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Thought and action

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Chapter 3 Theoretical Background³

3.1. Introduction

It should be remembered that the main question of this thesis in *phase two* was: ‘What problems does a pharmacy manager experience if he/she ‘travels’ to the customer mix?’ We have a long way ahead of us before this organizational change can actually be described. Before we ‘dive’ into the pharmaceutical field, the main question will be further explored in the literature. It was mentioned earlier that the literature would be selected from the fields of management science and pharmacy practice research. We have also argued that, since a process of change was being studied, it might be helpful to define a point of departure and a possible destination. We need to know where we are now if we intend to ‘travel’ with an organization to a new position. In terms of point of departure and destination, specific managerial issues have been unravelled in the field of management science, and the expected managerial problems in the field work were described as well. It was presupposed that the process in which the manager transforms strategy into real-world action in order to change the organization was a matter of importance. Within this context, the issue of intention and realization, and the issue of aim formulation and evaluation were described. Let us introduce some questions which might be helpful for the content of the part of this chapter concerned with the managerial actor: ‘How can we study our point of departure and our ‘travel’ to the customer mix?’, and ‘What managerial problems can we expect in this process of change?’. Pharmacy practice research was used in order to describe the nature of the activities of the pharmacy manager. Again, the transformation process from strategy to real-world action was used here. However, this issue was placed within the specific context of community pharmacy practice. We expected previously that activities would relate to pharmaceutical issues, financial issues, and customer issues. In this thesis these issues were labelled as the product mix, the process mix and the customer mix, respectively. In this chapter, a more precise description of the nature and context of these mixes of activities will be given. It will be also argued that there is a general tendency to change in the direction of the customer mix. The context of this tendency will be described in further detail also. Regarding the content of the pharmaceutical part of this chapter some other questions might be helpful: ‘What is a pharmacy mix in this thesis?’, ‘What pharmacy mixes can be distinguished?’, and ‘Why is there a tendency to change to the customer mix in the community pharmacy sector?’. In this chapter we will try to answer these questions. The descriptions, both from management science and pharmacy practice research, should enable us to find some analytical tools which will facilitate our quest in the pharmaceutical field.

³ Parts of this chapter were published in: Mobach MP, Werf JJ van der, Tromp TFJ. APOM-project: a first study of pharmacy organization and management. *Pharm World Sci* 1998; 20(5): 219-224.

3.2. Organizational background

Some issues of management science were introduced in order to decide what we were going to study and how we were going to study. The presupposition was that strategy is transformed into real-world action in order to change the organization. This starting point was elaborated in practice in two phases: *phase one* related to the point of departure, and *phase two* related to the managerial problems of organizational change. In the first phase, the description of the point of departure, the issues relate to the present actions of Dutch community pharmacy managers. Within this context, some general problems were described with respect to intention and realization, later labelled as *thought* and *action* in this thesis. In the second phase, the managerial problems of organizational change, the issues relate to the actions of the individual pharmacy manager. Within this context, some problems with the formulation of a proper aim and evaluation in organizations were expected. Here we concentrated on the use of Soft Systems Methodology (SSM) and some related theories. We did expect that SSM would enable us to collect data and interpret the results of our fieldwork later.

3.2.1. Intention and realization

Within this first phase, we wanted to ‘catch’ some of the current actions of the Dutch community pharmacy manager. However, some problems could be expected. We refer to the work of Argyris and Mintzberg. Both authors warned us that we could expect differences in the way in which reality is experienced and the way in which this reality is created by day-to-day action. In this context, Argyris (1992) refers to the ‘espoused theory’ and the ‘theory in use’. Such theories, which Argyris sometimes refers to as theories of action, are regarded as the design of and selection from the repertory of actions available in a unique situation. Earlier, Argyris and Schön showed that a manager does not always act in correspondence with his espoused theory, defined as “... the theory of action to which he gives allegiance and which, upon request, he communicates to others” (1978: 11). The actual behaviour relates to another theory: the theory in use. They argued that “the theory-in-use may or may not be compatible with his espoused theory; furthermore, the individual may or may not be aware of the incompatibility of the two theories” (1978: 11).

Mintzberg's distinction between ‘intended strategy’ and ‘realized strategy’ (**figure 3.1.**) may also be mentioned in this context (1978, 1994). In connection with this issue of perceptions and actualities, he illustrated the difference between intention and realization. He argued that “some strategies get realized, some strategies do not get realized at all, perhaps because of unrealistic expectations or misjudgments about the environment, and some strategies were never intended but get realized” (1978: 936). Earlier, we introduced a distinction of Mintzberg (1994: 24-25) in which he labelled deliberate strategy as the strategy where intentions were fully realized, and emergent

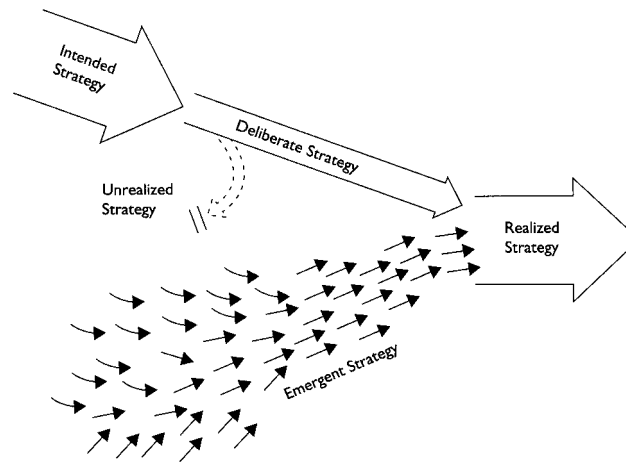


Figure 3.1. Forms of strategy (Mintzberg 1994: 24).

strategy as a strategy where a realized plan was not expressed as intended. Unrealized strategy was intended, but evidently not realized at all. Other work of Mintzberg (1979) suggested that emerging strategies could be expected in rather small organizations (such as in Dutch community pharmacies). He argued that many small organizations have an entrepreneurial mode of strategy-making. This means that this strategy-making process tends to be highly intuitive and non-analytical. “It is not, therefore, surprising that the resulting strategy, seldom made explicit, reflects the chief executive’s implicit vision of the position of the organization in its environment. In fact, that strategy is more often than not a direct extrapolation of his personal beliefs, an extension of his own personality” (1979: 307). Mintzberg added that “big strategies can grow from little ideas (initiatives), and in strange places, not to mention at unexpected times, almost anyone in the organization can prove to be a strategist” (1994: 26). He also stated that “No consistency means no strategy, or at least unrealized strategy” (Quinn *et al.* 1988: 15), by which he mainly refers to consistency of behaviour in relation to patterns of activities, intentional or otherwise. However, he does not mention anything about the effectiveness of the realized strategy in this context. This shows that the concept of consistency is often still implicit and ambiguous.

