few instances when questions in that field of activity were discussed without the presence of someone from the division" indicate that effective division heads (and their subordinates, see next pattern) are able to contribute to (and influence) the multi-divisional decision made by chief executives because they can afford the time and because their expertise is needed and appreciated by chief executives. Finally, the above finding and the finding of "fewness of occasions when subordinates from the division took part in the discussion without the presence of the division head" indicate that effective division heads contribute to the multi-divisional decisions as frequently as possible and they bring their subordinates if special expertise is required.

In contrast, the relationship between ineffective division heads and their chief executives implied by Carlson's findings characterizes violation of distributed managing. Many divisional local decisions are intervened and made by chief executives. Also, ineffective division heads cannot afford to or neglect to participate in the discussion which leads to related multi-divisional decision. Frequently, they are absent or they send their subordinates instead. Hence, ineffective division heads are either constrained by or responsible for many decisions which they do not influence or make.

2. Martin (1956) did not have a theory to explain his findings about the differences of time span, frequency, time limit, and continuity of tasks between managers at four organizational levels. He simply described the result of the study. For this researcher, Martin's findings indicate clearly the pattern of distribution of tasks under distributed managing. As shown in Martin's findings, a shift foreman has to handle immediately those very local and very emergent tasks, such as repairing a broken pipe, in order to maintain production during his or her shift; by the actions of shift foremen, a department foreman has

fewer short-term tasks and has some time for longer-term tasks; repeating this pattern up two hierarchical levels, a works manager has very few short-term tasks to deal with because of the actions of shift foremen, department foremen, and division superintendent and is allowed to concentrate on longer-term tasks. Hence, all managers are handling their organization units' local problems and leave multi-units problems to their superiors. Besides, Martin's findings also indicate that higher-level managers frequently convert a long-term task to several short-term tasks by delegating it to a subordinate and setting a date to return to it. Thus, managers at lower level function like a shield to local, emergent, and mundane tasks for their superiors and save time for the higher-level managers to deal with less structured, more wide-ranging tasks. But higher-level managers are not working exclusively for longer-term tasks, they have to meet the emergencies in their own units as well.

3. Sayles (1964) marshals his findings about the actions of managers in dispute to reveal the inadequacy of the traditional literature and to indicate that *most subordinate managers manage, too.* He suggests that most managers want to be independent, effective, and responsible for their own units whatever the competencies of their superiors and other managers are. For this researcher, although Sayles has not mentioned the concept of distributed managing, his findings and discussion are about the active management by middle managers in the milieu of distributed managing.

4. Hill (1992) explains her finding that a boss is generally a threat rather than an ally to a new manager by that, "because the superiors had their own agendas and counted on the [new] managers to contribute to them, their principal concern was that the [new] managers deliver on whatever goals the superiors set for them" (p. 18) and that it is difficult for the new managers and their superiors to build a developmental relationship because of an age-old dilemma of "the conflict between the boss's role as evaluator and as developer" (p. 223). She suggests that, because of evaluation involved in the relationship, new managers may be reluctant to disclose mistakes and their superiors may not be willing to offer their own opinion about what to do. Frequently, the new managers become more willing to ask their superiors for advice only after they gain confidence in their jobs; or they turn to their bosses for help when they face crisis. For this researcher, the new managers and their superiors have their own responsibilities and agendas, with overlaps. Thus, Hill's findings indicate that managers work actively for their own units in a milieu of distributed managing and in various work climates between new managers and their superiors: supportive, distant, judgmental, or hostile.

5. Whereas Stewart's (1991b) NHS district general managers and their chairmen share leadership at top MIP of their organizations (See Section 1), Barry's (1991) bossless teams share their leadership at shop floor or other various levels. One thing common to these groups is that each leader has "a distinctive domain within which to lead" (Stewart, 1991b, p. 518). In such a situation of leadership, the only way for a team to succeed under heterogeneous leadership and potential conflicts is for the members to "realize that different kinds of leadership can coexist if exercised at different times" (Barry, 1991, p. 46). From the perspective of distributed managing, Stewart's and Barry's findings indicate that the job of managing a unit

or a group may be distributed to more than one manager (role), each is dealing with distinctive domain of issues at a particular periods of time.

Section 4

OTHER RELATED STUDIES' FINDINGS EXPLAINED AND SUBSUMED PRINCIPALLY BY MOMENTUM OF ORGANIZATION

As argued in Chapter 3, the larger the size and the higher the efficiency, the greater the momentum of an organization. The notions of *entropy and change* by Sayles (1964) were also argued to be subsumed into the concept of momentum of organization. In the concepts of entropy and change, Sayles argues that managers have to introduce well-directed change, or the entropy, i.e., lack of order, randomness, will distort the work patterns. It is also argued in Chapter 3 that the higher the momentum of an organization, the easier for the manager to apply the opportunistic actions and the fewer, longer actions the manager has. In this section, some findings of other related studies which are later realized to support the concept of momentum of organization are described and discussed.

Other Related Studies' Findings

1. Carlson (1951), based on diary data of nine Swedish chief executives, found an *effective task pattern* of the executives in relating to effective division heads (their direct subordinates). He notes, "Although the amount of evidence is limited one may describe the patterns associated with strong and able leadership of a division ... as follows: ... the majority of the questions brought up being questions of *development* and questions of *policy*" (p. 104, italics added). He also found that the chief executives who had longer time working alone were also those who recorded higher percentage of development questions when they met their subordinates.

2. Ponder (1958), by using structured observation to study 12 effective and 12 ineffective manufacturing foremen (as rated by superiors and subordinates) at General Electric company, found that effective foremen had on average significantly fewer actions per day than ineffective foremen (200 and 270 actions per day respectively) and, hence, longer average duration. He also found that, although the two groups spent similar amounts of time with subordinates, effective foremen spent less time on questions of production but spent more time on personnel and technical issues, and on meeting with staff and service people (Table 8-2). Effective foremen were also found to initiate fewer contacts and give more general work orders involving more delegation.

3. Burns (1957), by using diary method to study 76 senior and middle managers in eight British companies, found that the greater the rate of change, the more time was spent in discussions and, hence, the less time left for paperwork.

Table 8-2. Percentage of time spent by effective and ineffective foremen on different issues

Issue	*Effective foremen*	*Ineffective foremen*
Production	20	40
Personnel	23	12
Technical	20	14
Meeting with staff and service people	32	20
Others	5	14
Total	100%	100%

Source: Ponder (1958).

4. Gabarro (1985, 1987), by studying the process of taking charge of 14 senior and middle managers, found that the six successful turnaround managers made more organizational changes than the four successful non-turnaround managers, both on average (Fig. 8-3) and case by case, during the first three years in office since succession. By referring a new manager as *successful* in taking charge, he means that the manager in question had remained in office for at least three years. Based on the general pattern of alternating number of organizational changes made by new managers during the process of taking charge, he delineated the process into five sequential stages:

(1) Taking hold (characterized by dealing with apparent problems, much learning about the situation, and many organizational changes);
(2) Immersion (characterized by dealing with the agendas for next stage, much finer learning about the situation, and few organizational changes);
(3) Reshaping (characterized by dealing with residual problems and many organizational changes);
(4) Consolidation (characterized by dealing with unanticipated problems resulting from former changes and new developments); and
(5) Refinement (characterized by dealing with perfection and new opportunities and few organizational changes).

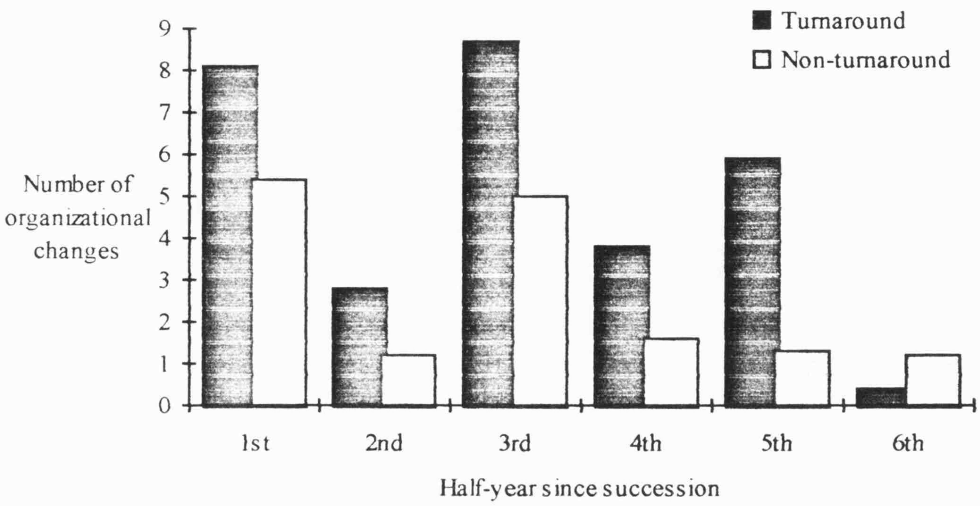


Fig. 8-3 Average number of organizational changes made by successful turnaround and non-turnaround managers (Source: Adapted from Gabarro, 1987, p. 52).

Gabarro also found that turnaround managers knowingly made some suboptimal changes in the taking-hold stage in order to control the situation as quickly as possible and, then, modified them in later stages.

5. By compiling available findings of other studies about the frequency and duration of western managers' actions, this study found that, at least in western culture, managers at lower levels (count from bottom) had on average more and shorter actions per day than those at higher levels (Table 8-3) (Statistical test was considered unnecessary in this case because of large differences). (Mintzberg (1973) was the first to write about this relationship. He notes, "The characteristic of brevity, notable at the chief executive level, becomes more pronounced as one moves down the hierarchy." (p. 34) However, this study is the first to compile available findings, arrange them according to approximate levels (counted *upwards*) or sizes of their organization units, and compare only the findings found within a culture.)

Table 8-3. Frequency and duration of western managers' actions across approximate levels or sizes of unit

Authors	*Sample*	*Average number of actions per day*	*Average duration of action*
Mintzberg (1973)	5 CEOs	22 actions	22 minutes
Stewart (1967/1988)	160 senior & middle managers	25 actions	20.3 minutes
Choran (1969)	3 presidents of small firms	77 actions	4.8 minutes
Ponder (1958)	24 foremen	235 actions	2.0 minutes
Guest (1956)	56 foremen	583 actions	0.8 minutes

Discussion

1. Carlson (1951) did not have a theory to explain his finding about the chief executives' task pattern in relating to effective division heads. He described it briefly. However, from the perspective of the AKT theory and the momentum of organization, Carlson's findings indicate that effective division heads are able to raise the momentum of their organization units to a high level so that the operations in their units are largely self-guided and, therefore, fewer operational problems and more development questions are brought up to the executives. Because the questions of development are generally few and the operational questions brought up by effective division heads are even fewer, the chief executives of those effective division heads are therefore allowed to work alone for longer time.

In contrast, ineffective division heads are, as Carlson's findings imply, unable to raise the momentum of their organizations to an acceptable level because of unsound practice of management so that their division's tendency of self-guidance in operations is low and that they have to direct the operations of their units from time to time. In other words, they are afflict by operational problems. The persistence of this difficult situation attracts chief executives' intervention. Thus, the contacts between chief executives and ineffective division heads involve more questions of current operations and fewer questions of development than those between chief executives and effective division heads.

2. Whereas Carlson (1951) compares the pattern of chief executives' tasks brought up by effective and ineffective division heads, Ponder (1958) compares the actions of effective and ineffective foremen. Explanation of the difference of effectiveness between Ponder's effective and ineffective foremen has focused on style: the effective foremen spend twice as much time on personnel issues and only half as much time on production as the ineffective foremen do (e.g., Kelly, 1964; Mintzberg, 1973; Ponder, 1958). It is implied by those discussions that effective foremen are people-oriented. By this style, the finding that effective foremen have fewer actions per day is explained by that they spend longer time for each contact. However, effective foremen also spend more time on technical issues, which is task-oriented, and meeting with staff and service people, which is linking outwards and cannot be classified as people-oriented, than ineffective foremen. Hence, to explain Ponder's findings by style seems to miss the point.

From the perspective of the momentum of organization, effective foremen, because they are shrewder and more opportunistic, build and maintain their units into more efficient transformation systems. In their units, workers are well-trained and trusted, more production problems are delegated to them, and distributed managing is practiced. Most production problems are dealt with by workers and the foremen are allowed to have more time for other factors for organizational operation (FOOs). Because their tasks involve fewer production problems, their actions need not be as hectic as that of ineffective foremen. In contrast, in ineffective foremen's units, workers are not well-trained or not trusted, fewer production problems are delegated, and distributed managing is not fully practiced. Ineffective foremen are thus afflicted by most of the many production problems. Therefore, they have more actions per day than their effective counterparts and still spend less time in personnel, technical, and other issues for improvement.

3. Burns' (1957) finding of spending more time in discussion and less time on paperwork by managers in the time of many changes can be interpreted as that managers do their paperwork more quickly in that time in order to save time for many additional verbal contacts in which managers sort out the problems arising from changes. Thus, his finding about the rate of change and work pace suggests that the number of changes in an organization unit determines the number of actions of the manager, a conclusion which is in broad agreement with the empirically supported argument of this study that managers' tasks prompt their activities. The relationship between the number of organizational changes and the number of manager's actions is useful for explaining why managers are busy in the period of many changes, such as expansion of plant, turnaround, etc., for increasing the momentum of their organization units.

4. The findings of Gabarro (1985, 1987) and Burns (1957) combined together indicate that successful turnaround managers, like Ponder's (1958) ineffective foremen, have more actions per day than their counterparts. But, unlike Ponder's ineffective foremen or Carlson's (1951) ineffective division heads, the tasks of Gabarro's successful turnaround managers involved *many* questions of development in addition to many questions of current operations. To turn an inefficient unit around is to improve its efficiency or to

increase the momentum of the unit. A successful turnaround manager has to introduce not only remedial changes but also improvement changes. The improvement changes prompt many actions (although they reduce gradually the number of actions for remedial changes). Gabarro's example is illustrative to this point. He notes,

> When one manager was reorganizing both marketing and sales, he had to call two series of meetings (one with the affected managers and another with the district sales forces to explain the changes), work out details where positional changes and relocations were involved, and call on key customers and distributors. Thus, ... [the] implementation took nearly eight weeks of sustained activity on the part of the new president, his new marketing VP, and his domestic sales manager. (p. 115)

To summarize the above discussions about the findings of Carlson (1951), Ponder (1958), Burns (1957), and Gabarro (1985, 1987), a pattern of the numbers of changes and actions in relating to the efficiency of an organization unit and the competence of the manager is theorized as shown in Fig. 8-4. Firstly, competent managers of efficient units have relatively fewer changes and actions. Their situation does not demand hectic actions and the planning and approval of changes tend to be prudent. Besides, their action-to-change ratio could be relatively smaller if they perform opportunistic actions. Secondly, incompetent managers of inefficient units have relatively more changes (more fire-fighting or remedial ones and fewer developmental ones) and actions. Their situation demands hectic actions. Thirdly, competent managers turning inefficient units around have relatively more changes (for improvement and remedy) and actions. Their situation also demands hectic actions. Finally, the relative numbers of changes and actions for incompetent managers of efficient units are uncertain (a question mark). The momentum of their units might be so large that the managers are turned to be competent (shown by the horizontal arrow) or their unsound management practice might eventually turn their units into inefficient ones (shown by the vertical arrow).

		Manager	
		Competent	**Incompetent**
Organization unit	**Efficient**	Fewer changes, Fewer actions.	← ? ↓
	Inefficient	More changes, More actions. (Turnaround situation)	More changes, More actions.

Fig. 8-4 Relative numbers of changes and actions in the efficiency-competence matrix

5. The findings about the frequency and duration of managers' actions as shown in Table 8-3 have not been explained before. Mintzberg (1973) uses his, Ponder's (1958), and Guest's (1956) data to show that chief executives' actions are brief and foremen's actions are much briefer. But, Mintzberg was *describing* the differences in the findings between the two groups of managers rather than explaining them. In this

study, the differences in those findings are explained by the differences in the size or momentum of their organization units (Effectiveness is assumed to be constant).

The findings compiled in Table 8-3 suggest that the *size* or level (counted from bottom) of an organization unit (the two variables were found in this study to be significantly related: $r = .64$, $p < .001$), in addition to the efficiency of a unit and the competence of the manager, influences the frequency and duration of the manager's actions. As argued in Chapter 3, the momentum of an organization is the product of its size and efficiency. Higher level units are generally larger in size and in momentum. Their subordinate units are smaller, level by level, in size and in momentum. The managers of these smaller units have to direct their units frequently by changing inadequate factors for organizational operation (FOOs) in real-time manner because of smaller momentum of their units. The time limit of their tasks is generally less elastic (Martin, 1956). Hence, managers at lower levels have more, shorter actions per day. In contrast, with larger momentum of their units, managers at higher levels do not have to direct their units frequently and are almost freed from the work field because of the actions of their subordinates. With fewer tasks which are more complex and involve more dimensions of reflexivity, more time free from work field, and more elastic time limits, managers at higher levels have fewer, longer actions per day.

The findings shown in Table 8-3 are consistent with those of Martin (1956) (Table 8-1), one from the perspective of managers' activities and the other from that of managers' tasks. These two set of findings combined together suggest that most local tasks are done locally by lower level managers in a more hectic manner and lower level managers act as shields to prevent higher level managers from being bothered by most work-field problems and to leave them time for more complex tasks.

However, the relationship between the frequency and duration of managers' actions and the size or momentum of their organization units must be examined within the same culture, at least in this and the next decade. Doktor (1990) suggests that Asian CEOs have fewer and longer actions than their US counterparts (See Chapter 7). Besides, the findings of this study suggest that Taiwanese middle and junior managers have on average fewer and longer actions per day (13 actions (an interruption was assumed to be an action) with a mean duration of 37.5 minutes) than American CEOs. This comparison can falsify a general relationship between the frequency and duration of managers' actions and the size or momentum of their organization units. But, they are not to be compared here because of culture difference.

CONCLUSION

In this chapter, all of the findings of other related studies mentioned are explicable by the AKT theory and six organizational concepts. Thus, they are explained and subsumed through principally either networked-cones structure of organizations (Section 1) or compatibility among FOOs (Section 2) or distributed managing (Section 3) or momentum of organization (Section 4). In other words, no gap between the reality and the AKT theory and six concepts is detected by the method of test described at the beginning of this chapter. Therefore, it is unnecessary to re-enter the retroduction process for generating and suggesting a new theory. Thus, the AKT theory and six organizational concepts can be said to have stood the tests of these empirical phenomena and the organization and management theory composed of them can be said to have expanded its subsumption and generality for a few steps.

Together with other studies' findings marshalled in Chapter 3 to support the six organizational concepts, all of the findings of other related studies subsumed by the AKT theory of management and six organizational concepts is outlined in Table 8-4. This table shows the principal and relevant concepts to explain and subsume those findings. The weak point seems to be the concept of end-means chain because there is no findings of other study explained and subsumed principally through it. However, the concept of end-means chain is shown in this chapter and in the table to be either relevant to the explanation of or implied by most of the findings although no study has explicitly studied about it except this one.

So far in this thesis, the AKT theory and six concepts are shown in Chapter 2 and Chapter 3 to be empirically based and logically connected. Also, the AKT theory and networked-cones structure are shown in Chapter 6 to be empirically supported by the findings of this study. Moreover, in this chapter, a wide range of formerly unexplained or partially explained findings of other related studies become explicable because of the AKT theory and six concepts. Therefore, it is reasonable to suggest that the AKT theory and six concepts *may be* true to be the core of a *general* organization and management theory and the chance for them being true is probably quite high.

Table 8-4. Other related studies' findings explained and subsumed through the six organizational concepts

Studies	*1. Net-worked cones structure*	*2. End-means chains*	*3. Compatibility among FOOs*	*4. Reflexivity in management*	*5. Distributed managing*	*6. Momentum of organization*
Carlson (1951)	A CEO's contacts[a]	√[b]	√	√	√	
Stewart (1991b)	Job-sharing at top level		√	√	√	
Jaques (1976)	General depth-structure				√	
Burns (1954)	Lateral interactions, etc.			√	√	
Sayles (1964)	7 bilateral relationships*	√		√	√	√
Mintzberg (1989)	Truncation of organization	√	√		√	√
Drucker (1993)	Contracting-out	√	√		√	√
Hinterhuber and Levin (1994)	Strategic networks	√	√	√	√	√
Kotter (1982), etc.	√	√	Tasks in agendas	√	√	
Emery and Trist (1960/1969)	√		Socio-technical systems*	√		
Chandler (1962)	√	√	Strategy and structure*	√	√	
Woodward (1965), etc.		√	Contingency approach*		√	
Waterman (1982/1987), etc.		√	Align 7 S's or fail*			
Miller and Mintzberg (1988)	√	√	Configurations*		√	√
Wrapp (1967), etc.		√	√	Opportunistic action*		√
Sayles (1964)	√	√	√	Changing milieu*	√	√
Carlson (1951)	√	√	√	√	Effective decision pattern	√
Martin (1956)	√				Time span of task and level	√
Sayles (1964)	√	√		√	Subordinates manage too	
Hill (1992)	√	√		√	A boss is generally a threat	
Barry (1991)	√	√			Distributed leadership	
Carlson (1951)	√	√	√	√	√	Effective task pattern
Ponder (1958)	√	√		√	√	Effective action pattern
Burns (1957)			√	√		Change and work pace
Gabarro (1985, 1987)		√	√	√		Turnaround and change
Mintzberg (1973), etc.	√			√	√	Duration of action and level
Sayles (1964)	√	√	√	√	√	Entropy and change*

[a] Findings are placed under the principal concept to explain and subsume them. [b] √: Concept is also relevant to the findings. * Findings discussed in Chapter 2 & 3.

Chapter 9
CONCLUSIONS: SUMMARY AND EVALUATIONS

In this thesis, the AKT theory of management and six organizational concepts have been constructed retroductively (see Chapter 2 & 3) and shown to be empirically supported by the findings of this (see Chapter 6) and other related studies (see Chapter 8). Now, it is time to conclude by summarizing and evaluating what has been done in the study and by evaluating the soundness of the AKT theory. In this chapter, the summary and evaluations of the study are described in Section 1 and the evaluations of the AKT theory in Section 2.

Section 1

SUMMARY AND EVALUATIONS OF THIS STUDY

In this section, the results of the study are summarized and evaluated from two perspectives: (1) the objectives of the study and (2) research problems.

Summary and Evaluations From the Perspective of the Objectives of the Study

As stated in the Section 3 of Chapter 1, this study aims to establish the AKT theory and re-examine the characteristics of management practice. In order to establish the AKT theory, this study sets goals and tasks to review the literature, construct the AKT theory, derive an organization theory, deduce arguments from the AKT theory and its competing theories, formulate hypotheses and discussion problems, collect data, and test. This study has accomplished various tasks for achieving these aims and goals. The results are summarized briefly as follows:

1. *Review of the literature.* This identified the process theories as the mainstream theories of management and Mintzberg's (1973) ten roles theory as the challenging one. It found that the process theories are weak in empirical relevance and logical coherence (e.g., The relationship between the management functions and the organizational activities is not clear and the management functions mean activities, knowledges, and tasks at the same time) and that Mintzberg's (1973) ten roles are actually a list of inadequately classified categories of managerial activities although the inadequacy is a minor one.
2. *Construction of the AKT theory of management.* This first derived a basic framework from an analysis of the practice and literature of management by asking "What, When, Who, Where, Why, and How do managers do?" and then surveyed and classified the content of its three building blocks (managers' activities, knowledges, and tasks) to form the AKT theory (see Fig. 3-3). The AKT theory is briefly as follows: From the perspective of *a* managerial action, the AKT theory argues that, in every action,

managers perform or should perform one of the 11 *manager's activities*, in which they are or should be acting thinkingly with one or more of the 11 *manager's knowledges*, in order to contribute to one of the 14 *manager's tasks* which change corresponding factors for organizational operation (FOOs) for the accomplishment of their organizational tasks. The AKT theory is a description of management practice for those managers who have learned management well, a guidance for those who have not, and a mixture of description and guidance for those who are between the two extremes.

The 11 manager's activities are:
MA1: Representing the work unit,
MA2: Leading,
MA3: Liaising,
MA4: Collecting information,
MA5: Giving information downwards,
MA6: Giving information outwards,
MA7: Innovating and improving,
MA8: Disturbance handling,
MA9: Resources allocating,
MA10: Negotiating,
MA11: Operating.

The 11 manager's knowledges are:
MK1: Organization and management theory,
MK2: Human resource management and Industrial relations,
MK3: Production/Operation management,
MK4: Marketing,
MK5: Financial management and Accounting,
MK6: Mathematical methods,
MK7: Research and development management,
MK8: Information management,
MK9: International business management,
MK10: Business and environment,
MK11: Other management knowledge.

The 14 manager's tasks from the perspective of managers' actions are also the factors for organizational operation (FOOs) from the perspective of an organization unit as a transformation system. At this junction, managers' actions relate to the accomplishment of a unit's tasks and an organization's overall objectives. The 14 manager's tasks or factors for organizational operation are:
MT/FOO1: Formal plan,
MT/FOO2: Action plan for next step,
MT/FOO3: Organization structure,
MT/FOO4: Work flow and regulation,
MT/FOO5: Equipment and support,

MT/FOO6: Attention of subordinates,

MT/FOO7: Competent subordinates,

MT/FOO8: Motivation and work climate,

MT/FOO9: Discipline and work ethics,

MT/FOO10: Shared objectives of the unit,

MT/FOO11: Smooth flow of input or output or both,

MT/FOO12: Pro-unit environment,

MT/FOO13: Sharing of operation,

MT/FOO14: Enhancing own knowledge or interpersonal relationship.