In addition it might be helpful for our work here, to illustrate the dynamic context of the planning process. The manager does learn ‘along the way’ from intentions to realization. Sometimes, this learning involves the adaptation of earlier intentions, even if this means that some intentions were not realized at all. In this context we refer to the learning cycle of Soft Systems Methodology (SSM): “each time round the cycle the world experienced is a somewhat different place ...” (Checkland and Scholes,

1990: 3). We hope to have learned something from our past experience. In principle, this learning process is never-ending. So, in terms of SSM we would argue that it is not only wise to adapt your intentions, but it appears to be inevitable. We have to keep in mind that learning could mean performing activities, but as well could mean adding, changing or even striking intended activities. Additionally, with respect to time, we should note that not all intentions might have been realized. Intention is ahead of realization, as it were. The organization might be on its way to realizing what was intended. This more 'modern' way of thinking about intention and realization has been confirmed by others as well. Among them were Johnson and Scholes (1988: 115) in saying that the objectives of organization should not be regarded as an unchangeable set of expectations. The objectives should be viewed as open to amendment and will change as strategies develop. In addition, Mintzberg (1994: 130-131) opposed to the ideas of formal strategic planning: "our argument is rooted in the essential [but false] characteristic of all planning systems: formalization through decomposition. To formalize requires analysis, specifically the reduction of a process to a procedure, a series of steps, each concerning a well-defined category. Moreover the result of the process must itself be decomposed in the form of plans. ... Any joint effects that different proposals may have, any synergies that may naturally exist or might be encouraged among them, have to be ignored for the convenience of formal analysis (unless, as noted by Hayes *et al.* (1988) ..., all proposals are to be combined into one large one)." With these words Mintzberg explained that formal strategic planning discourages creative strategic thinking, and he said good bye to "the long tradition in the planning literature, that likes to decompose and determine the importance of things a priori, and the fact that every failure of implementation is, by definition, also a failure of formulation" (1994: 26).

What was postulated here is that differences between intention and realization are well-known within management science, and that many strategies will emerge 'along the way'. We may find our study to be more complicated if *inconsistency* between intention and realization is deemed to exist. Essentially, Mintzberg indicated that there are differences between managers' intentions and actions that are realized. We would expect obviously some time to pass from intention to realization. Between intention and realization may be some emergent strategies which we would like to 'catch'. The aspect of time appears to play a crucial role in the differences identified by Mintzberg. Checkland added that it will be inevitable that managers adapt their intentions; it is a continuous process which is in principle never-ending. From a research point of view this may mean that we should design our study in such a way that changes in time could be visualized. In the design which was presented in **chapter 2**, time was a major constituent. Furthermore, along with Argyris we could expect a manager not always to act in correspondence with what he/she communicates. So, some 'tricks' had to be found in order to check this correspondence or consistency of the pharmacy

manager. Earlier, we mentioned that we were in need of a point of departure if we wanted to sketch a process of change. In this thesis, our point of departure is to flesh-out the nature of activities in the Dutch community pharmacy practice. We were interested in providing a broad sketch of the field. Three issues influenced this decision. First, because we could make solid comparisons between theory and practice; second, because of the usability of the material in the debate in the field; third, because of the learning experience involved in performing such a survey. It was decided that in order to make a broad sketch of the pharmaceutical field, a survey would be constructed and performed in *phase one*. Therefore, a pilot study was made and some questionnaires were tested, since no validated methods were available with respect to this specific matter.

3.2.2. A preference for SSM

Having decided upon some relevant issues for *phase one*, the point of departure, we ought to say something about issues relevant for *phase two*, the process of change. We expect organizational change to be hard to ‘catch’ in a model. It should be remembered that a substantial part of the work of the pharmacy manager would involve emerging strategies and activities and could therefore be hard to ‘catch’. Furthermore, we had been warned that the strategy of the pharmacy manager would be implicit. In this case we might well have to deal with personal beliefs and/or the personality of the manager; complexity and subjectivity were at stake here. SSM is a methodology which could enable us to unravel ‘knots’ related to subjectivity and complexity. Within SSM, subjectivity was defined as the crucial characteristic of human affairs. Again, we stress that we were interested in the individual pharmacy manager and his/her managerial problems. And here we are: modelling improvements in the eyes of those who take the action. Subjectivity was a core issue in this part of the study. Moreover, SSM was most frequently applied to complex organizational problems; ‘messy’ problems. We argue that most organizational processes of change are complex, and therefore SSM could be suitable for our purpose. Let us take a closer look at SSM in relation to this study.

Within classical data collection, methods for observation and intervention are usually strictly separated. In SSM, methods for observation and intervention are intertwined. The basic shape of SSM is a cyclic learning system for researcher and respondent (**figure 3.2.**). In this learning cycle the actors define and debate the relation between reality and systems models. The outcome of the debate is used to take purposeful action and, in addition, is used as an input for the next learning cycle. In principle, the cycle is never ending. The debate, an intervention in the reality of respondents, is crucial in the use of SSM. Within SSM, subjectivity is defined as the crucial characteristic of human affairs, and should be taken seriously (Checkland and Scholes 1990). Furthermore, it is argued that problem situations for managers often consist

of no more than a feeling of unease, a feeling that something should be looked at, both from the point of view of whether it is the thing to do and in terms of how to do it. SSM is most frequently applied to complex organizational problems; ‘messy’ or ‘fuzzy’ problems. The main reason for selecting SSM as a methodology for collecting and analyzing data is the expected fuzziness of the problems in the organizational change to the customer mix. Earlier, we described how managers of

small organizations seldom make their strategy explicit. It is assumed that implicit activities are hard to ‘catch’ in a model, and become even more complicated when it is a matter of intention. In this situation we would model implicit intended activities. These activities would have to be extracted from the manager’s mind. It is to be expected that the pharmacy manager, not being used to making the intended activities explicit, would probably present a rather ‘fuzzy’ set of activities. One is reminded that SSM is a methodology which focuses on ‘fuzzy’ problems and which would enable us to make activities explicit. Consequently, SSM was applied in *phase two*. In addition, subjectivity of the problems-owners is one of the core issues in this methodology. In this thesis, intended activities or ideas of pharmacy managers were studied in relation with the organizational change to the customer mix. Furthermore, the methodology declines to accept the idea of ‘the problem’. It works with the notion of a situation in which various actors may perceive various aspects to be problematical. It tries to provide help in getting from a position of finding out about the situation to a position of taking action in the situation. Its emphasis is thus not on any external ‘reality’ but on people’s perceptions of reality, on their mental processes rather than on the objects of those processes. In this context, we were interested in the perceived problems of a pharmacy manager if he/she ‘travels’ to the customer mix.

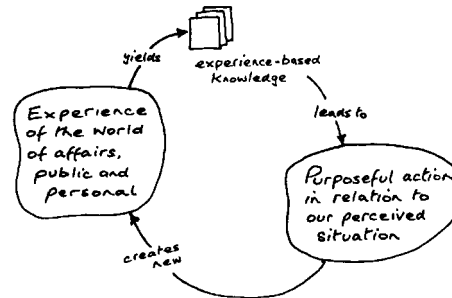


Figure 3.2. The experience-action cycle (Checkland and Scholes 1990: 3).

Finally, the use of SSM was tested in a pilot study.⁴ In using SSM, the pilot study showed some good results with respect to richness and structure of data. Consequently, the expected fuzziness and subjectivity of the problematic situations, the problem of dealing with intentions, and the good results of the pilot study resulted in a preference for SSM. Having decided to use SSM, we will now describe some of the significant ideas of the methodology.

3.2.3. Some main issues in SSM

Checkland and Haynes (1994) describe four significant ideas, which together shape SSM. One crucial step in the development of SSM was “the realization that models of human activity systems could be used to work out what information support was appropriate to purposeful activity” (Checkland and Haynes 1994: 193). This step will not be pursued here since we were not primarily interested in information support. Consequently, the ideas with respect to this thesis could be roughly represented with ‘purposeful action’, ‘Weltanschauung’, and ‘learning system’.

The first idea was the recognition that “all problematical human situations can be thought of as situations in which people are trying to define and take purposeful action” (Checkland and Haynes 1994: 192). In the work of Checkland and Scholes (1990) the opinion was given that “human beings cannot help attributing meaning to their experienced world; and they can then decide to do some things and not do others. They can take purposeful action in response to their experience of the world” (1990: 2). They described purposeful action as “deliberate, decided, willed action, whether by an individual or by a group” (1990: 2). Later, Checkland and Haynes (1994: 192) argued that “the idea of purposeful activity was therefore taken seriously as a systems concept [compare Ackoff and Emery 1972], and ways of building models of so-called human activity systems based on the idea of a transformation process. Such models consist of structured sets of activities linked logically together to make them capable of achieving a purpose, together with a monitoring and control

⁴ Some tests were made in a small pilot study with three pharmacy managers. Systems theory of control (De Leeuw and Volberda 1995), topic interviews (Hutjes and Van Buuren 1992) and SSM (Checkland and Scholes 1990) were used as data-collection methods. All three methods were compared. An application of the systems theory of control led to problems of understanding. The method is empirically empty and did not stimulate respondents to talk about intended activities. Goals of managers were implicit rather than explicit. Managers could not respond to these questions adequately. An application of a topic interview provided an embarrassment of richness in the data. The method is empirically oriented but did not stimulate respondents to talk about intended activities in a structured way. Structure was not present at all. It would have been hardly possible to compare these results over a substantial period of time. Application of SSM resulted in a richness of data and structure of the results. Although the method is also empirically empty it did stimulate respondents to talk about intended activities, and, in addition, in a structured way. The structure was provided because researcher and respondent were forced to follow the lines of SSM.

system, which ensures that adaptation is possible. Such abstract objects, which are holons (Koestler 1967), embody the ideas that constitute the concept 'system' - emergent properties; layered or hierarchical structure; processes of communication and control (Checkland 1981)." The term 'emergent properties' was later described as "the properties of a complex whole which refer to the whole and are meaningless in terms of the parts which make up the whole" (Checkland and Scholes 1990: 18-19). "For example, the vehicular potential of a bicycle is an emergent property of the combined parts of a bicycle when they are assembled in a particular way to make the structured whole" (1990: 19).

The second significant idea was that "a coherent model of this type could be built only if the worldview with respect to the transformation process embodied in the model were unequivocally stated. This stems from the fact that human observers are always capable of making many different interpretations of purposeful activity" (Checkland and Haynes 1994: 193). After an explicit process of finding out about a problematical situation, a number of models of purposeful activity systems, based on different worldviews, would be built. The 'Weltanschauung' is one of the core issues of the CATWOE; it is the worldview which makes the formulated transformation process T meaningful. Checkland and Scholes (1990) and Checkland and Holwell (1998) argued that in building models of 'human activity systems' it was necessary to declare the set of values, the outlook, the 'Weltanschauung' which makes a particular model meaningful, since the purposeful action which one observer perceives as 'freedom fighting' will be perceived as 'terrorism' by another observer with a different taken-as-given image of the world.

The third crucial idea in the development of SSM is that "SSM is itself a learning system, a process for acquiring knowledge about and taking action in a human situation thought of as problematical" (Checkland and Haynes 1994: 193). Checkland and Scholes (1990: 3) describe learning as "a cycle whose content will continually change: each time round the cycle the world experienced is a somewhat different place, and hence the cycle embodies fundamentally the possibility of learning [compare **figure 3.2.**]. If this happens then the purposeful action can be aimed at intended improvements, improvements, that is, in the eyes of those who take the action." They place knowledge acquisition in a cycle, since purposeful action derived from experience-based knowledge will itself result in new experience. Earlier, Checkland (1983) provided us with the notion that 'a solution', whether it optimizes or 'satisfices', is inappropriate in a methodology which orchestrates a process of learning which, as a process, is never-ending. So far, we have decided to work with SSM and have explained some of the basics of this methodology. However, it has not yet been explained how SSM was used in this study. We will now illustrate this 'how' question.

3.2.4. The process of SSM

Checkland (1975) defined a seven-stage model (figure 3.3.) separating the real world from systems thinking about the real world. In the real world, involvement of people in the problem situation is required. In systems thinking, involvement of people in the problem situation depends on the circumstances of the study (Checkland 1981). The seven stages of SSM can be used sequentially; the starting point is the 'Problem situation considered problematic' and the

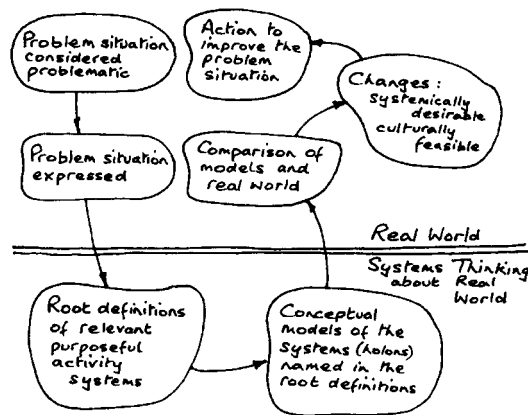


Figure 3.3. The conventional seven-stage model of SSM (Checkland and Scholes, 1990: 27).

end point is the 'Action to improve the problem situation'; both in the real world. The systems thinking of SSM helps us to tackle problematic situations in the real world. Some years later, Checkland and Scholes (1990: 27-28, 280-284) argued that the stages did not necessarily have to be worked at in a sequential order.

In addition, Checkland and Scholes enriched the 'seven-stage' model by a division between the 'stream of cultural analysis' and the 'logic-based stream of analysis' (figure 3.4.). They argued that the 'seven-stage' model seems rather bald, and in any case gives the impression too much that SSM is a 'seven-stage' process to be followed in sequence. The stream of cultural enquiry consists of three examinations of the problem situation (compare stage 1 and 2 of 'seven-stage' model). Firstly, the intervention itself is examined, since this will inevitably effect some change in the problem situation. Secondly, the social system is examined, and thirdly, the political system is examined. In logic-based thinking relevant systems are chosen, named, modelled (compare stage 3 and 4 of 'seven-stage' model) and compared with perceptions of the real world (compare stage 5 of 'seven-stage' model). From these differences between the models and the real world changes in actions can be inferred (compare stage 6 and 7 of 'seven-stage' model).

We recall that SSM could be regarded as a learning system. The richest use of SSM lies in the involvement of people in the problem situation in all stages of a study (Tsouvalis and Checkland 1996). The use of SSM is related to an elaborated contact with the respondents of a study. Examples were given by Checkland and Scholes (1990) for the National Health Service, the Civil Service, a Product-Marketing division, an Organizational Change Programme and so on. Most SSM-cases were