3. *Derivation of an organization theory from the AKT theory.* This produced six organizational concepts which describe or prescribe the context of management. The AKT theory and these six concepts form the core of a coherent organization and management theory. The six organizational concepts are briefly as follows: ? ? ned clen

   (1) Networked-cones structure. This shows the structure of an organization in which any unit at any level is shown as a cone representing a transformation system and all cones are connected bilaterally, each connection representing one of the seven kinds of relationships: work-flow, trading, servicing, advisory, auditing, stabilization, and innovation relationship (Sayles, 1964). A networked-cones structure shows both the structure of authority and the patterns of bilateral interactions.

   (2) End-means chain. This is implied by the AKT theory and networked-cones structure: managers' activities are the means for their tasks and their tasks are the means for their unit's tasks. In turn, their unit's tasks are the means for the organization's overall objectives.

   (3) Compatibility among FOOs. This is the extent of harmony among the 14 factors for organizational operation (FOOs) in an organization unit; three levels can be delineated: conflicting, harmonious, and enhancing.

   (4) Reflexivity in management. This refers to the change-receiver's taking advantages of the changes in the environment and the change-originator's taking reactions into account.

   (5) Distributed managing. This argues that management responsibilities of achieving organizational tasks should be distributed among the chief managers of the units and that managerial tasks of creating and changing the 14 factors for organizational operation (FOOs) should be distributed among the managers with expertise and time.

   (6) Momentum of organization. This refers to the tendency of self-guidance of an organization unit, or the strength to keep running as a work system that an organization unit has accumulated.

4. *Deduction of arguments from the AKT theory and its competing theories and formulation of hypotheses and discussion problems.* This produced ten hypotheses and nine discussion problems.

5. *Collection of diary and questionnaire data* from 40 Taiwanese middle- and lower-level managers. These were experienced chief managers in the sense that they had occupied their position responsible for an identifiable unit for at least one year.

6. *Test and examination of the AKT theory and its competing theories.* The AKT theory and networked-cones structure are shown in Chapter 6 to be empirically supported by the primary data. Firstly, the

nearly constant, significant coefficients of contingency from the overall and partial cross-tabulations between the 11 manager's activities and 14 manager's tasks suggest that the strength of association between them is independent of the manager's function, level, company, and industry. These cross table findings are triangulated by the graphic data: the subjects drew 89.3% of the valid diary records with lines and arrows to associate these two variables in spite of their work pressure. Secondly, data indicate that all of the three building blocks are necessary for the AKT theory to be complete and parsimonious and that the process theories and the ten roles theory are incomplete and ill-structured. Thirdly, findings about the participants in managers' actions suggest that a networked-cones structure is a suitable structure of organizations whereas a traditional pyramid/tree structure or a Likert (1959, 1961) group-form structure is not. Finally, regression analysis showing that managers with more management learning produce proportionately more valid diary record justifies the prescriptive dimension in the AKT theory for those with less management learning.

7. *Test and examination of the characteristics of management practice.* By analyzing from a wider range of perspectives of the elements of managers' actions than the previous studies, modifications are suggested to several previous views about the characteristics of decision making and planning and about the brevity, variety, and fragmentation of managers' actions (Chapter 7). Firstly, findings suggest that decision making is *a* potentially and frequently *continuous and intricate process of brokerage* (italics in this paragraph indicate the previous views) in which every phase of marginal adjustments of the alternatives and compromises is a distinct situation, or *a discrete event*, demanding a rational decision making procedure. Secondly, findings suggest that managers plan by *individual* and collective *reflections* in special, longer *daily actions*. Finally, findings suggest that the brevity, variety, and fragmentation of actions do not necessarily *cause a manager to be superficial*: in fact, the degrees of brevity and fragmentation vary across culture, level, and the effectiveness of a manager's unit; managers do not *act briefly* most of the time; they seem to cope consciously with the brevity and fragmentation of their actions; and they concentrate on a few activities, a few knowledges, and a few tasks at a time rather than *deal with various distinct issues*. More characteristics of management practice are described in Chapter 10.
8. *Further test and examination of the AKT theory and six organizational concepts.* A wide range of formerly unexplained or partially explained findings of other related studies are shown in Chapter 8 to be explained and subsumed by the AKT theory and six concepts. Meanwhile, many pre-existing concepts or management theories are shown to be less subsumptive or inadequate.

By comparing the results with the aims and goals, the researcher believes that this study has accomplished its objectives. Yet, a weak point seems to lie in the small size of sub-samples of managers' actions for producing the nearly constant partial coefficients of contingency between the manager's activities and tasks (Table 6-7), which were not anticipated before the collection of data. Many sub-samples are small and were combined into larger groups for analysis. In spite of the small sub-samples, the overall and partial coefficients of contingency were found to be nearly constant, which might be perceived as evidence of a common *strength of association* between managerial activities and tasks for all kinds of managers.

However, the evidence is limited in scope and soundness. Further studies with adequate sizes of sub-samples of actions from various kinds of managers are necessary.

Summary and Evaluations From the Perspective of Research Problems

As stated in Section 5 of Chapter 1, this study seeks to answer research problems about the definitions of a theory of management, management, a manager, managers' activities, managers' knowledges, managers' tasks; the nature of and relationships between managers' activities, knowledges, and tasks; a suitable theory of the structure of organizations and the way and reason for managers to work in it; the justification of the prescriptive dimension in the AKT theory; the inadequacy of the pre-existing theories of management; the methodology for studying management; and the characteristics of management practice. So far except part of the characteristics of management practice and the definition of management (both are described in the Section 2 of Chapter 10), this study has answered those research problems. The answers are summarized briefly as follows:

1. *A theory of management* is a conceptual framework formulated in a set of statements concerning the *conditions* (context, boundaries, premises, assumptions, postulates), *elements* (concepts, constructs), *relationships* (rules of action, laws of interaction) among elements, and *mechanisms* (causes, chains of interactions) of management; its purposes are to explain or to guide the practice of management or both. This definition takes the changeability of management practice and the prescriptive dimension of a theory of management into account and, thus, asks for a methodological approach other than naturalism for the study of management.
2. *A manager* is a role played by any member of an organization unit to create or change the factors for organizational operation (FOOs) of the unit, no matter whether the person performing the role is titled as a manager or not. Thus, a worker is a manager at the time of improving work method whereas a manager (title) is not a manager (role) when s/he is enjoying family life.
3. *Managers' activities* are the 11 manager's activities mentioned above and throughout this thesis.
4. *Managers' knowledges* are the 11 manager's knowledges as mentioned.
5. *Managers' tasks* are the 14 manager's tasks as mentioned.
6. *The nature of the 11 manager's activities, 11 knowledges, and 14 tasks* is that these variables are the scopes, or ranges, of managerial activity, knowledge, and task respectively. In other words, a manager acts *within* the ranges of the 11 activities, 11 knowledges, and 14 tasks. They are not the *common* work content for all managers because some managers do not cover all of them in their actions; they are not variables in the sense used in the theoretical natural sciences. As to their identities, the 11 manager's activities are managers' performance in their situations; the 14 manager's tasks are managers' contribution to their organization units; and the 11 manager's knowledges are the guidance from managers' brains.
7. *The relationships among managers' activities, knowledges, and tasks* are that the 14 manager's tasks prompt the 11 manager's activities and, consequently, the performance of the 11 manager's activities contribute to the 14 manager's tasks and, in this two-way interaction, managers use the 11 manager's

knowledges (see Fig. 3-3). The relationships among them are normative because managers are expected to use as much relevant management knowledge as possible in their actions and to create and maintain their units as transformation systems for accomplishing their organizational tasks and, also, because managers have to learn in order to be able to do so correctly. Moreover, the relationship between the 11 manager's activities and the 14 manager's tasks is intentional because managers need to form an intention to act on a task and make a commitment to the action before the real action. These relationships are not causal because managers are reflective agents capable of initiating changes rather than mere objects, which are passively influenced by the happenings of events and reacting in predictable ways.

8. *A suitable theory for the structure of organizations* is the concept of networked-cones structure as mentioned. A networked-cones structure describes the structure of organization units vertically and laterally (see Fig. 3-4). Vertical overlaps of cones indicate the *overlaps of responsibilities* among chief managers of those units and the *structure of authority*, or Glueck's (1977) legitimate power, among them. The overlaps of responsibilities foster the co-operation among managers of different levels and the structure of authority lets the manager who is finally responsible for the result have the authority to make decisions. Lateral relationships relate units to each other according to their relative functions and constitute the check and balance to managers' actions. Thus, a networked-cones structure provides the basis for the control mechanisms which support the practice of distributed managing. In contrast, the traditional pyramid/tree structure subsumes vertical relationships only and Likert's (1959, 1961) group-form structure subsumes vertical relationships and part of lateral relationships. Moreover, some of their arguments disagree with the findings of this study. Thus, they are reduced to the structure of authority or of responsibility.

9. *The way and reason for managers' activities, tasks, and knowledges to work in organizational setting* are that the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks are the elements of managers' actions; that managers, through their actions, create and maintain their organization units as transformation systems for accomplishing their organizational tasks; and that managers motivated by the expected results of better-managed transformation systems are the reason, or mechanism, behind these management phenomena. Managers create their managing environments and act within them at the same time. The context of management, or of managers' actions, are described or prescribed by the six organizational concepts mentioned above.

10. *The prescriptive dimension in the AKT theory for those with less management learning is justified logically* by the reasoning that the elements of the AKT theory, i.e., the 11 manager's activities, 11 manager's knowledges, and 14 manager's tasks, are scopes of managerial activity, knowledge, and task; that managers are expected to act within these scopes in order to establish their organization units as efficient transformation systems for accomplishing their organizational tasks; and that managers have to learn in order to be able to do so correctly (see Chapter 3). Also, it is *justified empirically* by the regression analysis showing that managers with more management learning have higher rates of valid diary record, or have relatively fewer problems with using the diary form designed according to the AKT theory to record their actions (see Chapter 6).

11. *The process theories are inadequate to be theories of management* because they are weak in terms of logical coherence and empirical support. For examples, the relationship between the management functions and organizational activities is not clearly specified and, also, the management functions mean activities, knowledges, and tasks (three faces) at the same time. The three-face argument is not supported as an efficient way for constructing a theory of management because the 11 activities, 11 knowledges, and 14 tasks were found to have a matrix rather than a one-to-one relationship between them. Moreover, no existing process theory subsumes all known actions of managers. If a process theory were to be a complete theory of management, the number of management functions would be enormously expanded and the content of them would involve many overlaps between functions because of the three-face argument. Similarly, *Mintzberg's (1973) ten roles theory is inadequate to be a theory of management* because the ten roles are actually a list of inadequately classified categories of managerial activities and roles imply activities and tasks (two faces) at the same time. The two-face argument is not supported as an efficient way of constructing a theory of management, either. Moreover, because a set of tasks are not separated from the ten roles, conceptual clarity and parsimony of discussion suffer. In addition, the knowledge-content of managers' actions is hardly mentioned in the ten roles theory. Thus, the pre-existing theories of management are incomplete and ill-structured.
12. As to *the research method*, especially the data collection method, for studying management, Mintzberg (1973) argued that the diary method is suitable only for studying characteristics about *known* content of managers' work and that the only suitable method to be used to know the work content of managers is structured observation, which requires more effort of the researcher than the diary method. But, Mintzberg is on weak ground because managers' work content could be known or, at least, conjectured by other means. In this study, the activity-content of managers' actions is adapted from Mintzberg's (1973) ten roles which he derived from observational data; the knowledge-content is adapted from Wu's (1984) classification of management training courses which he surveyed and classified using the Delphi method; and the task-content is gathered from several practical management books, compared with McKinsey 7-S Framework, conjectured with system theory, and checked with several practicing managers by this researcher. Finally, these work contents and relationships among them are supported by the diary data. Because the work content is known or, at least, conjectured, the most efficient way to study the characteristics and content of management practice at the same time is therefore the diary method.
13. *The methodological approach* devised and followed in this study is reflexivism as described in Chapter 5 rather than naturalism or eclecticism because management practice is changeable rather than predetermined and because management knowledge is the *result* theorized from data rather than the *materials* for building a theory of management. Like naturalism, it employs retroduction, induction, and deduction for inference. Unlike naturalism, it searches for enlightened prescription from the empirical findings in addition to explanatory description. By employing retroduction, it encourages guesswork in the theory construction stage because data are seldom sufficient to speak for themselves and it encourages evolutionary development of theory because, in so doing, there will be no lack of gradually modified theories to guide the collection of data and to be empirically tested or examined. By searching

for enlightened prescription from data, it encourages empirically-supported or implied prescription because, in so doing, there will be theory-guided progress in management practice. In following reflexivism, researchers need to think about the reflexivity of, or the effect of the receivers' reactions to, their research results and try to develop self-fulfilling theories. Thus, they need to study "what will, could, or should be the case" in addition to studying "what is the case," which is the aim of a study following naturalism.

14. Some descriptions about *the characteristics of management practice* are modified as mentioned above and in Chapter 7. More is described in the Section 2 of Chapter 10.

By comparing the answers with research problems, the researcher believes that this study has answered research problems coherently in terms of theory, methodology, and data. These answers either provide necessary bases, e.g., research method and the context of management, for the study to proceed or are part of the objectives of the study. (Those answers stated in the Section 2 of Chapter 10 are applications of the research results.) Having answered the method- and context-related research problems satisfactorily, this study was then able to achieve its objectives and answer its objectives-related research problems.

Conclusion

In this study, the following facts in the development of the AKT theory and six organizational concepts are particularly important:

1. The AKT theory and six concepts are shown in Chapter 2 and Chapter 3 to be empirically based and logically connected.
2. The AKT theory and networked-cones structure are shown in Chapter 6 to be empirically supported by the findings of this study.
3. A wide range of formerly unexplained or partially explained findings of other related studies are shown in Chapter 8 to be explained and subsumed by the AKT theory and six concepts.

Considering the logical coherence and the quality and quantity of empirical support, it is reasonable to suggest that this study has established the AKT theory in management theory in a form which permits it to be studied, questioned, and re-tested; that the AKT theory and six concepts *may be* true, or adequate, to be the core of a *general* organization and management theory; and that the chance for them being true is probably quite high. Since the critical confirmation of the AKT theory available so far is from the diary data of this study, further studies are necessary to evaluate the theory's generalizability in various organizations, especially of different cultures.

Ask ??

This study has also gathered empirical support for the six organizational concepts, especially the networked-cones structure. But, these six concepts cannot be said to have been established in the same sense as the AKT theory because they have not been studied systematically. Nevertheless, the six concepts do have coherence with the AKT theory and substantial empirical support.

Section 2

EVALUATIONS OF THE AKT THEORY OF MANAGEMENT

In this section, the AKT theory is evaluated against its competing theories from three perspectives: (1) general criteria for theory evaluation, (2) the logic of a theory of management, and (3) the usefulness of a theory of management.

Evaluation of the AKT Theory from the Perspective of General Criteria for Theory Evaluation

There are a few schemes of general criteria for theory evaluation. For examples, Goodson and Morgan (1976) suggest a list of criteria including testability, responsiveness, internal consistency, subsumptive power, parsimony, communicability, and stimulation value. Bacharach (1989) suggests evaluating the falsifiability and utility of a theory. Based on these schemes, a set of general criteria for theory evaluation are suggested (Table 9-1).

Table 9-1. General criteria for theory evaluation

1. Conceptual coherence
    - A. Internal coherence
    - B. External coherence
2. Empirical relevance
    - A. Testability
    - B. Subsumption of data
        - a. Width of empirical domain
        - b. Logical clarity of subsumption process
        - c. Completeness of data subsumed
3. Communicability
4. Stimulation value

This new set of general criteria for theory evaluation are discussed briefly and the AKT theory is evaluated accordingly as follows:

1. *Conceptual coherence*, or logical coherence, is evaluated by whether the elements of and relationships in a theory are clear and consistent and whether they stick together internally and externally. To be conceptual coherent is a necessary condition for the theory to help its receivers understand the phenomena in the empirical domain. If the receivers do not have such an understanding, the theory will not be accepted wholeheartedly even if it can be used to predict successfully. Although understanding is personal and subjective, it can be shown by discussion. This researcher has demonstrated such an

understanding of management practice gained because of the AKT theory by the discussions in Chapter 2, 3, 6, 7, and 8. Many of the discussions are about data which are inexplicable by the competing theories. Yet, further demonstrations are needed to show that the AKT theory helps its receivers understand more about management practice.

A. *Internal coherence* is satisfied if the elements of a theory are defined clearly and used consistently throughout the discussion of the theory and if the relationships between or among these elements are specified clearly. A theory gives a clear conceptual framework if elements and relationships are parsimonious, or if they are non-tautological. Tautology among elements or relationships wrongly adds to complexity and causes confusion. Moreover, the clarity is increased if the mechanisms of the relationships and the conditions of the theory are specified. As to the AKT theory, the elements have their different identities and are clear and parsimonious. Also, the relationships, mechanism, and conditions are clearly specified. In contrast, some roles in the ten roles theory are tautological and the relationships among them are not fully specified. Likewise, the process theories contain tautological, incomplete management functions, i.e., that the parsimony of the process theories is weak, and relationships among them are not clear, not to mention those relationships between them, organizational activities, and managerial duties.

B. *External coherence* is satisfied if a theory connects to other theories and is placed in a wider conceptual framework clearly. Such connections might transform other theories. A theory is understood better if it connects clearly to established theories. The AKT theory does connect to other theories, such as the six organizational concepts, alliance networks (via the concept of networked-cones structure), and configurations (via the concept of compatibility among FOOs). Also, the AKT theory connects to the discussion of business strategy and micro-economics via the concepts of networked-cones structure, reflexivity in management, and end-means chain. Moreover, it connects and transforms the ten roles theory, Wu's (1984) classification of management training courses, McKinsey 7-S Framework, Sayles' (1964) seven bilateral relationships, etc. In contrast, the ten roles theory connects to organizational and managerial behaviour but do not connect clearly to other organizational theories. The process theories connects to other organization and management theories only in a heuristic, or polemic, manner.

2. *Empirical relevance* is evaluated by whether a theory describes the reality or will be accepted and followed by its receivers. In other words, a theory is empirically relevant, or practical, if it is describing or guiding or both describing and guiding the practice in the empirical domain. Empirical relevance is demonstrated by the testability of the theory, the amount of data subsumed, and the clarity of the subsumption process.

A. *Testability* is satisfied if a theory can be rejected by data. A theory is rejected either by disagreement with data or by inferiority to competing theories. Rejection by disagreement with data is emphasized by the advocates of falsifiability (e.g., Popper, 1959). However, empirical examinations involving subjective judgement are also needed because some theories cannot be falsified categorically and because they are frequently also designs to be chosen for practice. The testability of a theory is demonstrated if:

1) the conditions for the theory to hold are specified;
2) hypotheses and discussion problems are deduced or asked logically from the theory;
3) variables are defined operationally, measured reliably, and representing the theory's elements (e.g., constructs) validly;
4) the hypothesized correlating variables are not tautological, or not redundant in measurement; and
5) the nature of the relationships among variables are specified.

As to the AKT theory, this researcher believes that its testability, including falsifiability, has been demonstrated in this study. In contrast, the falsifiability of the ten roles theory, especially the relationships between sets of roles, and the process theories, especially the *process* among the management functions, has not been properly demonstrated.

B. *Subsumption of data:* The data explained by a theory are subsumed by the theory. These data include those for constructing the theory and those supporting the theory in empirical tests and examinations. Eventually, the amount of data subsumed and the clarity of the subsumption process determine our confidence in the theory.

a. *Width of empirical domain:* A theory explaining a wide range of phenomena tends to be regarded as more important than the one for a narrow domain. The best is of course the one explaining the full domain of the field. The AKT theory is intended to explain the full domain of management by regarding any organization unit as a transformation system and by defining a manager as a role performed by any member creating, maintaining, or improving the 14 factors for organizational operation (FOOs) of his or her unit. In contrast, the process theories concentrate on the intra-organizational part of top management and the ten roles theory on managers' activity.

b. *Logical clarity of subsumption process:* A clear and reasonable process for marshalling data to support a theory, or for the theory to explain and subsume data, is important to the acceptance of the theory and the understanding of the phenomena. The logical clarity of the subsumption process before the construction of a theory is demonstrated by the construction process and, afterwards, by empirical tests and examinations of the theory. Falsifiability has to be taken into account in these processes. As to the AKT theory, the retroduction process for constructing the theory and the empirical tests and examinations are clearly reported in the thesis. Likewise, Mintzberg (1973) reported the derivation of the ten roles theory clearly except that he mistook it as an inductive process. In contrast, the derivation of the process theories has never been reported. In addition, the empirical support for the process theories and the ten roles theory remains as questionable because the construct validity of them, as Level 1 theories (classifications of constructs), has never been established.

c. *Completeness of data subsumed:* Each bit of supporting evidence will raise our confidence in a theory. Evidence from new areas of the empirical domain is particularly impressive, especially if its collection is guided by the theory, as is also the demonstration of relevance of the theory to sets of established data. As to the AKT theory, the data of 14 manager's tasks is the first successfully collected evidence of a scope of managers' tasks. The data of managers' actions as the combination of activity, knowledge, and task data is also new to the study of management. The collection of these supporting data was guided by the AKT theory. Also, the relevance of the AKT theory to many established but formerly unexplained or partially explained data sets has been demonstrated in Chapter 2, 3, and 8. However, the AKT theory's subsumption of data is just started. Many further studies are required to increase the completeness of data subsumed. In contrast, the completeness of data subsumed for the process theories and the ten roles theory is difficult to evaluate because the subsumption processes are questionable.

3. *Communicability* is evaluated by whether a theory can be communicated easily and correctly. A conceptually coherent, simple, and conventional theory is high in communicability. Although this is not a critical criterion for scientific reason, theorists should not neglect it for the sake of their theory's diffusion. As to the AKT theory, the communicability is not high at this moment because it is complex in content and novel, especially to the classicists, in terminology and way of thinking. In contrast, the process theories and the ten roles theory are easy to communicate. But, they are incomplete and, according to the above criteria, inferior to the AKT theory. Hence, in spite of complexity and novelty, the AKT theory seems to be a better choice so far for understanding management comprehensively. A complex AKT theory seems inevitable because management is complex and its terminology looks novel because the way of thinking is new. However, the AKT theory will gradually cease to be novel and, hence, it will gradually be easier to communicate.

4. *Stimulation value* is evaluated by the extent of public interest raised and the amount of scientific research stimulated. Since the AKT theory is new, the evaluation of its stimulation value must be future-oriented. Because people have paid much attention to management and were left with no satisfactory theory of it and because this researcher has envisaged many areas of further studies (see next chapter), the stimulation value of the AKT theory is expected to be high. In contrast, the process theories and the ten roles theory are quite high in the public interest raised but low in the *scientific* research stimulated.

Evaluation of the AKT Theory from the Perspective of the Logic of a Theory of Management

A theory of management can also be evaluated according to the logic of a theory of management, or the criteria of an ideal theory of management. This researcher suggests in Chapter 5 that a theory of management should:

1. focus on the manager's actions because management is manifested in actions performed by the individual playing the *role* of manager;
2. be built on the *content* of the manager's actions, i.e., the activity, task (or goal), and knowledge of the manager, rather than on the *characteristics* which merely describe the content;

3. be situated in the context of organizations in which organization units are structured or related according to their functions or organizational tasks;
4. take the normative character of the manager's action into account because human actions are intentional rather than causal;
5. be useful for describing sound management practice and for improving inferior management practice;
6. be built on operationally definable concepts or constructs which can be measured objectively;
7. be empirically supported or justified.

Applying the above criteria to evaluate theories of management, it is clear that the AKT theory satisfies these criteria despite the fact that further studies are required to increase the completeness of data subsumed. In contrast, the process theories focus on a small portion of managers' actions and, thus, cannot be operationally defined to cover all of the managers' actions; are not placed clearly in the context of organization; do not take the normative character of managers' action into account; do not justify its description of management practice or prescription to managers; and do not have valid empirical support for the relationship between the management functions and other constructs and for the process among the management functions. Similarly, the ten roles theory focuses on managers' activities which are classified into ten roles instead of regarding a manager as a role; is not placed clearly in the context of organization; does not take the normative character of managers' action into account; neglects the prescriptive dimension of the theory; and does not have valid empirical support for the relationships between groups of roles and between the ten roles and other constructs.

Evaluation of the AKT Theory from the Perspective of the Usefulness of a Theory of Management

Because a theory of management also represents a design, or a social construction, its usefulness is an important factor for it to be accepted. As argued in Chapter 1, whether a theory of management is accepted and followed by its receivers, or whether it is self-fulfilling, is determined by its usefulness in the following areas:

1. Description and prescription of management practice,
2. Accumulation of management knowledge,
3. Selection and development of management talent,
4. Control of managerial effectiveness,
5. Identification of the managerial contribution to organization and society,
6. Justification of managerial authority and remuneration.