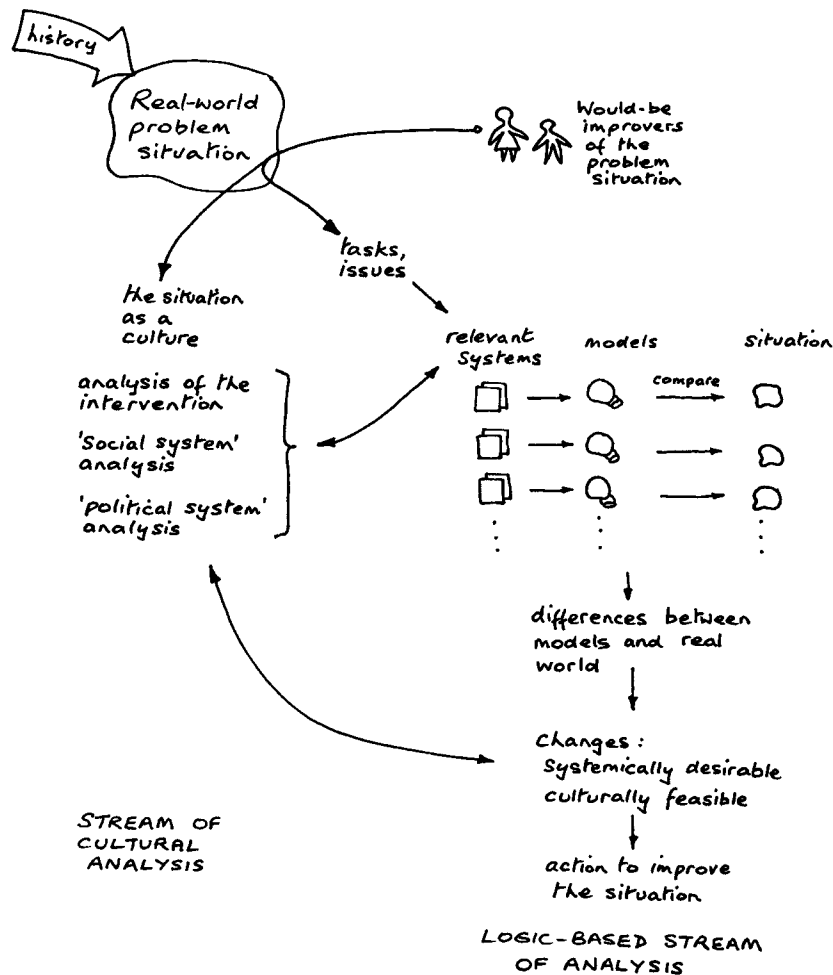


Figure 3.4. The process of SSM (Checkland and Scholes, 1990: 29).

performed within groups of problem owners. The methodology was presented as a way of coping with the variety of views about topics such as strategy and organizational change. A starting point for the researcher is a problem situation which has provoked concern. A general pattern in these cases was that in several workshops or meetings, root definitions were distilled. Participants were involved in the decision process in such a way that the outcome of SSM-cases was broadly accepted. Within this view, the outcome of SSM served two goals. Firstly, the outcome could be used to solve (part of) the problem situation of the problem owners. Secondly, the outcome could be used to describe the process of problem solution for the researcher. The researcher described the case with the use of rich picture, root definition, CATWOE,

a picture of a model, a description of activities, and a description of the process and the context of the study. However, at the end of their book Checkland and Scholes (1990) describe a distinction between two modes. Mode 1, intervention, is a formal stage-by-stage application of the methodology. It uses a framework of systems ideas embodied in SSM as expressed in the 'seven-stages' model or the 'logic-driven and cultural streams of enquiry' version. It uses these systems ideas in order to enquire into and improve some part of the real world. Mode 2, interaction, is an internal mental use of the methodology as a thinking mode. It takes SSM itself as its framework of ideas, takes as its methodology conscious reflection upon interactions with the flux of events and ideas, and takes as its focus of enquiry the process of learning one's way to purposeful improvement of problem situations. SSM is then used in order to make sense of an experience. In this thesis, we are not 'operating the stages' of SSM but are using it to provide a coherent way of describing the would-be-problem-solving involvement within the flux. Both modes are in fact 'ideal types' and most uses will be somewhere between the two. In fact, we argue that this thesis is closer to mode 2. Firstly, the framework of ideas has been mainly provided by SSM (mode 2). Other system ideas, for example the systems theory of control, were also used (mode 1: compare **chapter 4 and 6**). Secondly, SSM has been used in order to reflect upon the everyday flux of events and ideas, and to make sense of it (mode 2). However, parts of the seven-stage model were applied in a sequential way in order to collect data (mode 1: compare **chapter 6**). The area of application was mainly with respect to this thesis (mode 2). However, some results were applied in the real world (mode 1: compare **chapter 6**).

SSM would therefore help us to identify and acquire knowledge about problematical situations in which people with a certain worldview of the transformation process (for example, our organizational change to the customer mix), are trying to define and take purposeful action. So, with respect to our main question, we would expect SSM to help us identify the organizational problems experienced by the pharmacy manager in changing the pharmacy to the customer mix. However, we also had to accept that, within SSM little attention was paid to descriptions of what was problematic in terms of the modelling process (Checkland 1981, Checkland and Scholes 1990, Checkland and Holwell 1998), for example, the formulation of root definition and criteria in practice. Consequently, we also introduced the work of other authors in order to prepare us for this problem. Since SSM strongly relates to the work of Vickers (1965, 1983), Schön (1983), and Simon (1945), we will use some of their work and of other authors also, in order to find some useful descriptions. Let us therefore take a look at some specific problems we could expect in this organizational change.

3.2.5. Expected problems with organizational change

We claim that the survival kit of a manager in an organizational change consists of an aim and related criteria or evaluation. Since the pharmacy manager intends to change the organization, we need a destination or aim. Evaluation is then necessary in order to assess whether we are on the right track to our destination, where we are on this track, and whether the activities were worth the effort in the light of our destination. Later, the exact destination will be established by using pharmacy practice research. We did, however, argue that many pharmacy organizations were interested in changing to the customer mix. Nevertheless, we have not yet said anything about the specific difficulties we could expect. How hard is it to define a usable destination?

More than thirty years ago, Simon (1945) warned us that “the analysis of rational behaviour in terms of a means-ends hierarchy may lead to inaccurate conclusions unless certain cautions are observed. First, the ends to be attained by the choice of a particular behaviour are often incompletely or incorrectly stated through failure to consider the alternative ends that could be reached by selection of another behaviour. Second, in actual situations a complete separation of means from ends is usually impossible, for the alternative means are not usually valuationally neutral. It is from this difficulty that so many futile arguments arise as to whether ‘ends justify the means’. Third, the means-ends terminology tends to obscure the role of the time element in decision-making. If an end is some condition or state to be realized, then only one state may be realized at one time but many states over a period of time, and choice is influenced not only by particular ends but also by expectations of what ends may be realized at different times” (1945: 64-65). He also noted that “these objections do not mean that the language of ends and means is unusable; they simply mean that it must be employed with considerable care and sophistication” (1945: 66). However, De Leeuw warned us that “in general, control will relate to open systems. The environment will have influence” (1994: 69). Consequently, he noted that “it is not very easy to determine if the realization of goals is the partial or complete result of the control. It does not mean that the control did not function if the objective has not been realized, and, in addition, if the objective has been realized it is questionable if this was thanks to or in spite of the control” (1994: 72). In connection with this issue, he described the difference between realization of objectives and directed influence. He defined control as directed influence, and not realization of objectives by any means. “In practice, it happens that control is performed, but it remains unclear what the aim of the control is. That does no good to the effectiveness of the control” (1994: 72). He added that “a control objective is not constant, complete or measurable by definition. However, if possible a detailed and explicit objective is preferred” (1994: 70). Going in the right direction might be enough under certain circumstances.