Thus, the usefulness of the AKT theory is evaluated accordingly in order to show that it is more useful, or will be more self-fulfilling, than its competing theories:

1. *Description and prescription of management practice:* The AKT theory describes what competent managers do and prescribes for other managers. It does these by portraying managerial actions in the context of organization units which are regarded as transformation systems. Thus, its description or

prescription could be specific. Moreover, together with the six organizational concepts, it portrays not only managing in the environment but also the managing of the environment. For these reasons, the AKT theory is also a language of management. In contrast, the process theories are vague and incomplete and the ten roles theory is partial.

2. *Accumulation of management knowledge:* The AKT theory and the six organizational concepts are developed to be the core of an organization and management theory. They could be used to classify the existing literature. Chapter 8 shows examples of such a possibility. Also, they could be used as tools in further studies for uncovering and accumulating more management knowledge about more detailed content and context of management (see next section and next chapter). In contrast, the ten roles theory is partial and the process theories fail to be consistently accepted, even among the classicists, as classifications of management knowledge despite their knowledge-integration approach.
3. *Selection and development of management talent:* The AKT theory and the six organizational concepts provide managers and management educators with a framework for assessing the knowledge and skills required of a managerial job. By having an understanding of what talent is expected, the selection and development of a manager can then be directed to meet the expectation. In contrast, the ten roles theory and the process theories cannot be used to assess comprehensively the talent required.
4. *Control of managerial effectiveness:* By distinguishing managers' tasks from the organizational tasks and by having the six organizational concepts, especially the four control mechanisms - the multi-level overlapping of management responsibilities, the different degrees of involvement in a change task by managers of different levels and functions, the interlocking bilateral relationships between units, and the distribution and integration of managers' tasks - supporting the distributed managing, the AKT theory points out how managers control or can control their actions concurrently and the results afterwards. In contrast, the process theories neglect the control of managers' actions and discuss the result only; the ten roles theory discusses only the control of managers' behaviours.
5. *Identification of the managerial contribution to organization and society:* The AKT theory identifies managerial contribution as the accomplishment of managers' tasks, or as creating, maintaining, or improving the 14 factors for organizational operation (FOOs) of an organization unit which is regarded as a transformation system. By having the six organizational concepts, especially distributed managing, to describe or prescribe the context of management and by recognizing that any member of an organization could perform manager-role, the AKT theory attributes the success or failure of an organization to all of its managers, or, more specifically, to the advantages or disadvantages created by the members playing the role of manager. In other words, each member could have, more or less, positive or negative managerial contribution to his or her organization and, then, to the society. In contrast, the process theories and the ten roles theory do not discuss this area of application.
6. *Justification of managerial authority and remuneration:* By recognizing that each member could contribute managerially and operationally to his or her organization unit and that each unit has its special contributions to the advantages and performance of the overall organization, the AKT theory argues that managerial authority is for fulfilling the responsibility of the unit's organizational tasks, that managers' authorities have to be checked and balanced because responsibilities are shared, that use of

the chief manager's ultimate *formal* authority to decision making in his or her unit should remain as the last resort, and that other types of power, especially that derived from knowledge, should be treated as more important than the formal authority for the fulfilment of responsibility. In other words, formal authority must be maintained but authoritarianism cannot be justified according to the AKT theory. As to the remuneration, short-term contribution-related pay according to the advantage created to the organization and the performance of the unit should form a noticeable part in order to induce managerial and operational contributions from all of the members. Likewise, responsibility-related pay according to the formal authority, or the level, should not become the major part of remuneration because managing should be distributed. In contrast, the process theories and the ten roles theory do not discuss this area of application.

Conclusion

From the above three-perspective evaluations, the AKT theory can be said to stand much better than the process theories and the ten roles theory under all criteria except communicability. However, this inferior communicability will be compensated if a whole set of organization and management theory is concerned because the AKT theory is parsimonious in concept and complete in content.

Chapter 10

THEORETICAL IMPLICATIONS AND APPLICATIONS

In this thesis, the AKT theory of management has been established in management theory and evaluated as a better theory of management. As the core of management theory, the AKT theory has a wide range of theoretical implications and applications.

In this chapter, the theoretical implications of the AKT theory for the pre-existing theories of management, for the classification of management literature, and for the redirection of the existing expertise in the study of management are described in Section 1 and the theoretical applications of the AKT theory to the revelation of the essence of management practice, to the summarization of the characteristics of management practice, and to the definitions of management, sound management, and mismanagement are described in Section 2.

Section 1

THEORETICAL IMPLICATIONS OF THE AKT THEORY OF MANAGEMENT

The AKT theory has theoretical implications for the pre-existing theories of management, for the classification of management literature, and for the redirection of the existing expertise in the study of management. They are described as follows.

Implications for the Pre-existing Theories of Management

The AKT theory has theoretical implications for its predecessors. The process theories are shown to be incomplete and ill-structured. Some of the classicists' management functions, such as planning, organizing, staffing, and leading, are subsumed by the AKT theory. Others, such as control, are subsumed by the AKT theory *and* the six organizational concepts. Also, Mintzberg's (1973) ten roles theory is shown to be incomplete and the ten roles are modified and subsumed into the 11 manager's activities. Moreover, they are rated as weaker than the AKT theory on every important criteria of theory evaluation.

The rejection of the process theories as complete theories of management is not based on the findings of this study only. Doubt over the comprehensiveness and specificity of the classicists' management functions has been raised by Carlson (1951), Sayles (1964), and Mintzberg (1973; 1975/1990). Disagreement among the classicists themselves about the composition of management functions is another weakness. Besides, none of the process theories has been shown to have *valid* empirical support. Moreover, inability of the process theories - and their associated organization theory - to explain the existing findings shown in Chapter 8 reveals again their low empirical relevance. Thus, they are reduced to partial, mixed theories of managers' task, activity, and knowledge, instead of integrated theories of management.

Likewise, the acceptance of the AKT theory as a theory of management is not based on the findings of this study only, although the empirical supports are triangulated and strong. Explanation of the formerly unexplained or partially explained findings of other related studies shown in Chapter 8 adds confidence. Moreover, the application of the AKT theory to the understanding and analysis of management practice adds confidence as well.

Implications for the Classification of Management Literature

Put the AKT theory in the place of the process theories and an improved classification of management literature will be achieved in both general and functional management areas. By so doing, a more meaningful body of management knowledge will be created and shortcomings in it will be revealed. For examples, it will be seen that there are many theories on the style of leadership but few on the content of leading and that there are many theories, such as sensitivity training, focusing exclusively on special factors but few on the balance and compatibility between or among them.

In this sense, Chapter 8 can also be regarded as a classification, according to the AKT theory *and the six organizational concepts*, of the concepts and theories explaining those findings of other related studies.

After the management literature having been re-classified, each category of the elements of the AKT theory will represent a more detailed area to be studied: the content and characteristics of these sub-domains of management could be studied with the AKT theory and the six organizational concepts in mind. When these sub-domains and the six organizational concepts are thoroughly studied, we will have a more complete organization and management theory.

Under the new classification, Koontz's (1961; 1980) "schools" or "approaches" of management theory will become redundant. Many of those theories will become parts of the organization and management theory classified according to the AKT theory and the six organizational concepts. Some of them, such as the process theories, will not be not included in the organization and management theory because they are superseded.

Implications for the Redirection of the Existing Expertise in the Study of Management

For the researchers or theorists who have followed a particular "school" or "approach" to the study of management theory, the AKT theory provides a new direction for the use of their expertise. In addition to the sub-domains of management and the six organizational concepts mentioned above, they could redirect their expertise to the four academic divisions of labour (see below) in future.

As stated in Chapter 2, thirteen crude categories of management theories were identified by following the way that Koontz identified six "schools of management theory" (1961, p. 176) or "eleven approaches to the study of management science and theory" (1980, p. 176). They are: 1. the empirical or case approach, 2. the scientific management approach, 3. the human behaviour approach, 4. the sociotechnical systems approach, 5. the decision theory approach, 6. the systems approach, 7. the mathematical or management science approach, 8. the contingency or situational approach, 9. the McKinsey 7-S Framework approach, 10. the configurations approach, 11. the management process or functions approach, 12. the managerial roles approach, 13. the co-operative social systems approach. They also represent the existing research traditions or expertise. To redirect these expertise in the study of management, they are re-classified, according to their potential contribution to the management knowledge, into four academic divisions of labour: the study of advantage, of rationalization, of organizational behaviour, and of configurations.

The implications of the AKT theory for these four academic divisions of labour - i.e., as the theoretical basis, or, more specifically, a scope of factors to be considered, and as the epistemological framework, or paradigm - and for the redirection of the existing expertise are as follows.

1. *Implications for the study of advantage:* The word *advantage* in the study of management has been popularized by Porter's (1985) strategy book *Competitive Advantage.* Porter's emphasis on advantage was a vision because to create advantage in order to survive or to excel is the aim of strategy. The study of strategy and organizational change, among others, has focused on finding a set of critical success factors (CSFs) and devising a strategy for gaining advantages. However, the field has been lacking an adequate theory (Thomas and Pruett, 1993). Without a comprehensive scope of factors, it was difficult to find rightly the CSFs and, without a complete scope of managers' activities, it was difficult to plan on how to implement the change. Now, the AKT theory can help to fill the gaps: the 14 manager's tasks or factors for organizational operation (FOOs) are a scope of factors for deciding what advantages (CSFs) to create and the 11 manager's activities are a scope of managers' activities for planning implementation actions. Thus, the study of advantage, strategy, and organizational change can be directed and connected by the AKT theory. Besides, the six organizational concepts, especially, the momentum of organization, distributed managing, and reflexivity in management, are also useful to the study. Researchers or theorists who have followed the empirical or case approach, the management functions approach, and the configurations approach could redirect their existing expertise to this academic division of labour.
2. *Implications for the study of rationalization:* The contribution of the scientific management movement and its later variants to the development of management is enormous. They rationalize the work process and equipment and, thus, erase unnecessary physical strain of workers and improve production efficiency. However, although they have kept lowering the price of commodity and raising the wage, they were frequently accused of enemy of workers. Moreover, a rationalization may aim at a wrong target, such as perfecting the process technology for a failing market. Thus, the study of rationalization

needs to be positioned and balanced adequately. The AKT theory can satisfy these needs. To rationalize in the framework of the AKT theory helps to aim wisely and use resources proportionately. Also, the AKT theory provides a scope of areas for rationalization: although rationalization has focused mainly on *work flow and regulation* (MT/FOO4) and *equipment and support* (MT/FOO5), other areas of application, such as *formal plan* (MT/FOO1) (e.g., the program evaluation and review technique, or PERT), and *competent subordinates* (MT/FOO7) (e.g., human resource planning), have been emerging. Besides, the concepts of end-means chain and compatibility among FOOs are useful to the study. Researchers or theorists who have followed the scientific management approach, the mathematical or management science approach, and the *normative* decision theory approach could redirect their existing expertise to this academic division of labour.

3. *Implications for the study of organization behaviour:* The literature of human behaviour contributed by psychologists, social psychologists, sociologists, anthropologists, and management researchers is great in amount. However, it is still loosely organized. Books on organizational behaviour are largely organized according to the classifications of individual, group, and organization. It was difficult to organize this bulk of literature for managerial use because there was no sure way to determine whether the findings are organizational or not and there was no established theory of management for organizing it. Now, the AKT theory can fill the gap. A book of organizational behaviour organized according to the AKT theory will be ready for managers' use and clear about why a finding is organizational. As for the study of organizational behaviour, the AKT theory provides a framework for studies to relate to each other and a scope of factors for consideration in the discussion of findings. Besides, the concepts of reflexivity in management and networked-cones structure, especially, the seven kinds of bilateral relationships, are useful to the study. Researchers or theorists who have followed the human behaviour approach, the managerial roles approach, the co-operative social system approach, and the *descriptive* decision theory approach could redirect their existing expertise to this academic division of labour.

4. *Implications for the study of configurations:* The introduction of sociotechnical systems marked a transition from very limited views of management to wider ones. The contingency or situational theories have expanded our recognition of the interdependency between factors. The configurations theory goes beyond the interdependency between factors and shows that a set of compatible factors are actually configured - put together - to form a configuration and that different configurations of organization are maintained for different organizational tasks in different environments. However, the configurations theory lacks a common scope of factors. The AKT theory can fill the gap by providing a scope of factors to be considered in the configuration of organizations. Besides, the concepts of compatibility among FOOs and momentum of organization are particularly useful to the study. After configurations are adequately classified, the characteristics of managers, of management practice, and of organization for different configurations can be studied. For example, traits of competent and incompetent managers in a particular situation may be studied and theorized. Researchers or theorists who have followed the configurations approach, the sociotechnical systems approach, the contingency

or situational approach, the systems approach, and the McKinsey 7-S approach could redirect their existing expertise to this academic division of labour.

Section 2

THEORETICAL APPLICATIONS OF THE AKT THEORY OF MANAGEMENT

The AKT theory can be applied to the revelation of the essence of management practice, to the summarization of the characteristics of management practice, and to the definitions of management, sound management, and mismanagement. These applications and results are described in this section.

The word *nature* in the discussion of the nature of managerial work (e.g., Mintzberg, 1973) means both the essence - necessary content - and characteristics. Thus, it will be clearer to discuss the nature of managerial work in terms of the essence and characteristics of management practice separately.

Application to the Revelation of the Essence of Management Practice

The literature on management contains different specifications - or speculations - about the essence of management. Hirsh and Bevan (1988) points out that various theorists regard management as management functions, as managerial roles, as teams, as leadership, or as decision making and that academics and managers use a mix of these alternatives in practice, often in a muddled way. However, they offer no cure to such a mess. In a more sophisticated way, Hsu (1984) argues that management is a need, an activity (or a work or task), and a set of systematic knowledge (or a subject) in different situations. He explains: in order to improve the result of teamwork, a *need* for management is created; in order to satisfy the need, the *work* of management is done; and accumulation of the relevant *knowledge* leads to a *subject* of management. However, he uses management functions to classify the work and knowledge of management and does not analyze the need for it.

Applying the AKT theory, this researcher regards management as an activity, a task, a need, and a set of knowledge at the same time. Because management is manifested in managers' actions, the essence of management is thus the elements of them: the 11 manager's activities, the 14 manager's tasks (or the 14 factors for organizational operation (FOOs) from the viewpoint of a transformation system as a need for management), and the 11 manager's knowledges. In other words, a need for management is to build and improve a transformation system; a task of manager(s) is to satisfy the need; an activity of manager(s) is to accomplish the task; and a set of knowledge of manager(s) is to guide the performance of the activity and the accomplishment of the task. Hence, no need for management or no task, activity, or knowledge of a manager is no management. Management exists only if all of these essential parts coexist.

By contrasting the former specifications of the essence of management with the new one, this researcher argues that to regard management essentially as management functions, as managerial roles, as teams, as leaderships, as decision making, as a mix of them, or as a subject is problematic. Firstly, the classicists' management functions, the ten roles, leading, decisional actions, and even all of them are only part of the managerial work content. Secondly, some managers, such as the self-employed, work independently. To say that managers work in teams is not as accurate as to say that managers have responsibilities which are vertically and laterally overlapped. Finally, management had been practiced long before the emergence of a subject of management. Management studies cannot be equated to management practice.

Application to the Summarization of the Characteristics of Management Practice

In Chapter 2, the pre-existing descriptions of the characteristics of management practice were reviewed. In Chapter 7, some new characteristics were described and some former descriptions were found to be inadequate and, then, modified. Now, applying the AKT theory of management as the summarizing framework, this researcher organizes the findings about the characteristics of management practice and presents them in Fig. 10-1.

The characteristics of management practice shown in Fig. 10-1 represent the result of the theorization based on known empirical findings. In addition to several inductive findings from this and other studies, many characteristics are results of retroduction processes elaborating the pre-existing descriptions. The descriptions and evidence of these characteristics are as follows.

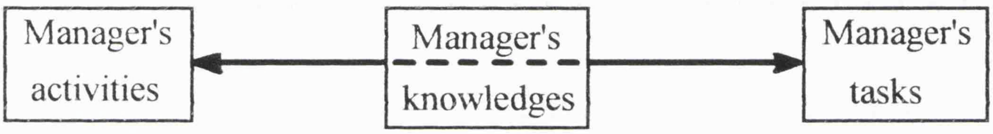
A. **Characteristics of management practice relating to management practice as a whole:**

1. *Higher-level managers generally work longer hours.* Findings indicate that higher-level managers tend to work longer hours: Whyte's (1954) chief executives claimed to work four nights out of five: one night was spent at the office; one entertaining; and the other two were working at home; Carlson's (1951) managing directors worked on average 10 hours per day; Kotter's (1982) general managers worked an average of just under 60 hours per week; Horne and Lupton's (1965) managers 1, 2, 3, and 4 levels removed from the CEO worked on average 45, 43, 42, and 41 hours per week respectively; the average working hours per day for the managers of this study were found to correlate significantly to their level (count from bottom) positively (see Chapter 7).

2. *Hectic pace of work, especially for the managers of inefficient units.* Findings indicate that managers work at a hectic pace: foremen engaged in between 237 and 1,073 incidents per day without a break in the pace (Guest, 1955-1956); the level of managers' work activity was pretty constant throughout the day (Dubin and Spray, 1964); the chief executives had no break in the pace of activity during office hours: the mail (averaged 36 pieces per day), telephone calls (averaged 5 per day), and meetings (averaged 8) accounted for almost every minute at work (Mintzberg, 1973). Moreover, findings indicate that inefficient organization units demand even more actions of their managers: Carlson's (1951) ineffective division heads and their CEOs worked at a more hectic pace and were less likely than their effective counterparts to spend time in development and policy questions and joint decisions; Ponder's (1958) ineffective foremen had more actions per day than effective ones (270 vs. 200); Gabarro's (1985, 1987) turnaround managers made more organizational changes than

A. *Relating to management practice as a whole:*

1. Higher-level managers generally work longer hours
2. Hectic pace of work, especially for the managers of inefficient units
3. The degrees of brevity, variety, and fragmentation of actions are varied and generally high
4. Lower-level managers generally work briefer actions
5. Longer duration and more interruptions for actions dealing with important issues
6. Longer interruptions for actions dealing with unimportant issues
7. Acting thinkingly
8. Being alert and opportunistic in dealing with reflexivity
9. Using formal and informal information
10. Resorting to reciprocity with others in a network of vertical and lateral relationships
11. Initiations of contact are interactive, with higher-level managers being more reactive



B. *Relating to manager's activities:*

1. Using verbal means most of the time: topics range widely
2. Short-term concentration on a few categories of activity
3. Decision making is a potentially and frequently continuous and intricate process of brokerage in which every phase of marginal adjustments of the alternatives and compromises is a distinct situation demanding a rational decision making procedure

C. *Relating to manager's knowledges:*

1. Short-term concentration on a few categories of knowledge
2. Higher-level managers use more categories of knowledge

D. *Relating to manager's tasks:*

1. Factors of a system are the levers
2. Problems are interrelated
3. The context of management is ever-changing
4. Problems are tackled incrementally
5. A manager's job contains a number of problems at a time, each is tackled intermittently
6. Higher-level managers deal with longer time span problems
7. Short-term concentration on a few categories of task
8. Managers plan by individual and collective reflections in special, longer daily actions

Fig. 10-1 The characteristics of management practice non-turnaround ones and, according to Burns (1957), changes increase work pace. The findings suggest that managers need to work smartly, not just work hard.

3. *The degrees of brevity, variety, and fragmentation of actions are varied and generally high.* Findings suggest that the degrees of brevity and fragmentation of managers' actions vary across culture, level (see next characteristics), effectiveness (see above), and job profiles: replications suggest that managers in other cultures work more deliberately than Mintzberg's (1973) chief executives (Table 7-15); Stewart's (1967/1988) managers in different job profile groups had different degrees of brevity, variety, and fragmentation; the findings of this study indicate that repetitions of managers' activities, knowledges, and tasks are high, or that the degree of variety is not as high as Mintzberg claimed; findings also suggest that managers cope consciously with the brevity and fragmentation of their actions (see Characteristics A-5 & A-6). Thus, Mintzberg's argument that managers work superficially because their actions are characterized by brevity, variety, and fragmentation was misleading. His argument might be true for some managers but certainly not true for all of them.
4. *Lower-level managers generally have briefer actions.* Findings indicate that lower-level managers tend to have more, shorter actions, and vice versa (see Table 8-3). (Note: The data of this study are inadequate for testing this characteristic because the within-company-and-within-function sub-samples are too small.)
5. *Longer duration and more interruptions for actions dealing with important issues.* Findings indicate that managers spent a longer time for and used more interruptions during actions dealing with important issues (Table 7-9 & 7-10).
6. *Longer interruptions for actions dealing with unimportant issues.* Findings indicate that managers allowed the interruptions during actions dealing with unimportant issues to last longer (Table 7-10).
7. *Acting thinkingly.* Both Sayles (1964) and Weick (1983) reason that thinking must be part of managers' actions. This researcher goes further to use the 11 manager's knowledges in the AKT theory to represent the scope of the content of managers' thinking. Findings support these arguments: Isenberg's (1984) senior managers thought while they were acting; the managers of this study used on average 1.52 categories of the 11 manager's knowledges during their actions (Table 6-2 & 6-12).
8. *Being alert and opportunistic in dealing with reflexivity.* Findings indicate that managers, especially the competent ones, are alert and opportunistic in dealing with reflexivity: Wrapp's (1967) good managers avoided certain policy decisions, pursued opportunistic actions to fulfil their goals easily when chances rose, and improvised plans by borrowing parts from their subordinates' plans; Kotter's (1982) general managers seemed to ignore some proposals which did not fit well into their agendas and select certain programs, projects, or activities to include in their agendas in order to accomplish multiple goals at once. Moreover, Mintzberg (1973) suggests that managers need to turn their obligations into opportunities, or duties into rights, in order to succeed. To be alert and opportunistic is a way to work smartly.
9. *Using formal and informal information.* Findings indicate that, in addition to formal, aggregate information, which is collected for them, managers use informal, instant information: in order to avoid disturbances to their work areas, Sayles' (1964) managers endeavoured to gain advance information on

technical and organizational changes which they must cope later; the five chief executives strongly and frequently demonstrated the desire to have the most current information - instant information, i.e., gossip, speculation, and hearsay transmitted by telephone or unscheduled meeting, received top priority, often interrupting their meetings (Mintzberg, 1973); Kotter's (1982) general managers often asked a lot of questions in their conversation with others.

10. *Resorting to reciprocity with others in a network of vertical and lateral relationships.* Findings indicate that managers resort to reciprocity with others to get work done and rarely use authority or power to control work situation: Sayles' (1964) managers worked together in terms of seven kinds of lateral relationships, which are mutually dependent, and they rarely resorted to their superior or rules for resolution of differences; Kotter's (1982) general managers rarely gave orders in a traditional sense, i.e., they seldom told others what to do; Mintzberg's (1973) chief executives developed networks of informers to gain access to outside information; foremen talked with many different individuals, rarely fewer than 25 and often more than 50, including a wide variety of persons in the operating and service departments and on different levels (Guest, 1955-1956); foremen must get along with other foremen rather than exert authority over one another and they advised and made suggestions to the diagonal non-subordinate operators rather than directed them (Jasinski, 1956). Thus, to describe management as a team without taking lateral relationships into account and to discuss management purely with power-related terms, such as decentralization, are both misleading.

11. *Initiations of contact are interactive, with higher-level (count from bottom) managers being more reactive.* Findings indicate that managers are neither in active control of their actions (proactive) nor passive to others' initiations (reactive) but are interactive with others: Guest's (1955-1956) foremen initiated 60 percent of their verbal contacts; Lawler, Porter, and Tennenbaum's (1968) middle- and lower-level managers initiated about half of their verbal contacts; Burns' (1954) four middle managers initiated about half of their verbal contacts with peers, fewer with superiors, and more with subordinates; the five chief executives initiated only 32 percent of their verbal contacts and sent only 26 percent of written contacts and almost every one of these was in response to one of the 659 pieces received (Mintzberg, 1973); the 16 top-level managers initiated a smaller portion of their verbal contacts than by others and, the larger is their organization (measured by the number of employees, which implies level counted from bottom), the larger portion of these contacts is scheduled by calendar (Larson et al., 1986); the diary controlled the managing directors' actions (Carlson, 1951); deadlines ruled the president's personal agenda (Neustadt, 1960). Thus, to describe a manager as the conductor of an orchestra or as the puppet in the puppet-show are both misleading.

B. **Characteristics of management practice relating to manager's activities:**

1. *Using verbal means most of the time: topics range widely.* Findings indicate that managers use verbal means of activity, including scheduled meeting, unscheduled meeting, tour, and telephone, most of the time: Burns' (1954) middle managers spent 80 percent of their time in conversation; Guest's (1956) foremen spent 57 percent of their time in face-to-face communication; Stewart's (1967/1988) 160 senior and middle managers spent 66 percent of their time in verbal communication; the five chief

executives conducted 67 percent of their actions and spent 78 percent of their time in verbal contacts (Mintzberg, 1973); the 15 general managers spent 76 percent of their working time in verbal contacts (Kotter, 1982); middle managers in a manufacturing company conducted 89 percent of their episodes by verbal interaction (Lawler, Porter, and Tennenbaum, 1968). Also, findings indicate that the issues talked range widely: Mintzberg's (1973) CEOs talked of merger, improvement projects, hearsay about suppliers, etc.; Kotter's (1982) general managers talked of business strategy, staffing, hobbies, family, jokes, etc.