Vickers (1965) acknowledged that he followed numerous points of the work of Simon (1945). However, he also added that there are some important differences of substance or emphasis. He stated that 1) he adopted a more explicit dynamic conceptual model of organization and its internal and external relations, 2) regulators set and reset courses or standards rather than objectives, 3) there was more emphasis on the necessary mutual inconsistency of the norms seeking realization in *every* deliberation and at *every* level of organization in his work, 4) he stressed the importance of the underlying appreciative *system* for judgements of facts and value, and 5) the setting of the appreciative system itself is changed by every exercise of appreciative judgement (1965: 21-22). Checkland and Holwell (1998: 46-47) analyzed the work of Vickers and Simon. They argued that Vickers takes a fundamentally different view of human action which they summarized under three points. The goal-seeking paradigm is inadequate to visualize the richness of life as we experience it, standards or criteria are not given from outside but are internally generated from the previous history of the system and the interaction with its environment, and relationship managing is preferred above goal seeking. In his earlier work, Checkland (1981) described how “Vickers reflected upon his experiences and sought to understand the familiar but mysterious processes by which policy is continuously decided, executed and changed, seeking to understand it ‘both as a mental activity and as a social process’” (1981: 261-264). Vickers would have argued that “the goal-seeking paradigm, while adequate to explain behaviour of rats in mazes, is totally inadequate to explain what goes on in the Cabinet, in board rooms, ..., and in our everyday life. There, the bulk of our activity is concerned with establishing and modifying relationships through time, rather than seeking an endless series of ‘goals’, each of which disappears on attainment. He added that the intrinsic confusion about means and ends arises from the fact that no end can ever be more than a means, if an end is equated with a goal. ‘To get the job or marry the girl is indifferently an end, a means, and a goal; it is an opportunity for a new relationship’. Vickers suggests replacing the goal-seeking and goal-seeking-with-feedback (cybernetic) models by one in which personal, institutional or cultural activity consists in maintaining desired relationships and eluding undesired ones” (1981: 261-264). Later, Vickers even added that “the obsession with goals or ends which are to be attained or not attained once for all, is fatal to any adequate conception of system, human or otherwise. It is not, of course a total illusion. Our habits of thought about success have been greatly confused by the concept of biological evolution, or rather by its cultural effect, coming when it did, in identifying survival with success. Animals seek to avoid death, although the survival of a species or even of a population is not necessarily served thereby. It may even be threatened, as many human populations are threatened in varying degrees by the increase in longevity. Success is a judgement made by human minds by reference to human criteria” (1983: 170-171).

With this theoretical information, we have learned that it will be rather hard for managers to define a usable aim. Now let us assume, for the moment, that managers would be able to overcome this problem. What we then need is some kind of criterion in order to exert control. The necessity of this criterion is threefold. Firstly, in an organizational process of change it would be convenient to know whether we are on the right track to our destination. Secondly, we would prefer to know where we are on the track during such a process of change. Thirdly, we might want to judge whether the activities were worth the effort in the light of our destination. Checkland and Scholes (1990) stated that these processes of communication and control are necessary in order to survive; activities should logically be judged on efficacy, effectiveness and efficiency. De Leeuw (1990) is of the opinion that an evaluation is a minimum requirement in order to exert effective control. We have therefore established that criteria are vital in the organizational change, but how hard is it to find and formulate these criteria and the related monitor instruments?

If we turn to Thompson, our discussion of destination and monitor may appear rather simple. Thompson (1967: 102) argued that “the purposive individual will try and exploit his opportunities (as he sees them) in the direction of his aspirations and that, within the limits of the constraints he believes to be operating, he will be guided in this endeavour by his beliefs about causation and by the standards or norms he believes are appropriate.” However, he has not provided us with information about the specific problems of studying these aspirations, or when the standards or norms are appropriate. For Thompson, the formulation of destination and criteria for monitoring this is apparently a rather simple matter. However, Vickers (1965: 37) noted that “human regulators have other troubles than engineers. For example, questions like: ‘How does the regulator select, derive and represent its information about the ‘state of the system’? How does it derive the standards by which this information is evaluated? How does it select and initiate a response?’ trouble the human regulator.” He added that “if the regulator completed a disparity signalling - ‘Something is the matter’ had set the problem - ‘What is the matter?’ and the answer - ‘*This* is the matter’ had set a new problem - ‘What to about it?’. A series of possible solutions to this problem were submitted to appreciation. Consequently, a solution was selected ‘*This* is what should be done’” (1965: 46). That this signalling process is, however, not always very clear was illustrated by Donald Schön. With respect to the interpretation of organizational troubles, Schön (1983) suggested that if “... the manager first gets signals that something is going wrong in his organization, he usually has no clear, consensual account of the trouble. Various members of the organization, who occupy different positions and have different interests, tell different and often conflicting stories. If the manager is to take action, he must make some

sense of the organizational ‘Rashomon’⁵; but by inquiring into the situation, he also influences it. Hence he faces a twofold problem: how to find out what (if anything) is wrong, and how to do so in a way that enhances rather than reduces his ability to fix what is wrong” (1983: 246). He added that “managers do reflect-in-action. Sometimes, when reflection is triggered by uncertainty, the manager says, in effect, ‘This is puzzling; how can I understand it?’ Sometimes, when a manager asks, ‘What can I make of this?’ And sometimes when a manager is surprised by the success of his own intuitive knowing, he asks himself, ‘What have I really been doing?’” (1983: 241). Schön also described some problems which managers could face if they reflect-in-action: “[there is] the problem of interpreting the external environment’s response to organizational action, the diagnosis of signs of trouble within an organization, the process by which an organization learns from its experience, and the effects of an organizational learning system ‘on the way’ in which organizational problems are set and solved” (1983: 243). To this he added that “managers do reflect-in-action, but they seldom reflect on their reflection-in-action. Hence this crucially important dimension of their art tends to remain private and inaccessible to others” (1983: 243).

In addition, Schön illustrated how action and reflection are merged in many cases and therefore cannot always be separated easily. Schön (1983) described an example to clarify ‘reflection-in-action’. He argued that “we sometimes think about what we are doing. Phrases like ‘thinking on your feet’, ‘keeping your wits about you’, and ‘learning by doing’ suggest not only that we can think about doing but that we can think about doing something while doing it. Some of the most interesting examples of this process occur in the midst of a performance” (1983: 54). “When good jazz musicians improvise together, they also manifest a ‘feel for’ their material and they make on-the-spot adjustments to the sounds they hear. Listening to one another and to themselves, they feel where the music is going and adjust their playing accordingly. They can do this, first of all, because their collective effort at musical invention makes use of a schema, a metric, melodic, and harmonic schema familiar to all participants, which gives a predictable order to the piece. In addition, each of the musicians has at the ready a repertoire of musical figures which he can deliver at appropriate moments. Improvisation consists in varying, combining, and recombining a set of figures within the schema which bounds and gives coherence to the

⁵ Although Schön (1983) did not give a definition of the term ‘Rashomon’, he provided a context for understanding the term. For example, “In this *Rashomon* of problem settings, each profession framed the problem according to its expertise, its ideology, and its interests” (1983: 193). We believe that the term originates from the film ‘Rashomon’ directed by Akira Kurosawa which was released in 1950. “This film tells the story of the bandit Tajomaru and his chance meeting in the woods with a samurai and his wife. Tajomaru and the samurai fight, apparently over the woman, and the samurai is killed. The catch is that the story is told from four different point of view. The problem is that none of the stories match up, they are all different” (<http://members.aol.com/RplcmtKilr/rashomon.html>).

performance. As the musicians feel the direction of the music that is developing out of their interwoven contributions, they make sense of it and adjust their performance to the new sense they have made. They are reflecting-in-action on the music they are collectively making on their individual contributions to it, thinking what they are doing and, in the process, evolving their way of doing it. Of course, we need not suppose that they reflect-in-action in the medium of words. More likely, they reflect through a 'feel for the music'. Much reflection-in-action hinges on the experience of surprise. When intuitive, spontaneous performance yields nothing more than the results expected for it, then we tend not to think about it. But when intuitive performance leads to surprises, pleasing and promising or unwanted, we may respond by reflecting-in-action. Like the jazz-musician we may reflect on the sense of music we have been making. In such processes, reflection tends to focus interactively on the outcomes of action, the action itself, and the intuitive knowing implicit in the action" (1983: 55-56).