2. *Short-term concentration on a few categories of activity.* Managers were found in this study to concentrate on performing a few categories of the 11 managers' activities during their diary-recording days (Table 7-12).
3. *Decision making is a potentially and frequently continuous and intricate process of brokerage in which every phase of marginal adjustments of the alternatives and compromises is a distinct situation demanding a rational decision making procedure.* Findings indicate that decision making could have one or frequently many phases depending on the problem and situation. Thus, to describe decision making simply as a continuous process or as a discrete event are both misleading (see Section 1, Chapter 7).

C. **Characteristics of management practice relating to manager's knowledges:**

1. *Short-term concentration on a few categories of knowledge.* Managers were found in this study to use mainly a few categories of the 11 manager's knowledges in their actions during their diary-recording days (Table 7-13).
2. *Higher-level managers use more categories of knowledge.* The number of category of manager's knowledges used *in an action* was found in this study to correlate significantly to the manager's level (count from bottom) and the range of manager's knowledges used *by a manager* during the diary-recording days was found to correlate significantly to the manager's level (count from bottom) (see Section 4, Chapter 6).

D. **Characteristics of management practice relating to manager's tasks:**

1. *Factors of a system are the levers.* The 14 factors for organizational operation (FOOs) of the manager's unit as a transformation system are regarded also as the 14 manager's tasks in the AKT theory. Findings of this study indicate that managers are dealing with these factors directly (Table 6-3 & 6-11) in order to deal with the result indirectly. Thus, to describe management as mainly planning and controlling the *result* is misleading; so is to describe management as getting things done through others because managers are dealing more than just with people factors.
2. *Problems are interrelated.* Because managers work in different units (sub-systems) in a networked-cones structure, their problems are interrelated in terms of between factors and between units. Findings indicate that it is the case: Sayles' (1964) managers of related groups had to make adjustments before a manager could act because they were "placed in a network of mutually dependent relationships" (p. 258); Kotter's (1982) general managers seemed to formulate their agendas in order to accomplish

multiple goals at once; Isenberg's (1984) senior managers saw problems as interrelated. Thus, to describe a manager's work as dealing with neatly identifiable problems is misleading. To see problems as interrelated is also a way to work smartly.

3. *The context of management is ever-changing.* A manager's organization unit is part of another's context of management. A manager's actions change both his or her own and others' context of management at the same time. In other words, they change their own and each other's environment. Thus, the context of management appears to be ever-changing. From observation of managers' behaviour, Sayles (1964) describes the environment of management as "ever-changing" (p. 259). From analysis in a longer time frame, Drucker (1980) describes the global environment of the time as turbulent. However, the change of environment is seldom drastic in a short period of time. Huge improvement or accumulation of the 14 factors for organizational operation (FOOs) could not happen over night. Only destruction of them could, as in accidents or grave disturbances. In other words, change of the environment is checked by the capacity to change which is influenced by the momentums of organizations in the environment. Therefore, the context of management is, most of the time, incrementally ever-changing. Thus, to assume that managers work in a steady environment in which they make long-term plans and control by result is misleading; so is to describe the environment as chaotic (Peters, 1988).
4. *Problems are tackled incrementally.* Because the problems are interrelated and the environment is ever-changing, managers can only tackle problems incrementally despite that they might have grand plans in the process. Findings indicate that it is the case: Lindblom's (1959) public administrators acted in a serial, stepwise manner, i.e., made an incremental change, received the feedback, made another change, and so on; Sayles' (1964) managers endeavoured to compensate and improvise their efforts marginally in response to the changes in their environment - they could approximate their ideal only by constant change; the plans developed by Mintzberg's (1973) chief executives were flexible and contingent - ready to be modified to suit the changes in the situation; Kotter's (1982) general managers developed their agendas incrementally from rough agendas to becoming more complete and more tightly connected ones - these agendas allowed the general managers to react to the flow of events, or changes, around them in an opportunistic and highly efficient way.
5. *A manager's job contains a number of problems at a time, each is tackled intermittently.* Findings suggest that a manager is, or participates in, dealing with a number of problems in a short period of time and that each problem is tackled by disjointed, sequential actions: Marples (1967) reports the construction of a theory of manager's output, in which a manager is "dealing with a series of 'issues' which would be initiated and dealt with in a series of episodes" (p. 286), for guiding observation at the Glacier Metal Co. in 1956 and the theory was supported by the findings of the problem solving behaviour of three levels of managers. Based on the theory and findings, he compares a manager's job to "a stranded rope made of fibres of different lengths - where length represents time - each fibre coming to the surface one or more times in observed 'episodes' and representing a single issue" (p. 287). In addition, Mintzberg's (1973) CEOs supervised the running of as many as 50 improvement projects during the observation period. He compares a CEO as the supervisor of these projects to a

juggler of balls, projects in active inventory to balls in the air, and supervision of a project to handling of a ball.

6. *Higher-level managers deal with longer time span problems.* Findings indicate that higher-level managers tend to deal with longer time span problems, and vice versa: Martin's (1956) higher-level managers had longer time spans of task (Table 8-1), which were less frequent, were tackled with less continuous actions, and were more elastic in terms of time limits, than their lower-level counterparts; Marples' (1967) higher-level managers had longer average time frame of issues, which were more intertwined and were tackled by a greater number of episodes of actions. Normatively, the importance of having longer time span perspective by senior managers is justified by Kotter's (1982) finding that "the 'excellent' performers [of general managers] developed agendas based on more explicit business strategies that addressed *longer time frames* and that included a wider range of business issues" (pp. 66-7, italics added). This finding also suggests that a problem has a longer time span because it covers a wider range of issues.
7. *Short-term concentration on a few categories of task.* Findings indicate that managers concentrate on a few problems in a short period of time: Wrapp's (1967) good general managers focused on three or four issues of the time; Isenberg's (1984) most senior managers had a few overriding concerns; managers were found in this study to concentrate on contributing to a few categories of the 14 managers' tasks during their diary-recording days (Table 7-14).
8. *Managers plan by individual and collective reflections in special, longer daily actions.* Findings indicate that managers plan explicitly by individual and collective reflections in their special daily actions which last significantly longer than other actions. Thus, to describe managers simply as reflective, systematic, quiet planners is misleading; so is to argue that managers plan implicitly in the context of daily actions in a stimulus-response way (see Section 2, Chapter 7).

Applications to the Definitions of Management, Sound Management, and Mismanagement

Many theorists have attempted and failed to define management. In general, Townley (1993) argues that existing definitions of management are conceptually obscure. Specifically, several themes underlying those failed definitions, such as describing management as the function of getting things done through others, are shown in the thesis, especially this section, to be misleading.

Now, having established the AKT theory as better than its competing theories, it is applied as the epistemological framework to define management, sound management, and mismanagement *explicitly* as follows.

Definition of Management: **Management**, from the perspective of *a* managerial action, is, as depicted in the AKT theory of management, performing one of the 11 manager's activities, thinking with one or more of the 11 manager's knowledges while acting, and contributing to one of the 14 manager's tasks, which change the corresponding factors for organizational operation (FOOs), by any organizational member who acts full- or part-time in a manager-role in order to build, maintain, and improve his or her unit into an effective transformation system which turns input into output efficiently.

The soundness of management can be classified, from high to low, according to the compatibility among FOOs, which is the collective effect of managers' actions: (1). enhancing FOOs, (2). harmonious FOOs, (3). conflicting FOOs. In reality, the overall soundness of management is difficult to measure because enhancing FOOs, harmonious FOOs, and conflicting FOOs generally coexist just in different combinations.

The soundness of management can also be classified, from high to low, according to the effect of a managerial action:

1. Surplus-producing actions: Actions which not only achieve expected goals but also produce surplus in organizational goodwill or personal reputation.
2. Achieving actions: Actions which achieve expected goals.
3. Not achieving actions: Actions which do not achieve expected goals.
4. Loss-causing actions: Actions which not only do not achieve expected goals but also cause loss in organizational or personal relationships or assets.

Applying the above classifications of the soundness of management, the definitions of sound management and mismanagement can be drawn as follows:

Definition of Sound Management: **Sound management** is an event and a state in which possibilities leading to high level compatibility among FOOs and better result are utilized.

Actions of sound management can be cultivated and increased by adopting the AKT theory and the six organizational concepts. By keeping the 14 managers' tasks, or the 14 factors for organizational operation (FOOs), and the 11 manager's activities in mind and trying to relate them in the problem solving process in order to raise the compatibility among FOOs, managers could cultivate and increase their actions of sound management. In other words, sound management is reached when a manager understands the possible interaction and overlaps among manager's activities and among manager's tasks, and deliberately utilizes them whenever it is possible in order for his or her organisation unit to get better result.

Definition of Mismanagement: **Mismanagement** includes lack of management, wrong management and abuse of authority because of the manager's inability, misconception of the situation, or wrong intention.

Actions of mismanagement can be shadowed and reduced by adopting the AKT theory and six organizational concepts. Managers in a bilateral relationship will quickly identify and rectify each other's actions of mismanagement. One of Hill's (1992) new managers spoke of this vividly:

> [My boss] allows managers to learn by doing and making mistakes. He won't tell you you've made a mistake. He has it set up that your peers will. They'll pull you aside one by one, "Why did you make that decision?" (p. 223)

In contrast, espousing the process theories, in which management controls by evaluating the results, managers could not help but face the damage done during the time escaped between the actions of mismanagement and the measurement of result. Espousing the ten roles theory, managers rely on the *monitor* role and react to the information collected without the help from ideas of the control mechanisms for distributed managing.

Chapter 11

SUGGESTIONS FOR MANAGERS, TEACHERS, AND RESEARCHERS

This thesis contains many ideas which are useful for managers, teachers, and researchers in the management area. In particular, the AKT theory of management has been established and evaluated to be better than its competing theories. The six organizational concepts which are coherent with the AKT theory are also developed and, more or less, tested. These concepts describe or prescribe the context of management and, thus, form a basic organization theory. A new diary form was designed according to the AKT theory and was used to collect data. A new methodological approach to the study of the social sciences of human action - reflexivism - is developed to guide the study. These are the main ideas of the study.

In general, these ideas provide those in the management area with a new management language, a new way of thinking about management, and a new tool, goal, and direction for studying management. The new diary form provides them with a tested tool for self-study, learning, or studying managerial work. The new methodological approach - reflexivism - demands a different way of doing management research. The AKT theory and six organizational concepts have widespread implications: for managers, they provide a set of checklists for diagnosing problems and programming their actions, and a way of thinking about, or a language for describing or prescribing, the practice of management; for teachers, they provide a comprehensive vehicle for teaching the content and characteristics of management and for teaching the descriptions and prescriptions of management; for researchers, they provide a new tool, goal, and direction for explorations into management.

Specifically, some of the practical implications of the AKT theory and six organizational concepts have been mentioned or implied in Chapter 9 & 10. More suggestions are given in this chapter as outlined in Table 11-1. These suggestions are organized according to the ideas (see the first column) and the people concerned (see the first row). Suggestions for the practicing managers (see the second column) are explained in Section 1; suggestions for those concerned with management education (see the third column) in Section 2; and suggestions for researchers in the management area (see the fourth column) in Section 3.

Table 11-1. Suggestions for managers, teachers, and researchers

Derived from	*For Managers*	*For the Teachers of Managers*	*For Researchers*
Methodology	Self-study/learning from using diary	Include diary recording and analysis in teaching	Adapt diary form for data collection Try to incorporate implications into conclusion
The AKT theory of management	Adopt the AKT theory of management Think of advantage before strategy Manage *all*, not part, of your work Manage rather than be a "straw boss" Perform *innovating and improving* (MA7) , if possible	Teach content before characteristics Teach descriptions before prescriptions Teach coherent organization and management theory Train practical managerial skills together with managerial knowledges	Study content before characteristics Replicate this study or modify the AKT theory Study the more detailed content of managers' work Study management problems Study the methods for creating advantages
Networked-cones structure	Identify your organization unit or units Know your competing, and internal and external managing environments	Teach internal as well as external environment Teach managing as well as competing environment Teach the environments of all levels of unit	Study the dynamics of temporary units Study the details of lateral relationships
End-means chain	Know your end-means chain and keep purposes in mind	Teach normative character of human actions	Study what behaviours constitute an activity Study how activities contribute to tasks
Compatibility among FOOs	Eliminate conflicts among FOOs Create "enhancing" harmony among FOOs	Teach compatibility, not just problems/conflicts	Study ways of having "enhancing" relationships among FOOs
Reflexivity in management	Response to changes in environments Think a step further before action or inaction Think of common interests before using power	Teach the reflexive nature of human action and how to cope with it	Study the phenomena of reflexivity, especially the self-fulfilling and self-frustrating cases Study ways of dealing with reflexivity in management
Distributed managing	Encourage distributed managing among subordinates Encourage *every* member of the unit performing *manager* role	Teach distributed managing, not just "decentralization"	Study ways of sharing responsibility and tasks among managers Study the advantages and conditions of distributed managing
Momentum of organization	Watch the frequency and duration of your action	Teach momentum of organization, not just "entropy" and "change"	Try to measure the momentum of organization and study its influence on the change process

Section 1

SUGGESTIONS FOR THE PRACTICING MANAGERS

In this section, suggestions for the practicing managers listed in the second column of Table 11-1 are explained as follows.

Suggestion Derived from Diary Method

Self study/learning from using diary. Managers could use diary to study their own actions in order to know their own management practice and improve accordingly or to learn about management from each other.

Suggestions Derived from the AKT Theory of Management

Adopt the AKT theory of management. Espousing an inadequate theory of management, a manager will be unable to see managerial problems clearly and will not develop his or her competence to full extent. The AKT theory is empirically justified to be the description of competent managers' actions and prescription for the less competent managers. Thus, it is to their benefit for the practicing managers, especially new managers and those espousing inadequate theories, to adopt the AKT theory in order to be able to see managerial problems in the way that competent managers do. Moreover, adopting the AKT theory means also learning a useful management language for communicating management issues.

Think of advantage before strategy. As argued in Chapter 10, because advantages are what strategies aim for, managers should think of the advantages that they want to create for their units before the formulation of strategies. The 14 factors for organizational operation (FOOs) of the AKT theory provide managers with a checklist for thinking about advantages desired.

Manage *all*, not part, of your work. It is evident that managers should take care of the whole scope of their work. However, managers might limit their actions to part of their work if they espouse an inadequate theory of management. The AKT theory, especially the 14 manager's tasks, should be kept in mind to avoid the problem.

Manage rather than be a "straw boss". Some middle managers and foremen think that their jobs are to relay information and orders, and thus behave like a straw boss. Consequently, much managerial talent has been wasted and many managerial actions delayed. As the AKT theory and six organizational concepts show, there are plenty of tasks - in terms of factors, units, and situations - for organizational members to act in manager roles. For better result, anyone who is responsible for an identifiable unit should not give up his or her chances to contribute managerially.

Perform *innovating and improving* (MA7), if possible. The practice of management is a changeable rather than a fixed phenomenon. If a change is for the common good, the change is likely to be welcomed by the parties concerned. The performance of the activity of *innovating and improving* (MA7) aims to design a better practice for satisfying common interests and creating additional values. This sense of positive mind is important, especially to the handling of disturbances. By trying to perform *innovating and* *improving* (MA7) in all possible circumstances, a manager could maintain a positive mind, avoid deadlocks, and create "win-win" situations.

Suggestions Derived from Networked-Cones Structure

Identify your organization unit *or units*. Managers need to identify their organization unit or units on which they are working. But, some managers tend to forget that they are also responsible for a lower-level unit when they are working with their superiors. Some others tend to forget that they are also working together on a higher-level unit and are unable to compromise. A clearly illustrated networked-cones structure of the situation could be used to help to identify the organization unit or units concerned.

Know your competing, and internal and external managing environments. To manage, or to act in manager role, one needs to know the environment. Traditional discussion of environment tended to focus on external environment of the whole organization or of a "strategic business unit". In other words, it was about the competing and external managing environments of top managers. The senior managers' internal managing environment and lower-level managers' external managing, sometimes competing, environments were not mentioned. Now, managers could use the concept of networked-cones structure to know their environments. Specifically, in addition to knowing their units, managers could investigate the seven types of bilateral relationships between their various units in order to understand their internal and external managing environments.

Suggestion Derived from End-Means Chain

Know your end-means chain and keep purposes in mind. Managers need to have clear purposes in mind in order to focus their attention and avoid undesired outcome. For this, they need to know their end-means chain and keep it in mind as the purposes of actions.

Suggestions Derived from Compatibility among FOOs

Eliminate conflicts among FOOs. Conflicts among FOOs reduce efficiency of the work system. But, the tension created by conflicts could be marshalled to support a change. Managers should see the elimination of conflicts as their responsibilities of management and opportunities of change.

Create "enhancing" harmony among FOOs. Managers should not satisfy with ordinary harmony achieved by simply removing the conflicts among FOOs. They could do better by searching for new practice which create enhancing harmony among FOOs, whenever they spot an opportunity of change, be it a conflict, a crisis, or not.

Suggestions Derived from Reflexivity in Management

Response to changes in environments. As the receiver of change in their environments, managers could or should take actions in response to the change in order to take advantage of it for their organization unit. In formulating the reactive change, managers of related vertical and lateral units need to make sure that their change is a co-ordinated one.

Think a step further before action or inaction. As originators of change, managers must think about the possible reactions from their managing and competing environments before action because their subordinates, peers, competitors, etc. might take advantage of the change and produce threats later. Also, managers need to review regularly their practice of management in order to prevent others to take advantage of their inaction.

Think of common interests before using power. Managers of modern organizations rarely resort to power and command for the resolution of differences (Kotter, 1982; Sayles, 1964) although they sometimes use them. But, those in old fashioned, power-based organizations use them frequently in daily operations. Relying on legitimate power wastes a lot of mental power and breeds undesirable interpersonal tensions. In comparison, creative ideas and compromises among managers of overlapping responsibilities utilize information and managerial talent more effectively and breeds favourable work climate. Thus, managers will be better off if they could find ways for common interests rather than use power unilaterally.

Suggestions Derived from Distributed Managing

Encourage distributed managing among subordinates. One way to use as much managerial talent of subordinates and as efficiently as possible is to practice distributed managing to the highest extent. For distributed managing, management development may be required; additional work rules and organization units, such as teams, committees, etc. may need to be devised; but, above all, managers need to refrain from acting authoritatively; they must act in a way that encourages responsibility and knowledge. Gradually, various competent managerial talents will become available and managerial tasks could be distributed according to responsibility and talent.

Encourage *every* member of the unit performing *manager* role. The highest extent of distributed managing is to involve every member of the organization unit in performing the manager role. For this, managers need to encourage all the subordinates to play the manager role, or to participate in the building, changing, and improving the 14 factors for organizational operation (FOOs) of the unit. However, some members, such as unionized workers, tend to limit themselves from acting in manager-role. In a world of competition, it seems to be against their own interests to do so because their organizations might become disadvantaged.

Suggestion Derived from Momentum of Organization

Watch the frequency and duration of your action. Management involves complex mental work which takes time. As described in Chapter 8, findings indicate that managers of effective units work more deliberately, or have fewer, longer actions, than their peers of ineffective units. As argued, effective units have higher momentum in the right direction and, thus, need less guidance from the manager. Thus, managers need to watch periodically the frequency and duration of their actions. If they have more, shorter actions than their peers for no apparent reason, they might have been in trouble and need to bring in help.

Section 2

SUGGESTIONS FOR THE TEACHERS OF MANAGERS

In this section, suggestions for the teachers of managers listed in the third column of Table 11-1 are explained as follows.

Suggestion Derived from Research Methodology

Include diary recording and analysis in teaching. For self-study or learning, managers need be able to use the diary method. It is to managers' interests for teachers to include diary recording and analysis in their teaching.

Suggestions Derived from the AKT Theory of Management

Teach content before characteristics. The content of managerial work is the subject matter of what managers do whereas the characteristics are the ways and features of how managerial work is carried out. In other words, the characteristics describe the content. To learn the characteristics without knowing the content causes confusion. Thus, it is important for teachers to teach the content before the characteristics of management practice. Traditional teaching of management contains incomplete theories about the content and many speculations about the characteristics. This must be changed. The AKT theory is a complete, general theory about the content of management.

Teach description before prescription. Traditional teaching of management contains too much unjustified prescriptions and too little empirically-based description about the content and characteristics of management practice. For people to act in manager-role by following the prescription which they are unable to justify can be costly to their organizations. Thus, it is to managers' interests for teachers to teach description before giving prescriptions. In so doing, we will be able to eliminate unjustified prescriptions.

Teach coherent organization and management theory. A theory of management must be coherent with an organization theory because managers are managing in organizations. The pre-existing literature of management does not contain a coherent organization and management theory; nor does the traditional teaching. The AKT theory and the six organizational concepts form the core of a coherent organization and management theory. It should be taught and used to re-organize the more detailed management knowledge.

Train practical managerial skills together with managerial knowledges. With the AKT theory and the six organizational concepts, we now know what knowledges and skills are required of managers. In addition to knowing some of the 11 manager's knowledges, managers need to be able to perform the 11 manager's activities with the 14 factors for organizational operation (FOOs) and the six concepts in mind. But, people tend to have bad habitual behaviours that inhibit sound management. So, managers need to break off their bad habits and get into good ones. Thus, management education needs to include the teaching of managerial knowledges *and* training of practical managerial skills.

Suggestions Derived from Networked-Cones Structure

Teach internal as well as external environment. Traditional teaching about the environment of an organization unit tends to focus on the external environment of it. With the networked-cones structure, we now know that the external environment is only a part of the environment that a manager faces. Teachers must teach about the internal environment as well.

Teach managing as well as competing environment. Managers need to know their managing environment more clearly than the traditional account could describe. With the networked-cones structure, especially Sayles' (1964) seven lateral relationships in it, teachers could teach managing and competing environments specifically.

Teach the environments of all levels of unit. Managers of different levels - and functions - experience certain parts of their environments differently. For example, a part of a higher-level manager's internal managing environment may be a part of a lower-level manager's external managing or even competing environment. Teachers need to use a networked-cones structure to illustrate this unit-specific nature of environment.

Suggestion Derived from End-Means Chain

Teach normative character of human actions. Human actions are normative. In other words, managers normally act according to the expectation of their role set but they might act otherwise instead. However, traditional account tend to treat managers' actions as causal and deterministic. This must be changed. Otherwise, teaching confuses managers rather than helps them. Teachers need to use a end-means chain to illustrate this normative character of managers' actions.

Suggestion Derived from Compatibility among FOOs

Teach compatibility, not just problems/conflicts. Traditional account treats organizational problems or conflicts as if they are only to be eliminated. But, problems or conflicts may represent opportunities of change to the shrewd managers. They could be marshalled to support a change for better practice. The concept of compatibility among FOOs encompasses problems and conflicts (conflicting FOOs) and better practice (harmonious FOOs and enhancing FOOs). It has degrees and, thus, points out the direction of managerial effort. Also, it reminds managers of a positive attitude towards problems. Teachers need to teach the cases of different degrees of compatibility among FOOs and the measures for achieving better practice.

Suggestion Derived from Reflexivity in Management

Teach the reflexive nature of human action and how to cope with it. Managers, like other human beings, are able to react to changes in their environments and to predict or conjecture the possible reactions of others to their change. The quality of this ability in dealing with reflexivity in management matters much to the competence of a manager. But, traditional MBA programmes teach little about the reflexivity except in the courses of micro-economics and business strategy. This must be improved. More materials about the reflexivity in management need to be organized and taught.

Suggestion Derived from Distributed Managing

Teach distributed managing, not just "decentralization". Traditional accounts of decentralization and centralization represent oversimplified, polarized thinking in a context of power-based pyramid structure. They do not take the lateral relationships and the involvement of managers of different levels in the same task in different degrees into account. In comparison, the concept of distributed managing subsumes these phenomena. It describes or prescribes management practice better than the traditional accounts and should be taught instead of them. At their most, the traditional accounts are reduced to two special cases (in the sense of the stock of power) and are representing two opposite directions of change in the decision choosing level (in the sense of the flow of power) among superiors and subordinates.

Suggestion Derived from Momentum of Organization

Teach momentum of organization, not just "entropy" and "change". As argued in Chapter 3, the concept of momentum of organization subsumes the concepts of entropy and change. It is the target of both entropy and change: entropy decreases it and change increases it in a specific direction. The concept is in broad accordance with the findings of other related studies. But, it has never been mentioned by the traditional account of organizational change. Thus, to help managers to understand more about organizational changes and the effectiveness of their units, teachers need to teach this concept.

Section 3

SUGGESTIONS FOR RESEARCHERS IN MANAGEMENT AREA

In this section, suggestions for the researchers in the management area listed in the fourth column of Table 11-1 are explained as follows.

Suggestions Derived from Research Methodology

Adapt diary form for data collection. The diary method has been shown in this and other studies to be an economic, efficient way of collecting data about managerial work (see also Martinko and Gardner, 1990). With the new diary form, supportive data to the AKT theory were collected. Researchers could adapt the diary form according to the AKT theory and the six organizational concepts in order to study a particular part of management practice. However, if researchers want to study the more detailed content and characteristics of management practice, they need to use other research methods to classify them before designing the diary.

Try to incorporate implications into conclusion. Traditional studies which follow naturalism tend to contain researchers' conflicting assumptions as to management practice. On the one hand, management practice is assumed to be fixed, unchangeable facts during the periods of data collection, analysis, and discussion of the findings. On the other hand, it is assumed to be changeable phenomena when researchers are drawing implications for managers. Thus, these researchers are frequently frustrated by that their descriptive conclusions could not remain as descriptive for long. Various prescriptions are soon drawn by managers. To solve the problem, researchers need to follow reflexivism and try to incorporate implications into conclusion. In other words, they need to consider both the description and prescription when they are discussing the findings and conclusion.