Vickers (1983: 171-172) also described some basic difficulties with the definition and use of criteria. "One is the difficulty of comparing disparate variables. Is a cheap sewer preferable to a river you can safely bathe in? A second difficulty is defining success in uncertainty. Most future promises and threats are not predictable with absolute assurance; some are highly uncertain. But their importance in human calculations does not diminish in linear or other regular relation to their probability. An unacceptable threat does not necessarily become acceptable merely because it is improbable. Nor do human minds usually agree on this crucial issue of acceptability. Some of the most bitter controversies of our time do not relate to estimates of probability but on judgements of acceptability. A third difficulty in defining success is time. How far ahead should the policymaker look? Beyond some horizon, which varies with the issue, all estimates of future results become lost in a fog of uncertainty. At one extreme stands the mutualist, grumbling -'Posterity has done nothing good for me. Why should I bother about it?' At the other extreme stands the devotee of complementary obligations, overwhelmed by his indebtedness to the past and acutely conscious that he can pay that debt only to the future." Vickers also argued that "the concept of success is a complex one. It implies criteria by which success is to be judged; criteria which are cultural, sometimes almost wholly individual, as well as biological. Even the biological criteria are more complex than they look. Rain forests may be necessary to the biosphere as a home for man but a less than optimal environment for those men who live in them" (1983: 170). He also added that "cultural and personal criteria are far more complex and conflicting. In addition, the concept of purpose obscures the concept of success still farther, for first it assumes that purpose is worth pursuing and thus commits the evaluating mind either to some ultimate objective which is worth pursuing for its own sake, or to an infinite regress in which every goal is sought as a means to some even more remote 'end'.

It also commits the evaluating mind to the absurd assumption that ‘means’ are in themselves value-free, comparable only by their efficiency in attaining some desired end” (1983: 170). In this context, De Leeuw (1994: 70) argued that evaluation should be possible: “more than this is not necessary, and less is not possible.” Put in other words: “effective control is impossible if one cannot at least evaluate if the system is going in the right direction. Minimally, there should be a comparison possible: the situation improved compared to the preceding period” (1994: 70).

3.3. Pharmaceutical background

We argue that community pharmacy managers, as well as other managers, mostly have consensus of their primary role in society: their *purpose*, for example, the supply of medicine to the population. In most of the legislation passed within the last two decades, this basic task consisted of at least the control, storage and supply of medicines, as well as their preparation and their development and manufacture on a larger scale. In addition to the basic task, there has increasingly been a recognition or imposition of other tasks; in particular the provision of information and counselling with regard to medicines, counselling in preventive health care, the notification of suspected adverse reactions, and, on the research front, a role in the quest for new medical substances and forms of administration (WHO 1989), for example, medication surveillance. It should be noted that a definition of a purpose can change over time. An example is the development of the term pharmaceutical care.⁶ At this stage, such a change over time does not surprise us, seen in the context of the experience-action-

⁶ The term pharmaceutical care was first defined by Mikeal *et al.* (1975) as ‘the care that a given patient requires and receives which assures safe and rational drug use’. Later, Brodie *et al.* (1980) suggested that ‘pharmaceutical care includes the determination of the drug needs for a given individual and the provision not only of the required drugs but also of the services necessary (before, during, or after treatment) to ensure optimally safe and effective therapy’. Hepler (1987) subsequently described pharmaceutical care as ‘a covenantal relationship between a patient and a pharmacist in which the pharmacist performs drug-use-control functions (with appropriate knowledge and skill) governed by awareness of and commitment to the patient’s interest’. Some years later Hepler and Strand (1990), who had become the two leading figures on this subject, defined pharmaceutical care as ‘the responsible provision of drug therapy in order to achieve definite outcomes that improve a patient’s quality of life’. Recently, Hepler (1996) made a very subtle modification in the end of this definition: ‘the responsible provision of drug therapy to achieve definite outcomes, which are [intended] to improve the quality of a patient’s life’. Finally, and very recently, Strand (Cipolle *et al.* 1998) defined pharmaceutical care as ‘a practice in which the practitioner takes responsibility for a patient’s drug-related needs and is held accountable for this commitment’. Within pharmacy practice research it has been suggested that Strand’s approach has become more humanistic and Hepler’s approach is more technical in nature (Van Mil 1999). These and other definitions were used by a Special Interest Group (SIG) for pharmaceutical care of the KNMP/WINAp in order to formulate a Dutch definition in April 1998: “pharmaceutical care is the care of the pharmacist and his staff for the individual patient in pharmaco-therapy to improve the quality of life for the patient” (Venema 1998e: 738). It should be noted that we have not intended covering all definitions of pharmaceutical care here. The point is that definitions, even of broadly defined tasks, for example, pharmaceutical care, may shift over time.

cycle of Checkland and Scholes (1990).

At a more detailed level, a purpose can be translated into a *mission*. The mission of a pharmacy is the unique reason for its existence; that which sets pharmacies apart from all other organizations. Although the terms ‘purpose’ and ‘mission’ are often used interchangeably, to distinguish between them may help in the understanding of organizational goals (Stoner 1986). In developed countries, *good quality of the provision and use of medicine*, would be such a mission. Within the broad limits of its purpose, each organization chooses a mission that can be described in terms of products and markets, services and customers (Stoner 1986). Over the last fifty years, the Dutch pharmacy, for example, has redefined its mission, shifting the emphasis of its operations away from the production of medicine to the support of pharmacotherapy and the provision of information (KNMP 1991). Within this context, Van Mil and Tromp (1996: 67) argued that “pharmaco-therapy became increasingly important”, and that “these developments ran more or less parallel with developments in other developed countries.”

In addition, in management science, it is well known that missions can be translated into various *objectives* that an organization must reach (Stoner 1986); this can be done with the performance of *activities*.⁷ For example, individual pharmacists can impose their own interpretation on the mission by stressing one or more objectives. The objectives may be described in terms of the productivity of the pharmacy, the quality of the information given to the customer, or a variety of other ways. The activities will have some kind of an expected contribution to the objectives, and on another layer, to the mission and the purpose.

⁷ This description is mainly used as an aid in sketching the pharmaceutical field analytically. It should be remembered that our critical remarks about means-and-ends (Vickers 1965) and the misconception that every failure of implementation is, by definition, also a failure of formulation (Mintzberg 1994) hold true.

Despite consensus of purpose and mission, pharmacy managers interpret good quality in different ways. Several studies have shown different opinions about the interpretation of good quality in pharmacy practice.⁸ The nature of the observed actions varied, for example, from an emphasis on actions related to good quality of medicine, to good quality of revenue or to good quality of information. Within this context, an interesting statement was made by the Commission of the European Communities (1989) with respect to product quality. It was argued that, “quality assurance is a wide-ranging concept which covers all matters which individually or collectively influence the quality of a product. Of central importance is the sum total of the organized arrangements made with the object of ensuring that medicinal products are of the quality required for their intended use” (1989: 15). It is stressed here that a different nature of activities does not have to be problematic in terms of quality as a conception. Good quality can be achieved in various ways and with various activities. However, in terms of SSM, we do expect the intended good quality and the related activities to form a consistent whole; they should be linked.

So, based on this material we would expect a pharmacy manager to have explicit formulations of purpose, mission, and objectives. However, since pharmacies are rather small organizations, we have to add some specific information. Mintzberg

⁸ Over twenty years ago, differences in the interpretation of the term good quality were illustrated by a study made by the Wiarda Beckmann Stichting (1977); Huizinga (1962) defined the tasks of the pharmacist in terms of minimizing the number of customers preventing from exceeding the maximum dosage, and preventing from other pharmaceutical irregularities. Earlier, Huizinga (1957) argued that the pharmacist had tasks related to supervision, preparation of medicine, and patient counselling with respect to pharmaco-therapy. Cohen (1973) promoted the active role of the pharmacist should the patient have any questions about prescribed medicine. According to Honhoff (1973), the pharmacist has an informative role in relation to the general practitioner in order that a more effective medication may be reached. De Vries (1973) argued that pharmacists should be appointed by insurance companies or a foundation which monitors public health; and, in doing so, should assure the quality. The World Health Organization (WHO 1993a: 5) argued that “pharmacists have a key role to play in meeting the societal and individual needs within the philosophy of pharmaceutical care”. The Pharmaceutical Group of the European Union (PGEU 1994: 1) noted that the pharmacist should “promote excellence in practice for the benefit of those the profession serves” and presented a set of detailed guidelines for such a practice. These guidelines for Good Pharmacy Practice (GPP) consisted of a wide range of subjects: patient information, facilities, pharmacy personnel, supply and use of medicine, encouraging rational prescribing and correct use of medicine, self care, and health promotion and ill-health prevention. Later, and specifically for the Dutch situation, the KNMP (1996a) described pharmacy standards (NAN), with respect to “advice and information for the customer, medication surveillance, pharmaco-therapeutic consultation, the dispense of medicine and other health-related products, pharmacy preparations, health promotion and health prevention, research and development, personnel and organization, rooms and facilities, document administration, suppliers, inadequacies of quality, and testing” (1996a: 4-16). Recently, Van Mil and Tromp (1996: 67) argued that for the Dutch community pharmacist, “pharmaco-therapy became increasingly important at the expense of the more chemical aspects of the profession”. Similarly, Noyce (WHO 1997: 20) noted that “[in the UK] the focus of the practising pharmacist is moving towards the role of drug therapist and medicines manager. ... alongside the natural science curriculum, therapeutics and patient management have become equally important”.

(1973) noted that many small organizations have an entrepreneurial mode of strategy-making. This means that this strategy-making process tends to be highly intuitive and non-analytical. "It is not, therefore, surprising that the resulting strategy, seldom made explicit, reflects the chief executive's implicit vision of the position of the organization in its environment. In fact, that strategy is more often than not a direct extrapolation of his personal beliefs, an extension of his own personality" (Mintzberg 1979: 307). Pharmacy managers will therefore probably fail to explicitly formulate their purpose, mission, and objectives. We may introduce the earlier distinction of Mintzberg again. He argued that deliberate strategy concerns the intentions which have been fully realized, and emergent strategy is a realized plan which was not expressed as intended. Unrealized strategy is evidently not realized at all (1994: 24-25). In this situation, we would expect pharmacy managers to have an emergent strategy which was not planned a priori or explicitly formulated, rather than a deliberate strategy, in which the intended strategy has been completely realized (compare Mintzberg 1994: 24-25). Along with Mintzberg (1994) we use the words strategy, objectives and activities intertwined. He argued that in dealing with emergent strategy, activities and strategies merge. "Strategies refer to the important things, tactics to the mere details. But the very meaning of emergent strategy is that one can never be sure which will prove to be which. In other words, mere details can eventually prove to be strategic" (1994: 27). Since strategy, objectives, and activities are intertwined, we would expect the pharmacy manager to compose a 'mix' of activities which are consistent with purpose, mission, and objectives. This selection will lead to a certain control mix. Within the systems theory of control (De Leeuw 1990), the control mix was defined as the activities performed by an actor.⁹ In this study it is assumed that certain sets of activities belong to a certain pharmacy mix

⁹ From the management point of view, the central issue of the systems theory of control (De Leeuw 1974, 1990, 1994, 1996) is the managerial actor. The systems theory of control has much to say about the way in which control should be exerted if effectiveness is the goal. We may see this particularly clearly in the five requirements for effective control: 1) The goal as evaluation mechanism 2) A model of the target system 3) Information about the environment and the state of the system 4) Sufficient control measures with which to control all kinds of disturbances 5) Sufficient data handling capacity. In this approach, effectiveness is deemed to exist if activities are carried out judiciously. The actor in the systems theory of control is considered to be a controlling organ (CO). The CO pursues system effectiveness and on that basis controls the target system (TS) and the environment (E). The activities performed by the actor may be described as a control mix. A control mix is a selected set of control measures. The systems theory of control distinguishes internal and external control and a total of six control measures: internal routine control, internal adaptive control, internal goals control, external routine control, external adaptive control, and external strategic control. Internal routine control refers to clever manipulation of the control variables at hand. The structure of the system, the environment and the goal are taken as constant and invariable. Internal adaptive control refers to changes in the structure. Internal goals control refers to changes in the goal. External routine control refers to the influence on the environment at routine level; the structure and goals of the environment remain intact. External adaptive control refers to the influence on the environment by influencing the structure of that environment. External strategic control refers to the influence on the environment by influencing the goals of that environment.

and a certain conception of quality. For example, it could be expected that the pharmacy manager in the product mix would stress a set of activities related to the category *product quality*. In addition, this pharmacy manager can more or less stress other sets of activities related to, for example, *profitability* or *customer satisfaction*. We have shown above that different interpretations of good quality are possible. Some possible interpretations of good quality will now be given.

3.3.1. Three pharmacy mixes

Although many descriptions of different types of pharmacists (OPG Group 1986, De Jong 1992, KNMP 1993a, Cancrinus-Matthijsse 1995, WHO 1997b) and different types of pharmacies (Bouman & Company 1990, De Jager 1991) have been made, as well as different interpretations of the term ‘good quality’; this study does not seek to define pure types of pharmacy organization or to give one best way to organize good quality. It is presupposed that there is no best way to organize quality.

However, in the pharmaceutical literature we have found indications for the definition of three pharmacy mixes. The product mix, the process mix and the customer mix are theoretically postulated (**figure 3.5.**). In each mix different activities are stressed.

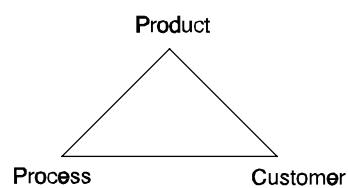


Figure 3.5. Three mixes of activities in pharmacy organization; product mix, process mix and customer mix.

In the product mix, pharmaceutical activities are stressed. This has been regarded as the classical approach of the profession and deals with issues like the specific standards medicine should meet, the minimization of risks, and the minimization of error occurrence. In the process mix, financial activities are stressed. This has been regarded as the ethically problematical approach and describes to what extent the pharmacy is organized profitably and efficiently. In the customer mix, customer activities are stressed. This has been regarded as the future approach of the profession and deals with the way in which the wishes of the customers are met. We stress that this study seeks to find out *if the three pharmacy mixes, the product mix, the process mix and the customer mix, are consistent in terms of thought and action*. It should be stressed that, in principle it is possible to fail in a consistent manner. For example, the Dutch national team, which had a remarkably consistent performance, failed in the semi-finals during the World Cup in 1998. It was their intention to become world champion, and although their performance on the field was consistent with this aim, they did not succeed in attaining it, and failed as it were. This study describes the ‘fit’ of the organization strategy with its modelled activities and real-world actions selected by the pharmacy manager. For example, which set of activities would be

likely to achieve maximum product quality, maximum profitability, or maximum customer satisfaction? At this stage, the pharmacy mixes are described in a pure form¹⁰; it is assumed for the moment, that they are internally consistent.

3.3.2. The product mix

In order to illustrate what is meant by the product mix, we will use a definition of ‘pharmaceutical care’: “the responsible provision of drug therapy to achieve definite outcomes, which are intended to improve the quality of a patient’s life” (Hepler 1996: viii). The issue of drug therapy is definitely in the pharmaceutical domain and is a matter of importance within the product mix. The Dutch pharmacist is held responsible for a correct dispensing of medicine. In this pharmacy mix, the pharmacist will do his/her utmost to secure the quality of the drug therapy. In contrast with other countries, extemporaneous preparations are produced on a regular basis at the Dutch community pharmacy. Most activities of the manager in this mix will be directed at issues like pharmaco-therapy and patient compliance. Outcomes could be visualized with proxies describing compliance, knowledge of the patient, number of prescribed medicines, dosages etc. Moreover, the pharmacy organization is structured in such a way that it ensures a good and secure quality of the therapy in the broadest sense. That might as well involve a refusal to dispense the medicine, based on pharmacotherapeutic arguments, as we will see later in this section. This suggests that everything will be alright, as long as the patient takes the medicine correctly. Only then can the patient recover and his quality of life be improved. Consequently, the *product mix* deals with the specific standards the medicine should meet, the minimization of risks, and the minimization of error occurrence.