Suggestions Derived from the AKT Theory of Management

Study content before characteristics. The characteristics describe the corresponding contents of management practice in particular circumstances. The content is the essence and is common in scope to all managers. The characteristics are features and might change across jobs. Thus, researchers need to study the content before the characteristics of management practice.

Replicate this study or modify the AKT theory. Researchers could replicate this study or modify the AKT theory if justifiable ideas arise. For replication, larger, selective samples are desired. As mentioned in Chapter 9, in order to get more confident results of cross tabulations, adequate - large enough - sub-samples of actions from various kinds of managers are required. To be very sure of the result, both the diary method and structured observation method could be used in triangulation to collect data.

Study the more detailed content of managers' work. The AKT theory does not contain all information about managers' work. Rather, it provides us with a general picture of management and a promising direction of research into the more detailed content of management practice. Researchers could study a category or a combination of categories of the 11 managers' activities, the 11 manager's knowledges, and the 14 managers' tasks. To classify the more detailed content, researchers may use content analysis, the critical incident technique, or structured observation. Having had a theory of the content, researchers could use the diary method to study the content and characteristics of the particular part of managerial work.

Study management problems. Managers cannot afford to be surprised by problems if they are to be competent. They need to know what kind of problems are likely to emerge in their jobs and how to cope with them. It is even better if they could find developing problems and prevent them from causing damage or using them as opportunities of change. But, traditional account needs to be re-organized and expanded. Researchers could use the AKT theory, especially the 11 manager's activities and the 14 manager's tasks, to classify management problems and investigate the syndromes, complications, and cures of them. The results of study could be used by managers as checklists for diagnosing and facing problems.

Study the methods for creating advantages. Managers need to know the methods for creating advantage in order to react appropriately to opportunities when they arise. Findings suggest that shrewd managers act in an opportunistic manner. But, what and how do they do this? The literature can provide very little information about this. Researchers need to find out more. For this, they could use the AKT theory, especially the 11 manager's activities and the 14 manager's tasks, to classify the possible advantages and investigate the methods and conditions for creating them.

Suggestions Derived from Networked-Cones Structure

Study the dynamics of temporary units. Temporary units include committees, task forces, project teams, quality circles, etc. They are used widely in modern organizations. The establishment, growth, and abolition of them change the context of management in the parent networked-cones structure. Managers need to know how to deal with and work in these units. But, the literature provides limited information. Researchers need to find out more about the dynamics of the temporary units.

Study the details of lateral relationships. Sayles' (1964) seven types of lateral relationships are important elements in the concept of networked-cones structure. Although his findings seem to be ample and sufficient, they were found in a single company. More findings from other contexts are wanted. To provide managers with more information about the lateral relationships in their managing environment, researchers need to study the details of lateral relationships in various situations.

Suggestions Derived from End-Means Chain

Study what behaviours constitute an activity. For learning or training the managerial skills of acting as a manager, managers and teachers need to know what behaviours constitute an activity and how they are conducted. To help them, researchers could study managers' behaviours in relating to the performing of the 11 manager's activities. Differences between the behaviours of competent and incompetent managers need to be contrasted.

Study how activities contribute to tasks. For learning or training the managerial skills of dealing with tasks, managers and teachers need to know how managers' activities contribute to managers' tasks. To help them, researchers could study how each of the 14 manager's tasks is tackled in a sequence of managers' activities.

Suggestion Derived from Compatibility among FOOs

Study ways of having "enhancing" relationships among FOOs. Knowing how to create enhancing FOOs in their units might be one of managers' critical competencies. But, the related literature is limited in scope probably because of incomplete theories of management. The AKT theory provides a comprehensive scope of factors for organizational operation (FOOs) among which researchers could study ways of having enhancing relationships. The results of research might lead to more, better configurations for organization.

Suggestions Derived from Reflexivity in Management

Study the phenomena of reflexivity, especially the self-fulfilling and self-frustrating ones. Knowing the phenomena of reflexivity could enable managers to avoid inadequate actions and pursue adequate ones. But, the related literature is limited in scope and quantity. Researchers need to find out more about reflexivity in management. Again, the AKT theory provides scopes of managerial activity and task in relating to which the reflexivity could be studied.

Study ways of dealing with reflexivity in management. In addition to studying the phenomena of the reflexivity in management, researchers could also compare managers' effective and ineffective ways of dealing with it. Managers could use the findings of study to achieve surer better results with their actions.

Suggestions Derived from Distributed Managing

Study ways of sharing responsibility and tasks among managers. Managers work together and alone at different time. Also, some top managers and their subordinates work as partners and share the leadership role for their organization. But, how do managers share the responsibility and tasks? The concept of distributed managing and the four control mechanisms supporting it describe the sharing. Yet, the description is still preliminary. Researchers need to find out more about the ways of sharing responsibility and tasks among managers.

Study the advantages and conditions of distributed managing. In addition to studying the ways of sharing responsibility and tasks among managers, researchers could also study the advantages of different ways of sharing, or situations of distributed managing, in different environmental conditions. The findings of study may be used to improve the structure of management.

Suggestion Derived from Momentum of Organization

Try to measure the momentum of organization and study its influence on the change process. The concept of momentum of organization has been shown in the thesis to be promising for explaining the number and nature of organizational changes and the frequency and duration of managers' actions. Further studies could try to measure the momentum of organization and test the related arguments. Researchers could use various size- and efficiency-measurements of an organization unit in the analysis. Meanwhile, the influence of the direction of an organization's momentum on organizational change need be considered.

POSTSCRIPT

All suggestions in the chapter might be relevant to all the people in the management area. Managers, teachers, and researchers are roles and job titles. Although people normally identify their job titles with the major role in their job, they actually act in more than one roles at different time. For examples, a teacher (title) or researcher (title) sometimes acts in manager role; a manager (title) or researcher (title) in teacher role; and a manager (title) or teacher (title) in researcher role. Therefore, managers (title) acting in researcher roles could study and report their own management practice, and pave the way for researchers (title) to pursue the academic studies which are otherwise difficult to begin with.

However, the suggestions mentioned are by no means exhaustive. Because the study is dealing with the highest level of conception of an organization and management theory, the result could have wide-ranging implications for those concerned with management. But, as a study of a theory of management, the thesis reports only the general ones. For special suggestions, readers need to find them in the discussions or to infer for themselves.

Appendix A
QUESTIONNAIRE
1. The English version

A STUDY OF THE MANAGER'S ACTIVITIES AND THE DETERMINANTS

February 1992

Dear Manager,

Welcome your taking part in this study on theory of management! I hope that your participation will not only do good to the education and training of management but also to your own management work.

The main variables in this study: manager's activity, management knowledge, and factors for organisational operation, are derived from serious research. You will find they are useful concepts for promoting managerial performance when you finish this questionnaire.

The questionnaire includes three parts: main questionnaire beginning from the next page, manager's activity record and booklet of instruction. The use of the latter two will be mentioned in the main questionnaire.

The data you provide is for collective analysis only and will not be published individually. Meanwhile, I will protect the data responsibly. Now, please start to answer the questions on the next page. Thank you !!!

Yours faithfully,

Terry T. Huang
Research student
Dept. of Industrial Relations
LSE

MAIN QUESTIONNAIRE

1. The organisation unit under your management (your unit) is a:
   (1) production/ operation organisation [] (2) marketing organisation []
   (3) personnel dept. [] (4) R & D dept. [] (5) financing/ accounting dept. []
   (6) planning dept. [] (7) general management [] (8) maintenance dept. []
   (9) purchasing dept. [] (10) other []

2. Your full title is : ______________________________

   Other duties include: ______________________________

   ____

3. The industry your unit belongs to is: (1) electronics [] (2) machinery []
   (3) foods [] (4) textile [] (5) dyeing [] (6) other []:__________

4. What is the present organisational task of your unit? What is the task relation between your unit and other units if there is any obvious relation? Please use about 50 words to describe them in the appropriate cells.

<table>
<tr><td></td><td>(upper unit)
Name:

Task relation:</td><td></td></tr>
<tr><td>(up-stream unit)
Name:

Task relation:</td><td>(your unit)
Organisational task:
1.</td><td>(down-stream unit)
Name:

Task relation:</td></tr>
<tr><td>(other unit)
Name:

Task relation:</td><td colspan="2">(subordinate units)
Name:1.

Task relation:</td></tr>
</table>

5. Who play the major role in planning the organisational task of your unit? Please rank the order of importance for the participants: "1" for the most important, "2" for the next, etc. Leave blank to the persons not participating.

   (1) Superior ______
   (2) Yourself ______
   (3) Subordinates ______
   (4) Planning unit ______
   (5) up/down-stream units ______
   (6) other ______

6. To what degree do you need to pay attention to the following factors for organisational operation in order to accomplish the present organisational task of your unit? (Please consult the booklet of instruction, p.1, Fig.1, about the factors for organisational operation.)

	4 extremely necessary to attend	3 very necessary to attend	2 necessary to attend	1 slightly necessary to attend	0 not necessary to attend
1 Formal plan (6 month or longer)	[]	[]	[]	[]	[]
2 Action plan for next step ———	[]	[]	[]	[]	[]
3 Orgn structure: division of labour & integration ———	[]	[]	[]	[]	[]
4 Work flow & regulation ———	[]	[]	[]	[]	[]
5 Equipment & support ———	[]	[]	[]	[]	[]
6 Attention of subordinate ———	[]	[]	[]	[]	[]
7 Competent subordinates & their assortment ———	[]	[]	[]	[]	[]
8 Motivation & work climate ———	[]	[]	[]	[]	[]
9 Discipline & work ethics ———	[]	[]	[]	[]	[]
10 Shared objective of unit ———	[]	[]	[]	[]	[]
11 Smooth flow of in/output ———	[]	[]	[]	[]	[]
12 Pro-unit environment ———	[]	[]	[]	[]	[]
13 Sharing of operation ———	[]	[]	[]	[]	[]
14 Enhancing own knowledge or interpersonal relationship ———	[]	[]	[]	[]	[]

7. To what degree do you need to conduct the following manager's activities in order to accomplish the present organisational task of your unit? (Please consult the booklet of instruction, p. 2-3, Tab. 1, about the manager's activity.)

	4 extremely necessary to conduct	3 very necessary to conduct	2 necessary to conduct	1 slightly necessary to conduct	0 not necessary to conduct
<Interpersonal>					
1 Representing unit	[]	[]	[]	[]	[]
2 Leading	[]	[]	[]	[]	[]
3 Liaising	[]	[]	[]	[]	[]
<Informational>					
4 Collecting info	[]	[]	[]	[]	[]
5 Giving info downwards	[]	[]	[]	[]	[]
6 Giving info outwards	[]	[]	[]	[]	[]
<Decisional>					
7 Innovating & improving	[]	[]	[]	[]	[]
8 Disturbance handling	[]	[]	[]	[]	[]
9 Resources allocating	[]	[]	[]	[]	[]
10 Negotiating	[]	[]	[]	[]	[]
<Other>					
11 Operating	[]	[]	[]	[]	[]

8. How often will you touch the following management knowledge in order to accomplish the present organisational task of your unit? (Please consult the booklet of instruction, p.5, Tab. 2, about the management knowledge.)

	4 always	3 usually	2 ordinarily	1 sometimes	0 not at all
1 Orgn theory & mgt	[]	[]	[]	[]	[]
2 Human resources mgt & industrial relations	[]	[]	[]	[]	[]
3 Production/Operation mgt	[]	[]	[]	[]	[]
4 Marketing	[]	[]	[]	[]	[]
5 Financing & accounting	[]	[]	[]	[]	[]
6 Mathematical methods	[]	[]	[]	[]	[]
7 R & D mgt	[]	[]	[]	[]	[]
8 Info mgt & computer	[]	[]	[]	[]	[]
9 Int'l business mgt	[]	[]	[]	[]	[]
10 Business & environment	[]	[]	[]	[]	[]
11 Other mgt knowledge	[]	[]	[]	[]	[]

9. What are the relations between any two variables of "manager's activity", "management knowledge", and "factors for organisational operation" existed in your mind while you are accomplishing the present organisational task of your unit? (Please associate any two items which are related. It is to associate those important items for accomplishing your task rather than to associate every item.)

1st SET OF RELATION — 2nd SET OF RELATION — 3rd SET OF RELATION

MANAGER'S ACTIVITY:

<Interpersonal>
1 Representing unit
2 Leading
3 Liaising
<Informational>
4 Collecting info
5 Giving info downwards
6 Giving info outwards
<Decisional>
7 Innovating & improving
8 Disturbance handling
9 Resources allocating
10 Negotiating
<Other>
11 Operating

MANAGEMENT KNOWLEDGE:

1 Orgn theory & mgt
2 Human resources mgt & industrial relations
3 Production/Operation mgt
4 Marketing
5 Financing & accounting
6 Mathematical methods
7 R & D mgt
8 Info mgt & computer
9 Int'l business mgt
10 Business & Environment
11 Other mgt knowledge

FACTORS FOR ORGANISATIONAL OPERATION:

1 Formal plan (6m or longer)
2 Action plan for next step
3 Orgn structure: division of labour & integration
4 Work flow & regulation
5 Equipment & support
6 Attention of subordinate
7 Competent subordinates & their assortment
8 Motivation & work climate
9 Discipline & work ethics
10 Shared objective of unit
11 Smooth flow of in/output
12 Pro-unit environment
13 Sharing of operation
14 Enhancing own knowledge or interpersonal relationship

MANAGER'S ACTIVITY:

<Interpersonal>
1 Representing unit
2 Leading
3 Liaising
<Informational>
4 Collecting info
5 Giving info downwards
6 Giving info outwards
<Decisional>
7 Innovating & improving
8 Disturbance handling
9 Resources allocating
10 Negotiating
<Other>
11 Operating

10. What is the highest education you received?

    (1) Senior high school and lower []
    (2) Junior college []
    (3) Bachelor degree []
    (4) Master degree []
    (5) Ph.D. []

11. What is your major of education? (multi-choice)

    (1) Business management [] (please skip next question)
    (2) Other business []
    (3) Science and engineering []
    (4) Literature and art []
    (5) Other []

12. How much management training have you ever received? (Add 15 hours for every credit)

    (1) 0 hr []
    (2) 1 -- 14 hrs (2 days or less) []
    (3) 15 -- 35 hrs (about a week) []
    (4) 36 -- 70 hrs []
    (5) 71 -- 140 hrs (about a month) []
    (6) 141 -- 300 hrs []
    (7) 301 hrs or more []

13. Which one of the following statements describes your attitude towards managerial job best? Answer:______

    (1) I can fully use my talent only if I were promoted to a higher position.
    (2) I am expecting the opportunity of job-rotation.
    (3) I like to continue to undertake this present job.
    (4) If there is opportunity to learn management technique, I will participate actively.
    (5) I do not want to occupy a managerial position any more.

14. The number of your direct subordinate is: _________ persons.
    The number of your indirect subordinate (subordinate's subordinate) is about: ________ persons.

15. You have been on this position for _____ year(s) _____ month(s).
    This is your ____ st/nd/rd/th managerial position in this company.
    You have been in this company for ____ year(s) ____ month(s)
    and this is the ____ st/nd/rd/th company you work for.
    It has been ____ year(s) since you became a manager.
    You have been working in ____ different functions/departments
    and in ____ of them you work(ed) as manager.

16. Your age is:

(1) 24 years or younger []
(2) 25 -- 34 years []
(3) 35 -- 44 years []
(4) 45 -- 54 years []
(5) 55 years or more []

17. Your gender is:

(1) Male []
(2) Female []

Thank you for your filling this main questionnaire !

From now on, please observe your own activity every hour and fill in a piece of "manager's activity record" during the following 6 workdays. Please consult the booklet of instruction about the explanation for filling this record.

Appendix A
QUESTIONNAIRE
2. The form used (in Chinese)

管理者活動與其決定因素之研究

親愛的主管：

歡迎您協助這項關於管理理論的研究！但願您的參與不僅有利於我國的管理教育訓練，更有益於您自己的管理工作。

本研究的主要變項：管理者活動、管理知識，和組織運作要素等都是出自嚴謹的研究，相信您在填答研究問卷之後，將會發現它們都是有助於提昇管理績效的有用觀念。

本研究問卷分三部份：除了從次頁開始的問卷外，另有管理者活動記錄表和問卷填寫説明書。後二者的使用會在問卷中陸續提到。

您所提供的資料僅供本研究整體分析之用，絕對不作個別發表，本人並將善盡保護資料之責。現在就請您從次頁開始填答問題。

謝謝！

英國倫敦大學政經學院
工業關係系博士研究生
(專攻人力資源管理)
黃太和　敬邀

中華民國八十一年二月

問　　卷

1.您所負責管理的組織單位（以下簡稱貴單位）是屬於：
(1)生產／作業組織☐　(2)行銷組織☐　(3)人事部門☐　(4)研究發展部門☐
(5)財務／會計部門☐　(6)企劃部門☐　(7)一般行政部門☐　(8)維護部門☐
(9)採購部門☐　(10)其他☐

2.您的職位全銜是：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿
兼職有：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿
＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

3.貴單位屬於(1)資訊電子業☐　(2)機械業☐　(3)食品業☐　(4)紡織業☐
(5)染整業☐　(6)其他☐＿＿＿＿＿＿＿＿＿＿＿＿

4.請問貴單位此時的組織任務為何？倘若與上下游製／流程單位或上下級單位之間有明顯關聯，其任務關係為何？請在下列空格內，以約50個字略述之。

	（上級單位） 單位名稱： 任務關係：	
（上游單位） 單位名稱： 任務關係：	（貴單位的組織任務） 1.	（下游單位） 單位名稱： 任務關係：
（其他單位） 單位名稱： 任務關係：	（下屬單位） 單位名稱：1. 任務關係：	

5.請問貴單位的組織任務主要是由誰規劃的？請針對參與規劃者填寫重要次序。"1"表示最主要者，"2"次主要，"3"再次要，餘類推；未參與規劃者則請留空白。

(1)上　司 ________
(2)您自己 ________
(3)部　屬 ________
(4)企劃單位 ________
(5)上下游單位 ________
(6)其　他 ________

6.為了達成貴單位此時的組織任務，請問下列各項組織運作要素需要您加以注意的程度為何？（有關組織運作要素的說明請參考問卷填寫說明書第1頁，圖一）

	4 非常需要注意	3 很需要注意	2 普通	1 有點需要注意	0 不需要注意
1.半年以上的正式計畫 …………	☐	☐	☐	☐	☐
2.下一步的行動計畫 …………	☐	☐	☐	☐	☐
3.組織結構：分工與整合 …………	☐	☐	☐	☐	☐
4.工作流程與制度 …………	☐	☐	☐	☐	☐
5.機器設備與支援 …………	☐	☐	☐	☐	☐
6.促使部屬注意工作要點 …………	☐	☐	☐	☐	☐
7.適任的部屬及搭配 …………	☐	☐	☐	☐	☐
8.工作士氣及氣氛 …………	☐	☐	☐	☐	☐
9.工作紀律及倫理 …………	☐	☐	☐	☐	☐
10.本單位存在目的之共識 …………	☐	☐	☐	☐	☐
11.投入、產出順利出入 …………	☐	☐	☐	☐	☐
12.利於本單位的大環境 …………	☐	☐	☐	☐	☐
13.分擔作業性工作 …………	☐	☐	☐	☐	☐
14.加强知識或人際關係 …………	☐	☐	☐	☐	☐

7.為了達成貴單位此時的組織任務，請問下列各種管理者活動需要您從事的程度為何？
（有關管理者活動的說明請參考問卷填寫說明書第2-3頁，表一）

	4 非常需要從事	3 很需要從事	2 普通	1 有點需要從事	0 不需要從事
〈人際的管理者活動〉					
1.代表單位 …………………	☐	☐	☐	☐	☐
2.領導 …………………	☐	☐	☐	☐	☐
3.聯外交往 …………………	☐	☐	☐	☐	☐
〈資訊的管理者活動〉					
4.蒐集資訊 …………………	☐	☐	☐	☐	☐
5.對內給資訊 …………………	☐	☐	☐	☐	☐
6.對外給資訊 …………………	☐	☐	☐	☐	☐
〈決策的管理者活動〉					
7.開創與改善 …………………	☐	☐	☐	☐	☐
8.排除障礙 …………………	☐	☐	☐	☐	☐
9.調度資源 …………………	☐	☐	☐	☐	☐
10.談　判 …………………	☐	☐	☐	☐	☐
〈其他管理者活動〉					
11.作業活動 …………………	☐	☐	☐	☐	☐

8.為了達成貴單位此時的組織任務，請問您會用到下列各項管理知識的頻繁程度為何？
（有關管理知識的說明請參考問卷填寫說明書第5頁，表二）

	4 時時會用到	3 經常會用到	2 普通	1 偶爾會用到	0 不會用到
1.組織理論與管理	□	□	□	□	□
2.人力資源管理與工業關係	□	□	□	□	□
3.生產與作業管理	□	□	□	□	□
4.行銷管理	□	□	□	□	□
5.財務管理與會計	□	□	□	□	□
6.數量方法	□	□	□	□	□
7.研究發展管理	□	□	□	□	□
8.資訊管理與電腦	□	□	□	□	□
9.國際企業管理	□	□	□	□	□
10.企業與環境	□	□	□	□	□
11.其他管理知識	□	□	□	□	□

9.爲了達成貴單位此時的組織任務，請問在您心目中，管理者活動、管理知識、及組織運作要素，這三者兩兩之間有何關係？
（請以連線標示兩兩項目之關係。並非要每一項目都連到，而是對您達成任務有重要關係者。）

管理者活動	第一組關係 → 管理知識	第二組關係 → 組織運作要素	第三組關係 → 管理者活動
〈人際的〉	1.組織理論與管理	1.半年以上的正式計畫	〈人際的〉
1.代表單位	2.人力資源管理	2.下一步的行動計畫	1.代表單位
2.領　導	與工業關係	3.組織結構：分工與整合	2.領　導
3.聯外交往	3.生產與作業管理	4.工作流程與制度	3.聯外交往
〈資訊的〉	4.行銷管理	5.機器設備與支援	〈資訊的〉
4.蒐集資訊	5.財務管理與會計	6.促使部屬注意工作要點	4.蒐集資訊
5.對內給資訊	6.數量方法	7.適任的部屬及搭配	5.對內給資訊
6.對外給資訊	7.研究發展管理	8.工作士氣及氣氛	6.對外給資訊
〈決策的〉	8.資訊管理與電腦	9.工作紀律及倫理	〈決策的〉
7.開創與改善	9.國際企業管理	10.本單位存在目的之共識	7.開創與改善
8.排除障礙	10.企業與環境	11.投入、產出順利出入	8.排除障礙
9.調度資源	11.其他管理知識	12.利於本單位的大環境	9.調度資源
10.談　　判		13.分擔作業性工作	10.談　　判
〈其　他〉		14.加强知識或人際關係	〈其他〉
11.作業活動			11.作業活動

10.請問您所完成最高的學校教育是：
- (1)高中、職以下 ☐
- (2)專科畢 ☐
- (3)學士學位 ☐
- (4)碩士學位 ☐
- (5)博士學位 ☐

11.請問您在學校所學的專業是：（可複選）
- (1)企業管理 ☐（請跳過第12題）
- (2)其他商科 ☐
- (3)理　工 ☐
- (4)文　法 ☐
- (5)其　他 ☐

12.請問您曾接受多少小時的管理訓練：（每學分折算爲15小時）
- (1)0小時 ☐
- (2)1-14小時（2天內） ☐
- (3)15-35小時（約1週） ☐
- (4)36-70小時 ☐
- (5)71-140小時（約1月） ☐
- (6)141-300小時 ☐
- (7)301小時以上 ☐

13.下列敘述句中那一個最能描寫您對管理工作的態度？答：____
- (1)只有升遷到更高的管理職位，才能發揮我的長才。
- (2)我希望有輪調同階職位的機會。
- (3)我喜歡繼續擔任目前的職位。
- (4)若有學習管理技術的機會，我會積極參加。
- (5)我不想繼續擔任管理職了。

14.請問您的直接部屬人數是：_____人
您的間接部屬（部屬的部屬）共約有：____人

15.您擔任目前的管理職已有____年____月，是在本公司裡的第___個管理職位。您在本公司已任職____年____月，這是您任職的第___家公司。您擔任管理職以來已有____年；曾經在___個不同的職能／部門別工作，其中，在____個不同的職能／部門別擔任管理者。

16.您的年齡是：
(1)24歲以下 ☐
(2)25-34歲 ☐
(3)35-44歲 ☐
(4)45-54歲 ☐
(5)55歲以上 ☐

17.您的性別是：(1)男 ☐，(2)女 ☐。

謝謝您填完這份問卷！

此後的一週裡，還要請您每小時觀察自己的活動，然後在一張「管理者活動記錄表」上做記錄。記錄的方法請您參考「問卷填寫說明書」第6頁起的說明。

Appendix B
THE BROCHURE OF INSTRUCTIONS
1. The English version

A STUDY OF THE MANAGER'S ACTIVITIES AND THE DETERMINANTS

THE BROCHURE OF INSTRUCTIONS
for using the questionnaire

Table of Content

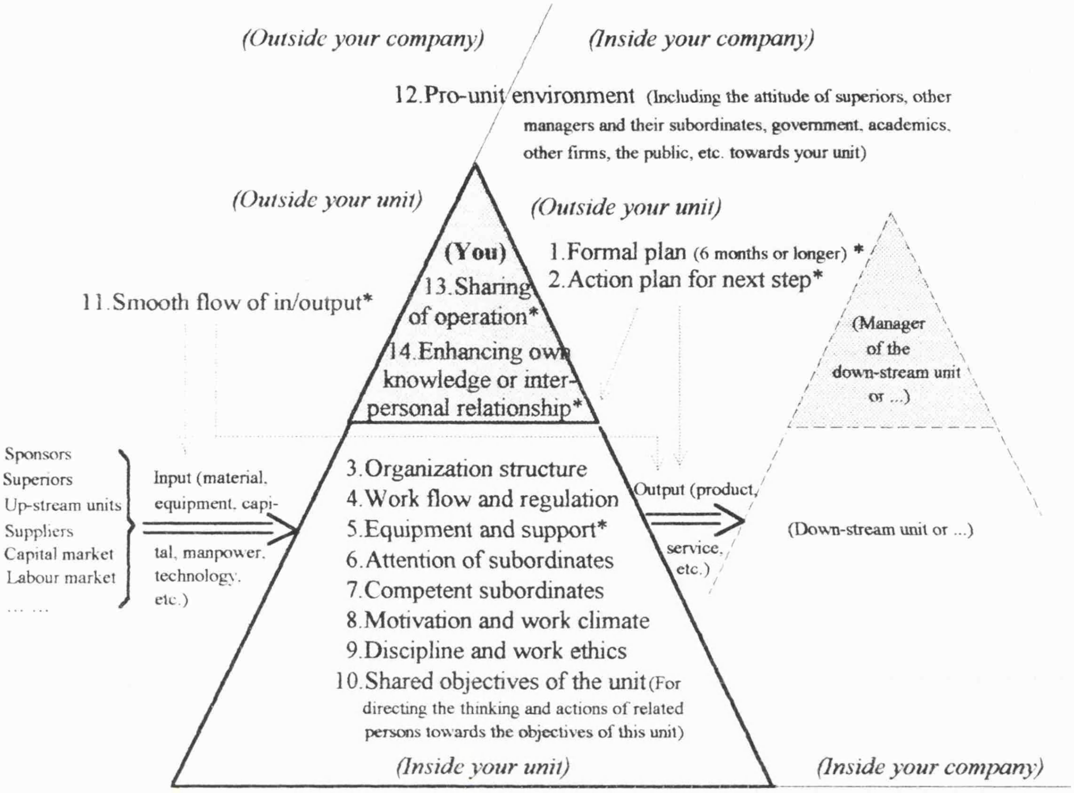


Fig. 1 The factors for organizational operation (FOOs) illustrated

Note:

1. **Concepts used in the illustration:** The unit under a manager's charge is regarded as an identifiable transformation system which has its own particular work procedures, inputs, and outputs. For example, the marketing departnment as a whole is a transformation system under the marketing manager's charge; the system transforms inputs from the production department into outputs for comsumers or the customers in the down-stream (a service of changing the place and ownership of the goods). This transformation system consists of personnel, including the marketing manager, sales representatives, servicemen, advertisers, drivers, etc., and facilities, including warehouses, vehicles, etc.; the transformation process is the work flow and operating procedures.

2. **Definition of a unit:** A *unit* is an organization unit responsible by a manager. For a general manager, the company or business unit is his or her unit; inside the company is *inside the unit* and other companies, government institutions, the public, etc. are *outside the unit*. For a marketing manager, the marketing department is his or her unit; inside the department is *insdie the unit*, and other departments in the company, the superiors, and whatever outside the company are *outside the unit*. For a section manager, inside the section is *inside the unit* and whatever outside the section is *outside the unit*.

* **Descriptions of the Factors for Organizational Operation** (marked with * only):

Factors 1 & 2: referring to the strategies of the unit and guide lines for co-ordinating actions.

Factor 5: the supports include the administrative supports (e.g., secretary) and technical supports (e.g., maintenance service).

Factor 11: referring to the unit's procurement of inputs and discharge of outputs without difficulties. Examples are a production unit's getting raw materials smoothly, for avoiding suspension of production, a marketing unit's selling products smoothly, without being boycotted, and a service unit's servicing the customers smoothly, without being interfered.

Factor 13: referring to some managers' participation in a part of transformation process in order to assist or ensure the operation of the unit.

Factor 14: referring to the manager's improvement of his/her knowledge or interpersonal relationship in order to enhance his/her managerial ability.

Table 1. The manager's activities illustrated

Activities	*Description*	*Examples**
Interpersonal activities		
1. Represen-ting the unit	1. This is a manager's acting as the representative and symbol of the unit because of his or her status of being the chief manager; this is the simplest activity. 2. *Content:* As required by law or custom, a manager performs (1) activities required by law, (2) social, inspiring, or ceremonious activities, and (3) receiving those who insist on talking to the chief manager.	*Activities required by law:* 1. signing on the certificates or letters issued by the unit; ... *Social, inspiring, or ceremonious activities:* 1. treating important guests; 2. receiving and briefing visitors; 3. chairing internal meetings and giving an inspiring speech; 4. giving medal, trophy, etc.; 5. attending to the social or donative ceremonies related to the unit;... *Receiving those who insist on talking to the chief manager:* 1. A marketing manager handled a transaction personally because the customer insisted that his large amount of purchase deserved the manager's attention; 2. A general manager opened a letter marked "Confidential" for fund-raising and handled it to the public relation manager afterward.
2. Leading	1. This is a manager's interpersonal interactions with subordinates. 2. *Contents:* A manager performs activities for (1) personnel selection, reward, and development for improving the quality of manpower, (2) giving meaning to work and reconciling subordinates' personal needs with the unit's goals in order to motivate, and (3) probing into subordinates' activities and correcting their mistakes for keeping them vigilant. 3. *General purpose:* to shape the work climate in the unit.	*Activities for personnel selection, reward, and development:* 1. personnel recruiting, interviewing, and orientation; 2. organizing training activities and evaluating the results; 3. directing the effort of subordinates; 4. appraising performance and deciding on the remuneration and promotion; 5. examining subordinates' applications for leave; ... *Activities for motivation:* 1. introducing new members; 2. showing concern for subordinates' feelings; 3. praising subordinates' achievement; 4. giving helps to subordinates; 5. visiting the sick or wounded subordinates; ... *Activities for probing into subordinates' activities to keep them vigilant:* 1. In response to the request for additional recruits by a foreman, a production manager toured the factory early in the morning and then told the section manager that the manpower should be enough if the workers come and work on time; 2. following up the progress of work and urging subordinates to pay attention to the deadline; ...
3. Liaising	1. This is a manager's interpersonal interactions with outsiders to reinforce the outside relationships. 2. *Contents:* The manager performs (1) direct interactions with outsiders and (2) indirect interactions by raising reputation. 3. *Outsiders:* They include the people or organizations in the manager's work-flow, trading, service, advisory, auditing, stabilization, and innovation relationships. 4. *Interactions:* During the interactions, the manager may exchange resources, such as information, service, money, status, goods, and friendship, with outsiders in order to build and maintain the relationships and then to obtain favours and special information.	*Activities of direct interactions with outsiders:* 1. having lunch with outsiders for keeping in touch; 2. socializing with buyers for obtaining orders; 3. socializing with suppliers for obtaining favours on the purchase; 4. attending other units' meetings and giving opinions; 5. asking outsiders for help occasionally or greeting them on special occasions for keeping in touch; 6. thanking outsiders after accepted their help; 7. participating in the public affairs of the community;... *Activities of indirect interactions by raising reputation:* 1. attending public forums on particular topics; 2. publishing professional articles; 3. participating in the activities of professional societies; 4. participating in the activities of the associations of the industry; 5. participating in charitable activities; ...

(to be continued)

(Table 1, *continued*)

Informational activities		
4. Collecting information	1. This is a manager's seeking for and receiving of information (including facts, rumours, analyses, opinions, etc.). 2. *Purposes:* The manager collects information for updating his/her understanding of the unit and environment, for detecting various changes, for identifying problems and opportunities, and for deciding when to disseminate information and to make decision.	*Activities for understanding the unit:* 1. listening to (or reading) subordinates' work reports; 2. listening to outsiders for comments on the unit; 3. reading the internal reports or tables; 4. investigating the operation; ... *Activities for understanding the environment:* 1. reading or discussing articles, reports, or books; 2. discussing the situations of other units, 3. discussing the events in the industry with outsiders; 4. listening to the salesperson's report on the competition in the market; 5. investigating the market; ...
5. Giving information downwards	This is a manager's giving information to his/her subordinates.	1. giving information to subordinates who need it; 2. assigning subordinates to read articles, etc.; 3. announcing and explaining new regulations; 4. explaining the superiors' preferences and the pressure from outside in order to guide subordinates' decision;...
6. Giving information outwards	This is a manager's giving information to superiors or other outsiders as a reporting, advertisement, lobbying, or service.	*Activities for reporting, advertisement, or lobbying:* 1. compiling reports for superiors, government institutions, banks, or other related organization units; 2. briefing the current results and future plans to superiors; 3. announcing new product plans of the company to (potential) customers; 4. speaking in external meetings for the benefit of the unit; ... *Activities of giving special information as a service:* 1. giving opinion, analysis, information, and knowledge to other units of the company; 2. recommending to students what knowledge would be desirable for entering the industry; 3. analyzing the events in the industry as invited for outsiders; ...
*Decisional activities***		
7. Innovating and improving	1. This is a manager's actively searching for opportunities and problems, implementing changes, and seeking progresses. 2. *Contents:* including (1) innovating (to create from scratch) and (2) improving (from the acceptable to the better). 3. *Means:* Managers perform this kind of activities generally by setting up or supervising projects or committees, by chairing or attending to meeting, or occasionally alone. 4. *Results:* new strategies, new methods, or new states of affairs.	*Activities of innovating:* 1. participating in the planning for building a new plant; 2. chairing the meetings of a project for computerizing business operations; 3. supervising a project for obtaining a good quality award; 4. attending the meeting of a market development project; 5. setting and supervising a new product development project; ... *Activities of improving:* 1. evaluating the cost and benefits of a new model of machinery; 2. experimenting new materials and evaluating the benefits; 3. setting up and supervising quality circles; 4. devising a new price strategy for a product; 5. chairing a meeting of a project for improving the after-sales service; 6. studying how to modify regulations and procedures; ...

(to be continued)

(Table 1, *continued*)

8. Disturbance handling	1. This is a manager's passively coping with disturbances: attempting to resume smooth operations in the unit. 2. *Disturbances:* including unexpected emergent problems or crises, e.g., conflicts among subordinates, unexpected manpower shortage, different requirements between units, troubles in the main equipment, loss of important customers, frauds by subordinates, etc. 3. Results: normal operation resumed (from the bad to the acceptable); occasionally, improvement measures proposed; e.g., amendments of work flow or regulation.	1. reconciling the conflicts among subordinates; 2. handling a sudden shortage of manpower; 3. handling an unexpected shortage of working capital; 4. handling a problem of quality fluctuation; 5. handling a shortage of materials and the stoppage; 6. handling the production problems caused by an engineering change; 7. handling a mass return of goods by customers; 8. handling the overstock of product inventory; ...
9. Resource allocating	1. This is a manager's deciding on whether and how to use resource in order to guide or control the operation of the unit. 2. Contents: including (1) scheduling the manager's own work time, (2) arranging the work in the unit, and (3) deciding on the applications for use of resource in the unit. 3. Resource: including the manager's work time, manpower, equipment, capital, materials, technology, and reputation.	*Activities of scheduling own work time:* 1. arranging work schedule on diary; 2. deciding to tour and investigate the operation this afternoon; 3. scheduling the foreign market investigation in the next month; ... *Activities of arranging the work in the unit:* 1. staffing; 2. scheduling the production for the next week; 3. programming the advertisement for the next season; ... *Activities of deciding on the applications for use of resource in the unit:* 1. deciding on an application for overtime work; 2. deciding on an application for travelling; 3. deciding on an application for procurement of materials; 4. deciding on a proposal for setting up a project; 5. deciding the next budget; ...
10. Negotiating	This is a manager's meeting and talking with outsiders in order to resolve potential or existing conflicts and to get satisfactory results for all of the parties involved through coordination; this is a kind of real-time decisional activities.	1. negotiating the acceptance level of quality with suppliers; 2. negotiating terms of transaction with customers; 3. (marketing dept.) negotiating with production dept. about the deadline and quality requirements; 4. setting the performance targets for the next term with superior; 5. negotiating the borrowing interest with the bank; ...
Other activity		
11. Operating	1. This is a manager's acting as an operator, technician, clerk, or salesperson. 2. *Purposes:* to use the manager's technical skills and the time without other activities and to reduce personnel cost. 3. Some managers do not have such a activity.	1. operating on the production equipment; 2. inspecting products; 3. typing and editing; 4. selling goods; 5. compiling computer programme; ... (Note: If the manager must assist the operation for catching the deadline or because of manpower shortage, the activity should be classified as "8. disturbance handling".)

* Examples are given for reinforcing the description but it is difficult to be complete. For one thing, examples are numerous and cannot be all listed. For the other, an example might be classified to different kinds of activities according to the manager's purpose.

** In this study, decisional activities include those performed in the decision making process: identifying problems, setting goals, creating and searching for alternatives, identifying relevant or constraint factors, evaluating alternatives, taking decision, and reviewing the decision, rather than just the decision taking.

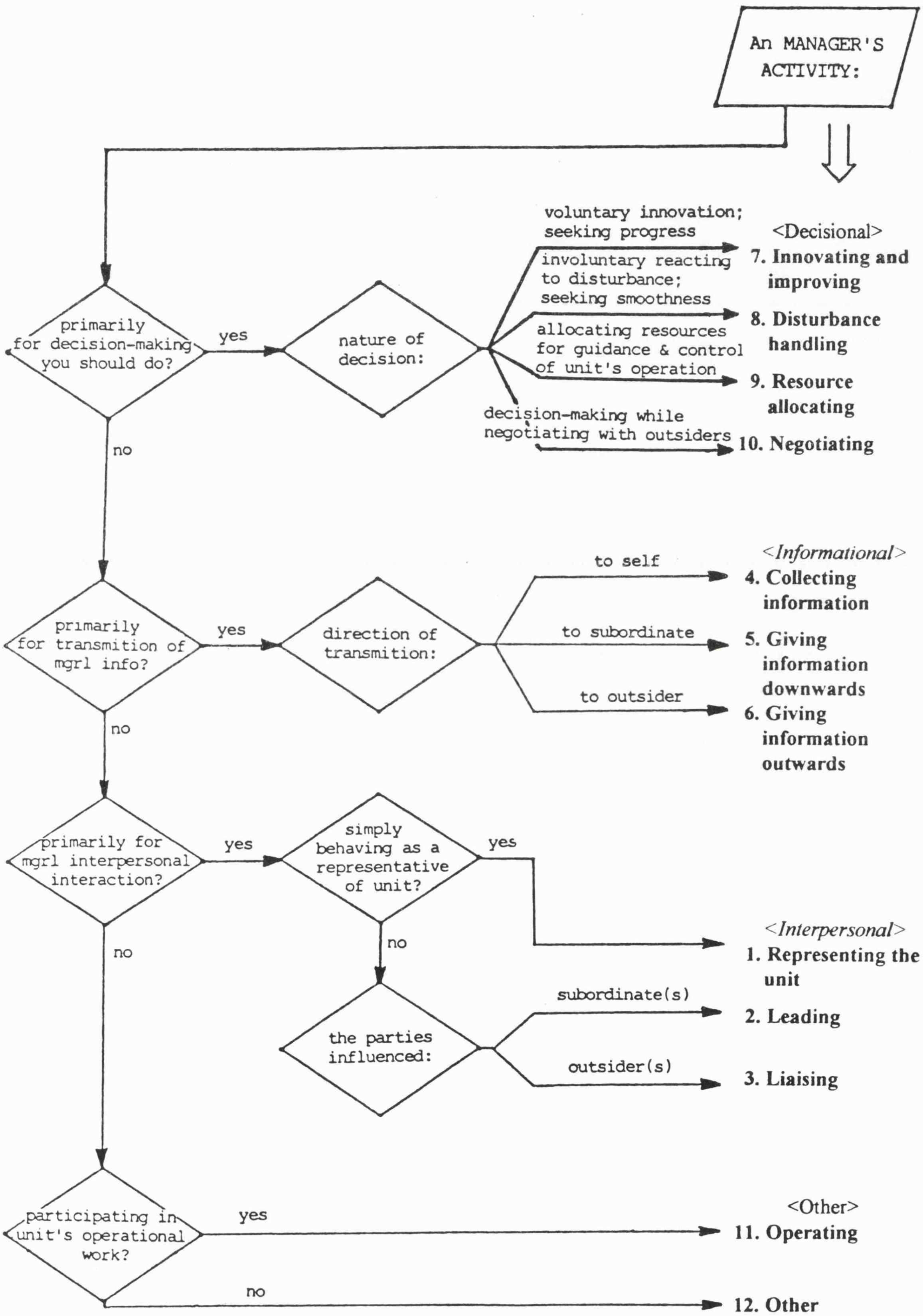


Fig. 2 The flow-chart for identifying the manager's activities

Table 2. The manager's knowledges illustrated

Categories	*Management knowledge covered**	
1. Organization and management theory	1. Business policy 2. Business strategy 3. Analysis, planning, and controlling 4. Management by objective 5. Strategic planning 6. Decision making and problem solving 7. Organization structure and design	8. Leadership and motivation 9. Managerial control 10. Communication analysis 11. Organization change and development 12. Introduction to organization and management theory
2. Human resource management and Industrial relations	1. Human resource planning 2. Job analysis and evaluation 3. Recruitment and selection 4. Industrial training 5. Performance appraisal 6. Remuneration systems 7. Career planning 8. Management development	9. Employment problem and regulations 10. Employee benefits and welfare 11. Health and safety 12. Managerial psychology 13. Public relations 14. Management of professionals 15. Introduction to human resource mgt
3. Production/ Operation management	1. Production planning and control 2. Cost analysis and control 3. Product design and development 4. Motion and time study 5. Plant layout (includes site selection and materials handling) 6. Capacity programming 7. Routing and scheduling 8. Quality management	9. Inventory control and materials mgt 10. Procurement management 11. Productivity improvement 12. Flexible manufacturing system (FMS) 13. Materials requirements planning 14. Production mgt information system 15. Introduction to production/operation management
4. Marketing	1. Tasks and philosophy of marketing mgt 2. Consumer behaviour and market segmentation 3. Product strategy 4. Pricing strategy 5. Promotion strategy 6. Distribution channels	7. Marketing research 8. Sales forecasting 9. Product and market development 10. Integrated marketing planning 11. Marketing information system 12. Introduction to marketing mgt
5. Financial management and Accounting	1. Taxation and accounting 2. Cost accounting 3. Financial planning and control 4. Managerial accounting 5. Financial analysis 6. Financial plans and budget control 7. Working capital management	8. Investment and long-term financing 9. Evaluation of investment proposal 10. Investment portfolio analysis 11. Financial structure, capital cost, and dividend policy 12. Introduction to financial management
6. Mathematical methods	1. Applied statistics 2. Operations research 3. System analysis	4. Experimental design 5. Corporate simulation 6. Introduction to mathematical methods
7. Research and development management	1. Science and technology management 2. Management of laboratory 3. Management of engineering department 4. Evaluation of R & D project	5. New product development planning and control 6. Introduction to R & D management
8. Information management	1. Computer and programming language 2. Business information system 3. Data processing system 4. Management information system	5. Computer aided engineering, design, and manufacturing (CAE, CAD, CAM) 6. Introduction to information mgt

(To be continued).

Table 2. *(continued).*

9. International business management	1. International finance 2. International marketing 3. Multi-national corporation 4. International financial management	5. International trade 6. Introduction to international business management
10. Business and environment	1. Taxes and revenues 2. Commercial laws (of tariff, VAT, etc.) 3. Business and government 4. Business and society 5. Culture and management philosophy 6. Macro-economic economy	7. Prevention of bad account 8. Pollution prevention 9. Environment monitoring & protection 10. Introduction to business and environment
11. Other management courses	1. Medium and small business mgt 2. Insurance 3. Project management 4. Commercial negotiation	5. Comparative management 6. Business diagnosis 7. Others

* The contents of management knowledges cover the related theories and known practice. They include those theories - methods, procedures, and models - you have learned from books, mentors, or your own experience. Also, they include the related information used in your management practice.

Table 3. Instructions for using the *Manager's Action Records*

A. The time to fill in the record: Within a week's time (holidays excluded) after you have filled in the questionnaire, please observe your own work activity once an hour and, after the activity, fill the details of it in a piece of *Manager's Action Record*. If you continue your managerial work after the work hours, please continue to observe and record. Besides, if one of your activities lasts for more than an hour, you will find the number of your records is actually smaller than that of your work hours.

B. Identification of "a managerial activity": A managerial activity is an activity performed by managers during a period of time in which the means of activity, place, and the principal participants are unchanged. The period might last from less than a minute to more than an hour. For examples, having a talk with other managers, giving subordinates a piece of newspaper cutting, touring the shop floor for a moment, discussing a strategy, attending a review conference, reading a letter, reading books for a while, attending a wedding ceremony, etc. are managerial activities and each of them should be recorded separately on a piece of *Manager's Action Record*. But, there is an exception: communication with your secretary is neither regarded as an activity nor an interruption to an activity because your secretary is seen as an extension of your capacity in this study.

C. Instructions for each row and column in the *Manager's Action Records*:

① : Please fill in the date, especially in the first record in each day, and time.

② : 1. *Scheduled meeting:* periodical or arranged meetings, congregations, or talks; e.g., periodical review sessions, wedding ceremonies, business appointments, and formal visits.

2. *Unscheduled meeting:* meetings or talks arranged in a very short time or by coming across unexpectedly; e.g., talks before and after formal conferences, emergent visits by subordinates, unexpected visits by outsiders, and significant talks while touring the workplaces.

3. *Tour:* walking around the workplaces of the unit for observing the operations and greeting to subordinates.

4. *Telephone:* using telephone for conversation; either calling or answering a telephone is an activity.

5. *Alone:* performing activities without the participation of others; e.g., reading a letter, newspapers, or a magazine (including the notes taking afterwards), writing a letter or a report, and thinking individually.

③ : *Participants:* They are the people in the meeting or conference (if there are many people, please estimate the number), talking to you, or communicating by letter with you. In case of touring, please fill in the people you want to observe or to greet.

④ : (omitted)

⑤ : In this column, please select, from the perspective of you as the actor, a kind of *manager's activity* to represent the activity you are to record. In a long and complex activity, you might perform several *manager's activities.* If this is the case, please consider their importance and fill in the principal one. Fig. 2 (p. 5) and Table 1 (pp. 2-4) are for your reference in this respect.

⑥ : Please select the important *manager's knowledges* (see Table 2) you used in an activity.

⑦ : In this column, please select, from the perspective of the need of your unit, an item of the factors for organizational operation (FOOs) (see Fig. 1) to represent the objective of the activity. In some activities, you might contribute to several factors for organizational operation. If this is the case, please consider and select the principal factor.

⑧ : Firstly, please link between the selected the ⑤ manager's activity, ⑥ manager's knowledges used, and ⑦ the objective of the activity (three kinds of possible associations) if they are actually associated. And then draw arrows to indicate the temporary order, contribution, or directing relationships (arrows drawn to point to the latter or the passive ones).

⑨ : Please consider and fill in the importance of the issue dealt with from the perspectives of the selected ⑤ manager's activity and ⑦ the objective of the activity.

⑩ : An interruption is a short activity interrupting an ongoing, longer one. For examples, a brief talk with a non-attendant in a meeting, answering a telephone during a talk, and a subordinate's asking for opinion during a telephone conversation.

Table 4. Examples of recording on the *Manager's Action Records*

Example 1: The manager of the first section of production department, Mr. Chen, is ambitious. He felt recently that he needed to understand more about certain management techniques. Thus, he read relevant books in the evening at home. His record on the activity is shown below. He explained that the reading (represented by ⑤-4, *collecting information)* (temporal order: latter) was for ⑦-14, *enhancing own knowledge* ..., (the contributed) and the knowledge learned was about ⑥-3, *production/operation management* (the contributed). Hence, the arrows were drawn to point to ⑤-4, ⑦-14, and ⑥-3.

Manager's Action Record

① During 22 / 01 (D/M), 20 : 30 --- 21 : 35 (hr:min), I conducted this activity.

② MEANS OF ACTIVITY: 1. Scheduled meeting ☐, 2. Unscheduled meeting ☐, 3. Tour ☐
4. Telephone ☐, 5. Alone (reading, writing, thinking) ☑

③ PARTICIPANT: (Pls fill in No. of persons)
Of my unit: 1. Assistant ☐, 2. Direct subordinate ☐, 3. Indirect subordinate ☐
Outside my unit: 4. Superior ☐, 5. Higher superior ☐, 6. Lateral unit ☐,
7. Company staff ☐, 8. Other manager ☐, 9. Other mgr's subordinate ☐,
10. Supplier ☐, 11. Customer ☐, 12. Other ☐

④ PLACE: 1. Own office ☐, 2. In-unit ☐, 3. In-company ☐, 4. Other institution ☐
5. Travelling ☐, 6. Other ☑

⑤ MANAGER'S ACTIVITY: (the major one)
<Interpersonal>
1. Representing unit ☐
2. Leading ☐
3. Liaising ☐
<Informational>
4. Collecting info ☑
5. Giving info downwards ☐
6. Giving info outwards ☐
<Decisional>
7. Innovating & improving ☐
8. Disturbance handling ☐
9. Resources allocating ☐
10. Negotiating ☐
<Other>
11. Operating ☐
12. Other: ☐

⑥ KNOWLEDGE TOUCHED: (multi-choice)
1. Orgn & mgt theory ☐
2. Human resources mgt & industrial relations ☐
3. Production/Operation mgt ☑
4. Marketing ☐
5. Financing & accounting ☐
6. Mathematical methods ☐
7. R & D mgt ☐
8. Info mgt & computer ☐
9. Int'l business mgt ☐
10. Business & Environment ☐
11. Other mgt knowledge ☐
12. Other: ☐

⑦ OBJECTIVE OF ACTIVITY: for... (the major one)
1. Formal plan (6m or longer) ☐
2. Action plan for next step ☐
3. Orgn structure: division of labour & integration ☐
4. Work flow & regulation ☐
5. Equipment & support ☐
6. Attention of subordinate ☐
7. Competent subordinates & their assortment ☐
8. Motivation & work climate ☐
9. Discipline & work ethics ☐
10. Shared objective of unit ☐
11. Smooth flow of in/output ☐
12. Pro-unit environment ☐
13. Sharing of operation ☐
14. Enhancing own knowledge or interpersonal relationship ☑
15. Other: ☐

⑧ THE RELATIONS AMONG THE ABOVE THREE COLUMNS ARE SHOWN AS ASSOCIATIONS. (Pls use line and arrow to show the relations of priority, contribution, or direction among the ticked items in each column. No association among irrelevant items.)

⑨ THE ISSUE DEALT WITH IN THIS ACTIVITY is:
1. Very important ☐, 2. Important ☑, 3. Not important ☐.

⑩ THIS ACTIVITY HAS BEEN INTERRUPTED for 1 times, totaled for 10 minutes.

Table 4. *(continued)*

Example 2: The manager of the marketing department, Mr. Lin, holds a regular review session on Saturday with his subordinates. In the last meeting, which encountered no problems, most of the information reported by the sales representatives was what he had already known. Therefore, besides the praising and encouraging, he reminded them explicitly to pay attention to a few things in the work. His record on this activity was shown below. His explanation of the lines and arrows drawn was: The meeting (represented by ⑤-2, *leading)* contributed to ⑦-6, *attention of subordinates,* and, meanwhile, he used knowledges of ⑥-1, *organization and management theory,* and ⑥-4, *marketing,* to guide the action.

Manager's Action Record

① During 21 / 01 (D/M), 11 : 00 --- 11 : 40 (hr:min), I conducted this activity.

② MEANS OF ACTIVITY: 1. Scheduled meeting ☑, 2. Unscheduled meeting ☐, 3. Tour ☐
4. Telephone ☐, 5. Alone (reading, writing, thinking) ☐

③ PARTICIPANT: (Pls fill in No. of persons)
Of my unit: 1. Assistant ☐ 1, 2. Direct subordinate ☐ 12, 3. Indirect subordinate ☐
Outside my unit: 4. Superior ☐, 5. Higher superior ☐, 6. Lateral unit ☐,
7. Company staff ☐, 8. Other manager ☐, 9. Other mgr's subordinate ☐,
10. Supplier ☐, 11. Customer ☐, 12. Other ☐

④ PLACE: 1. Own office ☐, 2. In-unit ☐, 3. In-company ☐, 4. Other institution ☐
5. Travelling ☐, 6. Other ☐

⑤ MANAGER'S ACTIVITY:
(the major one)
<Interpersonal>
1. Representing unit ☐
2. Leading ☑
3. Liaising ☐
<Informational>
4. Collecting info ☐
5. Giving info downwards ☐
6. Giving info outwards ☐
<Decisional>
7. Innovating & improving ☐
8. Disturbance handling ☐
9. Resources allocating ☐
10. Negotiating ☐
<Other>
11. Operating ☐
12. Other: ☐

⑥ KNOWLEDGE TOUCHED:
(multi-choice)
1. Orgn & mgt theory ☑
2. Human resources mgt & industrial relations ☐
3. Production/Operation mgt ☐
4. Marketing ☑
5. Financing & accounting ☐
6. Mathematical methods ☐
7. R & D mgt ☐
8. Info mgt & computer ☐
9. Int'l business mgt ☐
10. Business & Environment ☐
11. Other mgt knowledge ☐
12. Other: ☐

⑦ OBJECTIVE OF ACTIVITY: for...
(the major one)
1. Formal plan (6m or longer) ☐
2. Action plan for next step ☐
3. Orgn structure: division of labour & integration ☐
4. Work flow & regulation ☐
5. Equipment & support ☐
6. Attention of subordinate ☑
7. Competent subordinates & their assortment ☐
8. Motivation & work climate ☐
9. Discipline & work ethics ☐
10. Shared objective of unit ☐
11. Smooth flow of in/output ☐
12. Pro-unit environment ☐
13. Sharing of operation ☐
14. Enhancing own knowledge or interpersonal relationship ☐
15. Other: ☐

⑧ THE RELATIONS AMONG THE ABOVE THREE COLUMNS ARE SHOWN AS ASSOCIATIONS. (Pls use line and arrow to show the relations of priority, contribution, or direction among the ticked items in each column. No association among irrelevant items.)

⑨ THE ISSUE DEALT WITH IN THIS ACTIVITY is:
1. Very important ☐, 2. Important ☑, 3. Not important ☐.

⑩ THIS ACTIVITY HAS BEEN INTERRUPTED for 0 times, totaled for 0 minutes.

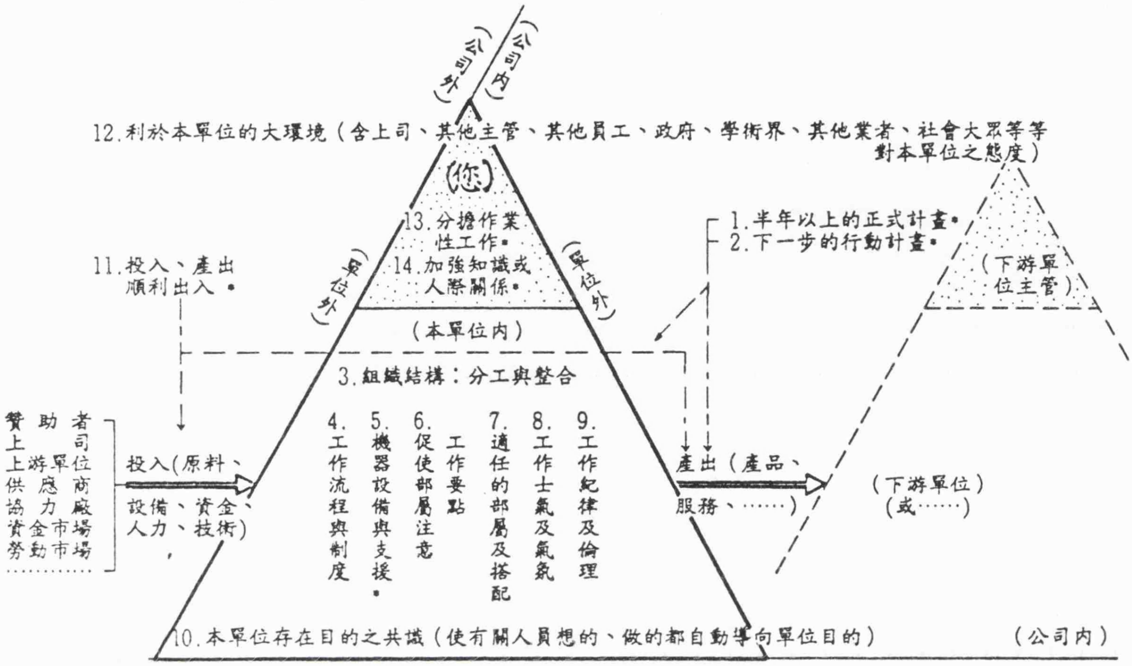
Appendix B
THE BROCHURE OF INSTRUCTIONS
2. The form used (in Chinese)

管理者活動與其決定因素之研究

問卷填寫說明書

目　錄　　頁次

圖一、組織運作要素説明圖



説明：

一、本圖所用觀念：將每一位管理者所負責管理的單位視爲一個獨立的轉換系統，有其獨特的轉換程序及投入與產出。以行銷經理爲例，整個行銷部是他負責管理的轉換系統，負責將生產部（上游單位）的產出取來做爲行銷部的投入，再銷售至消費者或下游廠商，達成產出（轉換商品所在地及所有權的服務）。這個行銷轉換系統主要由行銷經理、銷售代表、服務員、廣告企劃員、運貨司機及工人等人員和倉庫、汽車等設備所構成；其轉換程序則爲其工作／作業流程。

二、單位之定義：所謂單位即管理者負責管理的組織單位。在總經理即爲其公司或事業部，此時公司內即爲其單位內，其他公司、政府單位、社會大眾等等即爲其單位外；在行銷經理、行銷部即爲其單位，部內即爲其單位內，其他部門、上司，及公司外等即爲其單位外；在製造課長，課內即爲單位內，本課以外即爲單位外。

三、各組織運作要素説明（含•號者）：

要素1～2：是單位的策略，協調行動的指導原則。

要素5：所謂支援含行政支援（如秘書）及技術支援（如維護服務）。

要素11：指系統外部投入系統之物順利取得，而系統所產出之物順利輸出，不受刁難。例如：生產單位順利取得原料，以免停工待料，行銷單位順利售出商品而不受抵制，服務單位順利完成服務（產出）而免受干擾。

要素13：指（有些）管理者分擔其單位的轉換程序的一段或一部份工作，以利其單位順利運作。

要素14：指管理者加強自己的知識，或人際關係以加強管理能力。

表一、管理者活動說明表

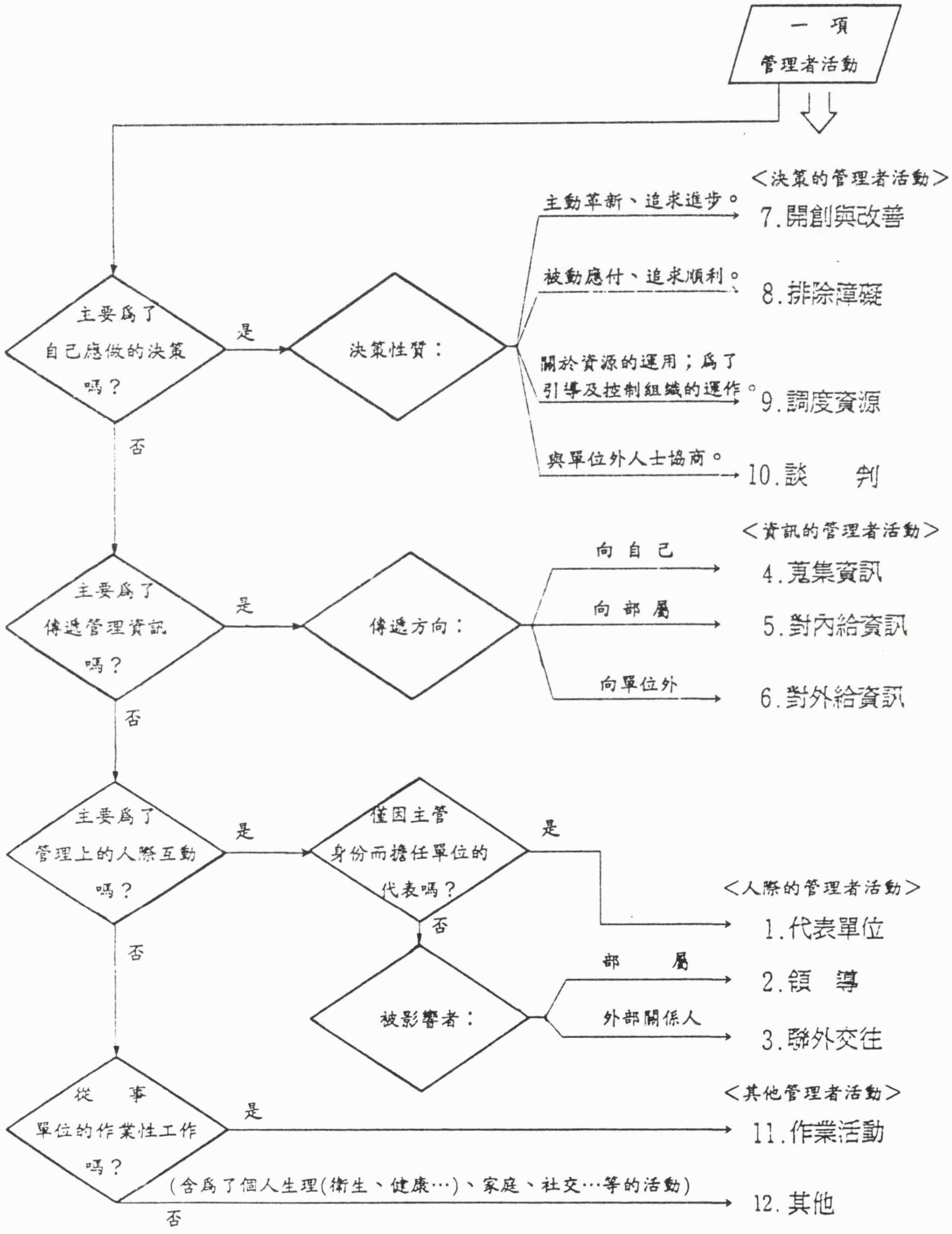
管理者活動		說明	舉例（註1）
人際的	1. 代表單位	1. 是管理者單純地以主管身份，擔任其單位的代表及象徵，是最簡單的一種管理者活動。 2. 內涵：依法規或風俗習慣，管理者從事(1)法規要求的活動(2)社交、鼓舞及典禮性質的活動，及(3)接見那些堅持找主管直接洽談的人。	《法規要求的活動》 1. 在單位所發的證明或對外文書上簽名或蓋章；……… 《社交、鼓舞，及典禮性質的活動》 1. 招待重要來訪客人；2. 接待來觀摹訪客及做簡報；3. 主持單位內集會並做精神講話；4. 頒發獎狀、獎牌，或獎金；5. 參加與單位有關的婚喪喜慶及捐贈等典禮或儀式；………… 《接見那些堅持找主管直接洽談的人》 1. 行銷經理親自接待一位顧客，因爲這位顧客認爲他的購買量大，不應只由業務員處理； 2. 總經理拆閱了一封註明「總經理親啓」的募款信，隨後立即轉給主辦的公關經理；……
	2. 領導	1. 是管理者對部屬從事人際互動的活動。 2. 內涵：管理者從事(1)爲其單位選才、育才，及留才，以提高人員素質；(2)賦予工作意義，並使部屬的個人需要與單位的整體目標相調和，以激勵士氣；及(3)探查部屬活動，隨時改正疏失，使保持警覺性等活動。 3. 整體目的：塑造單位的工作氣氛。	《選才、育才、及留才的活動》 1. 人員招募、面試及職前訓練；2. 安排訓練活動及評估其成效；3. 指導部屬努力方向；4. 部屬績效考評、核薪、及升遷；5. 部屬請假審核；………… 《激勵部屬士氣的活動》 1. 引介新部屬；　2. 對部屬親切關懷； 3. 讚美部屬工作成就；　4. 輔導部屬的工作與生活；　5. 探視部屬傷病；　………… 《探查部屬活動，使保持警覺性的活動》 1. 面對某組長增僱人員的申請，生產經理一大早巡視了工廠，隨後告訴其課長，只要組員們準時工作，現有人員應該夠了； 2. 跟催部屬工作進度，促其注意時限；………
	3. 聯外交往	1. 是管理者針對外部關係人從事人際互動，以加強其單位外關係的活動。 2. 內涵：概言之，管理者從事(1)直接和外部關係人交往的活動，及(2)提高自己聲望,間接影響交往的活動。 3. 外部關係人：指和管理者的單位有買賣、上下游製程、服務、諮詢、評估、管制、或創新等關係之人士、單位、或團體 4. 交往：在交往活動中，管理者可能動用資訊、服務、金錢、面子、物品及交情等資源，與其外部關係人從事資源交換，先賴以建立或維持互信的關係，隨後藉此獲取優惠待遇、訂單／工作指派、援手，或特殊殊資訊等等。	《建立和維持單位外聯繫關係的交往活動》 1. 和外部關係人共進午餐，以維持聯繫； 2. 和客戶交際以期順利獲得訂單； 3. 和供應商交際／應酬以享有採購優惠； 4. 參加其他單位的討論，適時提供自己的意見 5. 偶而請外部關係人幫點忙，或向他賀節、賀喜、問好，以保持聯繫； 6. 接受外部關係人幫忙後向他致謝； 7. 參與社區公共事務；………… 《提高聲望以利交往的活動》 1. 參加公開的專題討論會；2. 發表專業文章； 3. 參加專業學會活動；4. 參加公會活動； 5. 參加慈善活動；…………
資訊	4. 蒐集資訊	1. 是管理者尋求及收受資訊（包抱事實、傳言、分析、意見、……）的活動。 2. 目的：從蒐集到的資訊，管理者可以更新對其單位內外的瞭解，發現各種變化，識別出問題和機會，以及判斷應該傳遞資訊和進行決策的適當時機。	《爲了瞭解單位內運作情形的活動》 1. 聽（讀）部屬工作報告； 2. 聽取外部關係人對本單位的評論； 3. 閱讀內部報表；　4. 工作抽查；…… 《爲了瞭解單位外部環境的活動》 1. 閱讀或研討有關的文章、報告或書籍； 2. 討論其他單位的近況； 3. 與外部關係人研討業界重大事件； 4. 聽取業務員報告市場競爭狀況； 5. 考察市場；……
	5. 對內給資訊	是管理者對其單位內的部屬供給資訊的活動。	1. 提供資訊給有需要的部屬； 2. 指定部屬閱讀有關的文章或通告； 3. 宣佈及說明新的制度、規章或流程； 4. 解說上級的偏好及單位的外在壓力，以引導部屬決策；……

的	6. 對外給資訊	是管理者爲了向上司或其他可能影響本單位運作的外部人士報告、宣傳、遊說、或服務而供給資訊的活動。	《對外報告、宣傳，或遊說的活動》 1.填製報表給上級單位、政府主管機關、銀行、或其他相關單位； 2.向上司報告本期工作成果及下期計劃； 3.向（潛在）顧客宣傳本公司的新產品計劃； 4.在討論會上提出有利於本單位的言論；…… 《提供專門資訊的服務性活動》 1.爲公司其他單位提供意見、分析、消息及知識等；2.爲在校學生推介進本產業應學習的知識；3.接受外界邀請分析業界重大事件；……
決	7. 開創與改善	1.是管理者不斷地尋求機會和問題，主動革新，追求進步而從事的活動。 2.內涵：包括(1)開創新局（從無到有）和(2)改善現況（從還可以到更好）。 3.方式：管理者常以設立或監督專案或委員會，或者主持或參加其討論會等方式從事這種活動；偶而也獨自做決策。 4.結果：新策略、新方法，或新局面。	《開創新局的活動》 1.參與建立新廠專案之企劃；2.主持業務電腦化專案之討論；3.監督申請正字標記專案之進行；4.參加新市場開發專案之研討；5.設立及監督新產品開發專案；…… 《改善現況的活動》 1.評估新型設備的成本和效益，2.試用新材料並評估其效益，3.設立及監督品管圈，4.研擬新的產品價格策略；5.主持改善售後服務專案之討論；6.研擬制度規章的增刪修改，……
策	8. 排除障礙	1.是管理者被動地應付障礙，企圖使其單位恢復順利運作而從事的活動。 2.障礙：包括未預料到的急迫問題或危機。例如：部屬之間起爭執、突然短缺人員、單位之間要求不一致、主要設備障礙、重要客戶流失，甚至部屬舞弊等等。 3.結果：恢復順利運作（從不好到可以）；有時會提出補救措施，例如修改流程或制度。	1.調解部屬間的糾紛； 2.處理臨時短缺人員的問題； 3.處理臨時短缺資金的問題； 4.處理品質異常的問題； 5.處理停工待料的問題； 6.處理工程變更所致的生產不順； 7.處理遭大量退貨的問題； 8.處理存貨積壓過量問題；……
的（註2）	9. 調度資源	1.是管理者決定要不要及如何動用資源，以引導或控制單位內組織運作的活動。 2.內涵：包括(1)安排管理者自己的工作時間；(2)安排單位內工作，及(3)審核單位內資源運用的申請。 3.資源：包括管理者工作時間、人員、設備、資金、原料、技術、及監督等。	《安排自己工作時間的活動》 1.在記事本上安排工作時程；2.決定下午巡視及工作抽查；3.安排下個月考察國外市場的時間；…… 《安排單位內工作的活動》 1.人事任用； 2.規劃下週生產排程及工作分派； 3.研擬下期廣告計劃；…… 《審核單位內資源運用申請的活動》 1.審核加班申請；2.審核出差申請；3.審核物料請購；4.審核設立專案的建議書；5.審核下期預算；……
	10 談判	是管理者與單位外人士交涉，以化解潛在的或已發生的衝突，經由協調，而得到彼此滿意的結果；是一種即時性的決策活動。	1.與協力廠談允收品質；2.與客戶談交貨條件；3.（行銷部）與生產部洽談出貨期及品質要求；4.與上司研商下期工作目標；5.與銀行洽商貸款利率；……
其他	11 作業活動	1.指管理者從事與作業員、技術員、辦事員，或推銷員一樣的工作。 2.目的在利用管理者的技術專長及上列10項管理者活動以外的時間，以減低人事費用。 3.有些管理者無此項活動。	1.操作生產設備；2.檢驗成品；3.照稿打字；4.銷售產品；5.編譯電腦程式；…… （註：倘爲了趕交貨或缺人員，不得不協助作業工作，則此段時間的活動應列爲「8.排除障礙」）。

註 1：舉例之目的在於增強說明的效果，但是難以周全。一者，例子無法一一列舉，再者，有時同一例子會隨管理者意圖不同而屬於不同的管理者活動。

註 2：本研究所指的決策的管理者活動，並非僅指下決定時的活動，而是指包括在確定中心問題、確定眞正目標、尋求可行備選對策、尋求相關或限制因素、分析各備選對策之優劣、選擇一個較佳對策，和檢定此對策等的過程中所從事的活動。

圖二　管理者活動種類判別流程圖



表二　管理知識説明表

管理知識	涵蓋範圍(註)		
1.組織理論與管理	1.企業政策 2.企業經營策略 3.分析、計劃與控制 4.目標管理	5.策略計劃 6.決策分析與問題解決方法 7.組織之結構與設計 8.領導能力與激勵	9.管理控制 10.人際溝通分析 11.組織變革與發展 12.組織理論與管理綜論
2.人力資源管理與工業關係	1.人力資源規劃(包括勞力市場分析) 2.工作分析與工作評價 3.人員招募與遴選 4.人員訓練 5.工作績效考評	6.薪資制度 7.員工職業前程計劃 8.管理才能發展 9.勞工問題與勞工法 10.職工福利與保險 11.工業安全與工業關係	12.管理心理學 13.公共關係 14.高級科技人員之管理 15.人力資源管理綜論
3.生產與作業管理	1.生產計劃與控制 2.生產成本分析與控制 3.系統化之產品設計與開發 4.工作設計與衡量標準 5.設備規劃(包括廠址選擇、廠房佈置與物料搬運)	6.產能規劃 7.排序與排程計劃 8.品質管理 9.存貨控制與物料管理 10.採購管理 11.生產力分析與衡量	12.彈性製造系統(FMS) 13.物料需求計劃(MRP) 14.生產管理資訊系統 15.生產與作業管理綜論
4.行銷管理	1.行銷管理任務與哲學 2.顧客行爲與市場區隔 3.產品策略—品牌、包裝、服務 4.定價策略	5.推廣策略—廣告與人員推銷 6.通路策略—經銷網 7.行銷研究(或市場調查) 8.行銷預測	9.新產品發展與新市場開拓 10.行銷整體計劃 11.行銷資訊系統 12.行銷管理綜論
5.財務管理與會計	1.稅務會計 2.成本會計 3.成本規劃與控制 4.管理會計 5.財務分析	6.財務計劃與預算控制 7.短期營運資金管理 8.投資與長期營運資金 9.投資計劃評估與可行性研究	10.投資組合理論分析 11.財務結構、資金成本與股利政策 12.財務管理綜論
6.數量方法	1.應用統計 2.作業研究	3.系統分析 4.實驗設計	5.企業模擬 6.數量方法綜論
7.研究發展管理	1.科技管理 2.實驗室管理 3.工程部門管理	4.研究發展專案之評估與預算	5.新產品研究之計劃與控制 6.研究發展管理綜論
8.資訊管理與電腦	1.電腦概念與程式語言 2.事務資訊系統 3.資料處理系統	4.電腦輔助工程、設計與生產(CAE、CAD及CAM) 5.管理資訊系統(MIS)	6.資訊管理綜論
9.國際企業管理	1.國際金融 2.國際行銷管理	3.多國企業 4.國際財務管理	5.國際貿易實務 6.國際企業管理綜論
10.企業與環境	1.租稅理論與實務 2.商事法(關稅、營業稅、貨物稅等) 3.企業與政府	4.企業與社會 5.社會文化與管理哲學 6.總體經濟環境 7.契約締結與呆帳預防研究	8.公害防治 9.環境偵測與管理 10.企業與環境綜論
11.其他管理知識	1.中小企業管理 2.保險實務 3.專案管理	4.商務談判 5.中、美、日經營方式比較分析	6.企業診斷 7.其他

註：本表所指管理知識兼含理論及實務，亦即涵蓋學自書本及先進或自己在實務中所領悟的方法、程序和模型等理論，以及從事實務所需之相關資訊。

表三　管理者活動記錄表填表說明

一、填表時機：請您在填完問卷後起一週內（放假日除外），每天開始工作（上班或更早）之後，每小時觀察自己當時的活動，然後在該活動結束後，馬上填寫一張「管理者活動記錄表」，記下有關的活動細節。如果在下班後，您仍然從事和您的管理工作有關的活動，仍請您繼續填表記錄之。又假如某項管理者活動延續了一小時以上，則您在活動後記錄時，會減少使用記錄表一張以上。
二、「一項管理者活動」的認定：一項管理者活動指活動方式及地點沒有改變，且主要的參與者亦未改變的條件下，管理者在一段時間內所從事的活動。其時間長度可能從不足一分鐘到超過一小時。例如：和其他主管聊一下，給部屬一張剪報，到現場繞一圈，討論一個策略，參加一個檢討會，讀一封信，看一下書，參加一個喜宴等都是一項管理者活動，應該分別記在一張記錄表上。但是也有例外：和秘書溝通並不另外列爲一項活動，也不算是對一項活動的中斷，因爲秘書可視爲管理者能力的延伸。
三、各欄說明： ①：請記下日期（尤其是每天的第一張記錄表）及時間。 ②：1.預定的會談：定期的或早就排好時間的會議、集會，或對談。例如：定期檢討會、喜宴、工商約會，及正式訪談等。 2.非預定的會談：倉促地安排時間或偶然碰面而開始的會議或對談。例如：定期會議前後管理者之間藉機談談，部屬因事突然來請示、外部關係人突然來訪，及巡視中遇見而談等。 3.巡視：指在單位內走動，以便觀察部屬工作或和部屬們寒喧問好。 4.電話：指使用電話通訊。撥出或接聽一個電話都是一項活動。 5.單獨：指沒有別人在旁邊時的活動。例如：讀一封信、一份報紙、一本雜誌（含隨後的做筆記、剪報、寫便條），各是一項活動。此外，寫一封信，寫一段報告，獨自思考等也都是一項活動。 ③：參與者：指在會議或集會現場的人員（若人數甚多，請估計之），或和您對談或書信往來的對方。在巡視的情形下，則請填您想觀察或寒喧的對象 ④：（略） ⑤：在本欄，請您從行動者的觀點，勾選一種管理者活動，以代表記錄表上的一項活動。在較長且複雜的一項活動中，您可能從事了數種管理者活動，此時請你務必衡量那一種是最主要的。圖二（第4頁）及表一（第2-3頁）可以提供這種判斷的參考。 ⑥：請勾選出在一項活動中您用到的重要管理知識（請參考表二）。 ⑦：在本欄，請您從「貴單位的需要」的觀點，勾選一項組織運作要素（請參考圖一），以代表一項活動的目的。在有些活動中，您的活動可能對數項組織運作要素有所貢獻，此時請您務必衡量那一項才是最主要的。 ⑧：首先，請您將已勾選出的 ⑤ 管理者活動、 ⑥ 用到的知識、和 ⑦ 活動目的等三者兩兩之間（三組可能關係）有關聯者以連線連起。然後請再以箭頭表示其先後、貢獻，或指導關係（箭頭指向順序在後者、受貢獻者，或被指導者）。 ⑨：請針對已勾選出的 ⑤ 管理者活動和 ⑦ 活動目的判斷活動所涉事情的重要性。 ⑩：所謂中斷，指一項活動進行中穿插其他更短的活動而中斷的情形。例如：開會中另外有人過來談了一下，會談中接聽一個電話，講電話中部屬來請示一下。

表四、管理者活動記錄表舉例

例一：生產部第一課的陳課長是一位上進心強的課長。最近他覺得有必要更深入瞭解某些管理技術，因此，他利用晚上有空的時間，在家裡閱讀相關書籍以充實知識。對這項活動，他的記錄如下表所示。他説這段閱讀（以「⑤－4 蒐集資訊」代表）（順序在後）是爲了「⑦－14 ，加強知識……」（受貢獻者），所吸收的是有關「⑥－3 生產與作業管理」的知識(受貢獻者）。因此箭頭指向⑤－4，⑦－14，及⑥－3。

管理者活動記錄表

①在 1 月 22 日 20 點 30 分至 21 點 35 分，我從事此活動，細節如下：

②活動方式：1.預定的會談 ☐　2.非預定的會談 ☐　3.巡視 ☐　4.電話 ☐　5.單獨（讀、寫、思考）☑

③參與者：（請填人數）

單位內	單位外		
1.助理 ☐	4.上司 ☐	7.公司幕僚 ☐	11.供應商 ☐
2.直接部屬 ☐	5.上司的上司 ☐	8.其他主管 ☐	12.顧　客 ☐
3.部屬的部屬 ☐	6.上下游單位 ☐	9.其他員工 ☐	13.其　他 ☐

④地點：1.自己辦公室 ☐ 2.單位內 ☐ 3.公司內 ☐ 4.其他組織 ☐ 5.旅途 ☐ 6.其他 ☑

⑤管理者活動：（最主要的一種）	⑥用到的知識：（可 複 選）	⑦活動目的：爲了...（最主要的一項）
〈人際的〉	1.組織理論與管理 ☐	1. 半年以上的正式計畫 ☐
1. 代表單位 ☐	2.人力資源管理與工業關係 ☐	2. 下一步的行動計畫 ☐
2. 領導 ☐	3.生產與作業管理 ☑	3. 組織結構：分工與整合 ☐
3. 聯外交往 ☐	4.行銷管理 ☐	4. 工作流程與制度 ☐
〈資訊的〉	5.財務管理與會計 ☐	5. 機器設備與支援 ☐
4. 蒐集資訊 ☑	6.數量方法 ☐	6. 促使部屬注意工作要點 ☐
5. 對內給資訊 ☐	7.研究發展管理 ☐	7. 適任的部屬及搭配 ☐
6. 對外給資訊 ☐	8.資訊管理與電腦 ☐	8. 工作士氣及氣氛 ☐
〈決策的〉	9.國際企業管理 ☐	9. 工作紀律及倫理 ☐
7. 開創與改善 ☐	10.企業與環境 ☐	10. 本單位存在目的之共識 ☐
8. 排除障礙 ☐	11.其他管理知識 ☐	11. 投入、產出順利出入 ☐
9. 調度資源 ☐	12.其他： ☐	12. 利於本單位的大環境 ☐
10. 談判 ☐		13. 分擔作業性工作 ☐
〈其他〉		14. 加強知識或人際關係 ☑
11. 作業活動 ☐		15. 其他： ☐
12. 其他 ☐		

⑧上欄三者之關係如連線所示。(請在勾選出的管理者活動、用到的知識和活動目的等三者之間，以連線及箭頭表示其先後、貢獻、或指導關係；無關係者不要連線。)

⑨此活動所處理之事， 1.非常重要 ☐ 2.普通重要 ☑ 3.微不足道 ☐

⑩此活動曾被中斷 1 次，共約 10 分鐘。

例二：行銷部林經理固定在每週六和部屬們有一個檢討會。這一次的溝通進行地很順利，業務代表所報告的資訊中大部份他早就知道了，因此，在會中他除了打氣外，特別提醒業務代表們幾項值得加強注意的工作重點。他的記錄如下表所示。他對連線和箭頭的解釋是：這個檢討會（以「⑤－2 領導」代表）對「⑦－6 促使部屬注意工作重點」有貢獻，同時活動受「⑥－1 組織理論與管理」和「⑥－4 行銷管理」的指導。

管理者活動記錄表

①在 1 月 21 日 11 點 0 分至 11 點 40 分，我從事此活動，細節如下：

②活動方式：1.預定的會談 ☑ 2.非預定的會談 ☐ 3.巡視 ☐ 4.電話 ☐ 5.單獨（讀、寫、思考）☐

③參與者：（請填人數）

單位內		單位外	
1.助理 1	4.上司 ☐	7.公司幕僚 ☐	11.供應商 ☐
2.直接部屬 12	5.上司的上司 ☐	8.其他主管 ☐	12.顧客 ☐
3.部屬的部屬 ☐	6.上下游單位 ☐	9.其他員工 ☐	13.其他 ☐

④地點：1.自己辦公室 ☐ 2.單位內 ☑ 3.公司內 ☐ 4.其他組織 ☐ 5.旅途 ☐ 6.其他 ☐

⑤管理者活動：（最主要的一種）	⑥用到的知識：（可複選）	⑦活動目的：為了...（最主要的一項）
〈人際的〉	1.組織理論與管理 ☑	1. 半年以上的正式計畫 ☐
1. 代表單位 ☐	2.人力資源管理與工業關係 ☐	2. 下一步的行動計畫 ☐
2. 領導 ☑	3.生產與作業管理 ☐	3. 組織結構：分工與整合 ☐
3. 聯外交往 ☐	4.行銷管理 ☑	4. 工作流程與制度 ☐
〈資訊的〉	5.財務管理與會計 ☐	5. 機器設備與支援 ☐
4. 蒐集資訊 ☐	6.數量方法 ☐	6. 促使部屬注意工作要點 ☑
5. 對內給資訊 ☐	7.研究發展管理 ☐	7. 適任的部屬及搭配 ☐
6. 對外給資訊 ☐	8.資訊管理與電腦 ☐	8. 工作士氣及氣氛 ☐
〈決策的〉	9.國際企業管理 ☐	9. 工作紀律及倫理 ☐
7. 開創與改善 ☐	10.企業與環境 ☐	10. 本單位存在目的之共識 ☐
8. 排除障礙 ☐	11.其他管理知識 ☐	11. 投入、產出順利出入 ☐
9. 調度資源 ☐	12.其他： ☐	12. 利於本單位的大環境 ☐
10. 談判 ☐		13. 分擔作業性工作 ☐
〈其他〉		14. 加強知識或人際關係 ☐
11. 作業活動 ☐		15. 其他： ☐
12. 其他 ☐		

⑧上欄三者之關係如連線所示。（請在勾選出的管理者活動、用到的知識和活動目的等三者之間，以連線及箭頭表示其先後、貢獻、或指導關係；無關係者不要連線。）

⑨此活動所處理之事，1.非常重要 ☐ 2.普通重要 ☑ 3.微不足道 ☐

⑩此活動曾被中斷 0 次，共約 0 分鐘。

Appendix C
TABLE OF WORK TIME
1. The English version

Table of work time during the period of using the *Manager's Action Record*

	Day/Month	*Time start working*	*Time stop working*	*Hours worked*[3]
First day	/	:[1]	:	.
Second day	/	:	:	.
Third day	/	:	:	.
Fourth day	/	:	:	.
Fifth day	/	:	:	.
Sixth day	/	:	:	.
Seventh day	/	:	:	.
Eighth day	/	:	:[2]	.

Note: Please leave the rows for holidays unfilled.

[1] & [2] Please fill in the time that you finished reading *The Brochure of Instructions.*

[3] Please exclude the time spent in non-managerial work.

Your comments to this study:
(If the space is not enough, please turn over.)

Would you please print your name and telephone number if you do not mind the researcher asking you to explain your data?

Name: **Tel:**

Would you please provide an organization chart showing the position of your unit, if available?

Appendix C
TABLE OF WORK TIME
2. The form used (in Chinese)

填寫「管理者活動記錄表」期間作息表

	第一天	第二天	第三天	第四天	第五天	第六天	第七天	第八天
月／日	／	／	／	／	／	／	／	／
開始工作時間	: (註1)	:	:	:	:	:	:	:
停止工作時間	:	:	:	:	:	:	:	: (註2)
工作時數 (註3)	.	.	.	.	.	.	.	.

註 1及 2：請填您閱讀完「問卷填寫說明書」的時間。
註 3：請扣除作息中明顯的不是管理工作的時間
註 4：放假日請留空白。

對本研究之指教： （空白處不足時請利用背面）

如果您不介意研究者針對您提供的資料向您請教或請您澄清，
可否請您留下姓名及連絡電話。
姓名：　　　　　　　電話：
如果有組織圖說明貴單位的組織地位，可否請您提供一份。

Appendix D
MANAGER'S ACTION RECORD

(First named as Manager's Activity Record)

1. The English version

Manager's Action Record

1 During ___/___(D/M), ___:___---___:___(hr:min), I conducted this activity.

2 MEANS OF ACTIVITY: 1. Scheduled meeting ☐, 2. Unscheduled meeting ☐, 3. Tour ☐
4. Telephone ☐, 5. Alone (reading, writing, thinking) ☐

3 PARTICIPANT: (Pls fill in No. of persons)
Of my unit: 1. Assistant ☐, 2. Direct subordinate ☐, 3. Indirect subordinate ☐
Outside my unit: 4. Superior ☐, 5. Higher superior ☐, 6. Lateral unit ☐,
7. Company staff ☐, 8. Other manager ☐, 9. Other mgr's subordinate ☐,
10. Supplier ☐, 11. Customer ☐, 12. Other ☐

4 PLACE: 1. Own office ☐, 2. In-unit ☐, 3. In-company ☐, 4. Other institution ☐
5. Travelling ☐, 6. Other ☐

5 MANAGER'S ACTIVITY: (the major one)

<Interpersonal>
1. Representing unit ☐
2. Leading ☐
3. Liaising ☐

<Informational>
4. Collecting info ☐
5. Giving info downwards ☐
6. Giving info outwards ☐

<Decisional>
7. Innovating & improving ☐
8. Disturbance handling ☐
9. Resources allocating ☐
10. Negotiating ☐

<Other>
11. Operating ☐
12. Other: ☐

6 KNOWLEDGE TOUCHED: (multi-choice)
1. Orgn & mgt theory ☐
2. Human resources mgt & industrial relations ☐
3. Production/Operation mgt ☐
4. Marketing ☐
5. Financing & accounting ☐
6. Mathematical methods ☐
7. R & D mgt ☐
8. Info mgt & computer ☐
9. Int'l business mgt ☐
10. Business & Environment ☐
11. Other mgt knowledge ☐
12. Other: ☐

7 OBJECTIVE OF ACTIVITY: for... (the major one)
1. Formal plan (6m or longer) ☐
2. Action plan for next step ☐
3. Orgn structure: division of labour & integration ☐
4. Work flow & regulation ☐
5. Equipment & support ☐
6. Attention of subordinate ☐
7. Competent subordinates & their assortment ☐
8. Motivation & work climate ☐
9. Discipline & work ethics ☐
10. Shared objective of unit ☐
11. Smooth flow of in/output ☐
12. Pro-unit environment ☐
13. Sharing of operation ☐
14. Enhancing own knowledge or interpersonal relationship ☐
15. Other: ☐

8 THE RELATIONS AMONG THE ABOVE THREE COLUMNS ARE SHOWN AS ASSOCIATIONS. (Pls use line and arrow to show the relations of priority, contribution, or direction among the ticked items in each column. No association among irrelevant items.)

9 THE ISSUE DEALT WITH IN THIS ACTIVITY is:
1. Very important ☐, 2. Important ☐, 3. Not important ☐.

10 THIS ACTIVITY HAS BEEN INTERRUPTED for ____ times, totaled for ____ minutes.

Appendix D
MANAGER'S ACTION RECORD
(First named as Manager's Activity Record)

2. The form used (in Chinese)

管 理 者 活 動 記 錄 表

①在___月___日___點___分至___點___分，我從事此活動，細節如下：

②活動方式：1.預定的會談 ☐ 2.非預定的會談 ☐ 3.巡視 ☐ 4.電話 ☐ 5.單獨（讀、寫、思考）☐

③參與者：（請填人數）

單位內：1.助理 ☐ 2.直接部屬 ☐ 3.部屬的部屬 ☐

單位外：4.上司 ☐ 5.上司的上司 ☐ 6.上下游單位 ☐ 7.公司幕僚 ☐ 8.其他主管 ☐ 9.其他員工 ☐ 11.供應商 ☐ 12.顧 客 ☐ 13.其 他 ☐

④地點：1.自己辦公室 ☐ 2.單位內 ☐ 3.公司內 ☐ 4.其他組織 ☐ 5.旅途 ☐ 6.其他 ☐

⑤管理者活動：
（最主要的一種）
〈人際的〉
1. 代表單位 ☐
2. 領導 ☐
3. 聯外交往 ☐
〈資訊的〉
4. 蒐集資訊 ☐
5. 對內給資訊 ☐
6. 對外給資訊 ☐
〈決策的〉
7. 開創與改善 ☐
8. 排除障礙 ☐
9. 調度資源 ☐
10. 談判 ☐
〈其他〉
11. 作業活動 ☐
12. 其他 ☐

⑥用到的知識：
（可 複 選）
1.組織理論與管理 ☐
2.人力資源管理與工業關係 ☐
3.生產與作業管理 ☐
4.行銷管理 ☐
5.財務管理與會計 ☐
6.數量方法 ☐
7.研究發展管理 ☐
8.資訊管理與電腦 ☐
9.國際企業管理 ☐
10.企業與環境 ☐
11.其他管理知識 ☐
12.其他： ☐

⑦活動目的：為了...
（最主要的一項）
1. 半年以上的正式計畫 ☐
2. 下一步的行動計畫 ☐
3. 組織結構：分工與整合 ☐
4. 工作流程與制度 ☐
5. 機器設備與支援 ☐
6. 促使部屬注意工作要點 ☐
7. 適任的部屬及搭配 ☐
8. 工作士氣及氣氛 ☐
9. 工作紀律及倫理 ☐
10. 本單位存在目的之共識 ☐
11. 投入、產出順利出入 ☐
12. 利於本單位的大環境 ☐
13. 分擔作業性工作 ☐
14. 加強知識或人際關係 ☐
15. 其他： ☐

⑧上欄三者之關係如連線所示。(請在勾選出的管理者活動、用到的知識和活動目的等三者之間，以連線及箭頭表示其先後、貢獻、或指導關係；無關係者不要連線。)

⑨此活動所處理之事，1.非常重要 ☐ 2.普通重要 ☐ 3.微不足道 ☐

⑩此活動曾被中斷______次，共約______分鐘。

Appendix E

THE FLOW-CHART FOR IDENTIFYING THE MANAGER'S ACTIVITIES

1. The English version

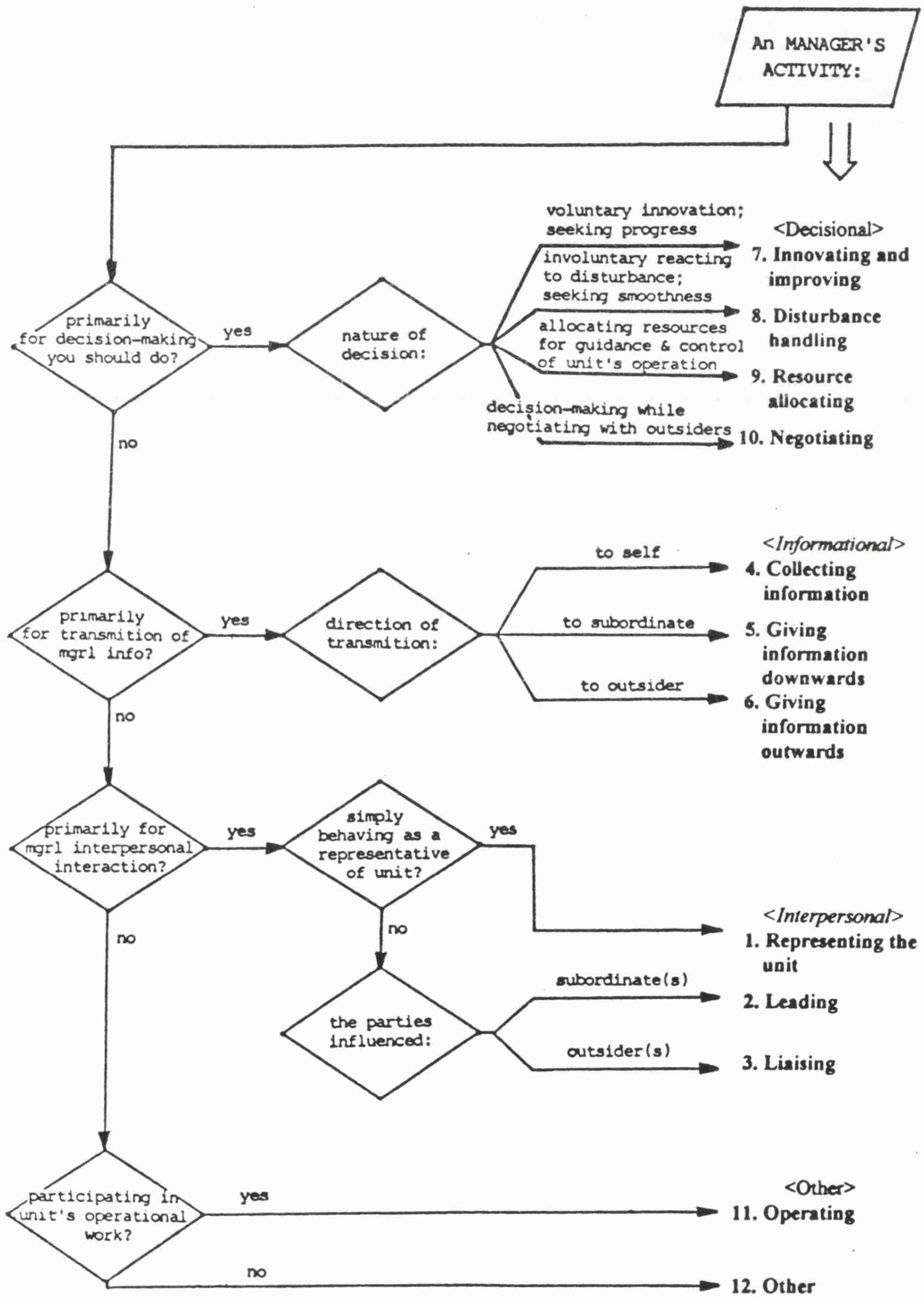


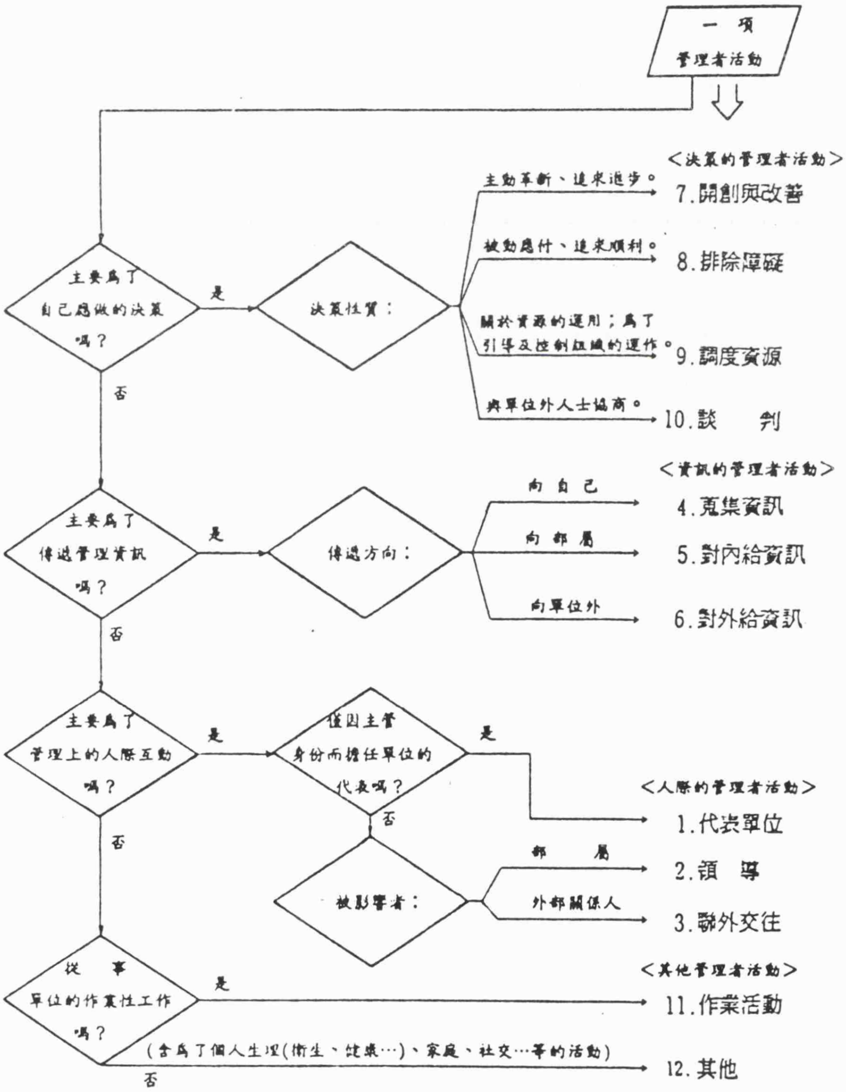
Fig. 2 The flow-chart for identifying the manager's activities

Appendix E

THE FLOW-CHART FOR IDENTIFYING THE MANAGER'S ACTIVITIES

2. The form used (in Chinese)

圖二　管理者活動種類判別流程圖



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