Firstly, the product mix deals with *the specific standards the medicine should meet*. Written manufacturing instructions conforming to European rules of Good Manufacturing Practice (GMP) have been issued in many European countries. These GMP guidelines, which can be regarded as industrial norms (Boer 1997), triggered the formulation of standards for manufacturing in pharmacies. Increased attention to quality assurance covers general supervision of the process of preparation as well as control of raw materials, packaging materials, premises, personnel, the manufacturing environment and the final product (WHO 1989). Some years later, in 1994, the Pharmaceutical Group of the European Union (PGEU) presented the guidelines for Good Pharmacy Practice (GPP). One of the guidelines for preparation and quality assurance of extemporaneous preparations described that a formulary should be

¹⁰ Beware that reality in community pharmacy practice will be somewhat different. It is to be expected that the activities of all three pharmacy mixes will be involved within community pharmacy practice, although to a different extent (compare, for example, Kruithof 1995, Cancrinus-Matthijssse 1995, Van der Werf 1996, Nyfer 1997).

established, having regard to quality, safety, and efficacy. However, some months after these guidelines were presented, a report of the Dutch Public Health Inspectorate for medicine (Inspectie van de Volksgezondheid voor de geneesmiddelen) argued that pharmacists were not taking the measures necessary for the documentation of the quality of extemporaneous preparations in order to make it verifiable: "In fact, it is not verifiable if simple in-process-checks are performed" (1994: 6). Moreover, inspections over the period 1992-1995 showed that at 75% of the pharmacies deviated from the norm with respect to extemporaneous preparations (IGZ 1997). Recently, the KNMP elaborated Dutch pharmacy standards (NAN) (KNMP 1996a), in guidelines for extemporaneous preparations at the community pharmacy (KNMP 1997a, KNMP 1997b). In these guidelines, the required quality of a community pharmacy producing extemporaneous preparations is described in detail, for example, requirements for rooms, quality of the design of the instructions for composition and preparation, non-standard preparation, individual preparation, aseptic operations and preparations, preparations with risk, quality system, and responsibilities (Boer 1997).

Secondly, the product mix deals with *the minimization of risks*. It is supposed here that, roughly, when the origin of risk is external, it either comes from the prescriber or the patient. In this mix, some activities involve checking for error or ambiguity on the part of the prescriber. This is in the interests of the patient, since, as several studies have shown, errors do occur ("Pharmacy," 1986, Nielsen 1984, Castro *et al.* 1987). Other activities relate to the behaviour of the patient. A great deal of attention is given to the provision of information (Blom 1996, De Gier 1997a, De Gier 1997b). However, Urquhart suggested recently that "probably compliance is more strongly related to the characteristics of the individual, than related to the clinical picture" (Bouvy 1997: 654). Although a pharmacist can influence the behaviour of the patient, there is no complete control over compliance. In contrast, we note that "in the United States patients with non-compliance can be imprisoned when endangering Public Health. For example, with patients who suffer from TB" (Bouvy 1997: 654). This is a situation which would be inconceivable in the Netherlands. In general, the pharmacist is expected to play an important role by providing information in order to improve the level of patient compliance. Many patients only have a vague notion as to when, how and why their prescribed medicines should be taken. Studies show widespread aberrations of varying degrees of seriousness (Latiolais *et al.* 1969, Blackwell 1972, Sackett *et al.* 1976, Pothier 1976, Parkin *et al.* 1976, Buurma *et al.* 1996, Svarstad *et al.* 1998). The increasing attention paid to patient compliance is a result of the expanding arsenal of medicines, the origin of prevention, and the origin of emancipated and critical patients, who seem to have more knowledge about the harmful side effects of medicine (Evans *et al.* 1983). With studies occurring more frequently becoming more sophisticated, more and more non-compliance is registered and exposed (Verbeek-Heida 1992). It is evident that between one quarter and one-

half of patients in the community fail to follow the instructions given by the prescriber. In analyzing the main reasons for emergency admission to hospital, studies attributed 10-15% of such cases to the incorrect use of medication (Hood *et al.* 1978, Bergman *et al.* 1981, Holmberg *et al.* 1983). A more recent study showed that only 25% of the patients using medicine for hypertension followed the instructions (Buurma *et al.* 1996). Similar results were found in a study of Svarstad *et al.* (1998) where “one-fourth of the patients had repeat nonadherence (took $\geq 20\%$ more or less than prescribed); 50% had sporadic nonadherence (took $\geq 1-19\%$ more or less than prescribed); and one-fourth had no nonadherence in the past week. Of those with nonadherence, all except one took less than prescribed” (1998: 12). Moreover, Urquhart suggested that “patients can be divided in six groups, all equal in size. One-sixths exactly follows the instructions of the physician. Another sixth of the patients is less precise, but will never experience problems through a forgotten tablet. Every next sixth is less compliant. The last sixth is non-compliant. Although they receive many expensive diagnostics and prescribed medicine, they do not use the medicine at all” (Bouvy 1997: 654).

Thirdly, the product mix deals with *the minimization of error occurrence*. It is supposed here that, roughly, when the origin of error is internal, it relates to the internal pharmacy organization. Recently, Manasse (WHO 1997b: 32) noted that “high rates of morbidity and mortality associated with medication misadventures are a reality, inappropriate and missing consultation with patients and prescribers on appropriate medication prescribing and utilization is rampant, and leadership for assuring improvements and quality enhancements in the medication use system in the United States is scarce.” How can a pharmacy manager prevent such problems? Looked at analytically, several measures can be taken to assure the safety of the dispensed medicine at various working stations and by using various organizational systems in pharmacy organization. A Dutch pharmacy has roughly five working stations: At working-station 1 (*reception*) counter, the prescription is received. At working-station 2 *computer*, the data concerning the patient and the prescription are put into the computer. At working-station 3 *filling*, the prescribed medicine is collected/produced. At working-station 4 *check*, the filled/produced prescription is checked. At working-station 5 (*delivery*) counter, the medicine is handed over to the customer. The dispensing of the medicine can be organized in various ways by dividing the (set of) task(s) of the working stations over several persons (Mobach and Van der Werf 1993, Mobach 1994). The pharmacist can decide to lay stress on the activities of one or more working stations; in the product mix for example, the working station *check* could be stressed. The actual dispensing of medicine is checked as a matter of course in the Netherlands; everybody checks everybody. In principle, the pharmacy organization is designed so that no errors whatsoever are caused. However, errors do occur still. It is evident that in a community pharmacy, errors may

have fatal consequences. At a Dutch community pharmacy in Almere, for example, an assistant pharmacist trainee provided methadon HCl instead of Avicel. The medicine dispensed was lethal for the patient. A result of this is that there has been much discussion in the field on what could be learned from this fatal error (WINAp 1997). Attention was given to the role of the supervision, guidelines for extemporaneous preparations, and the steps involved in the production process. These issues consisted of the following instructions. The first step is “to weigh the exact quantity of the correct raw materials, [this] is crucial in the production of extemporaneous medicine; an in-process-check is indispensable. The identity of the raw materials can be determined with another person (double initials), with a combination of product numbers and a final check at the end of the process, or with barcode. The next step is to mix the raw materials. With the production of firm and half-firm substances, it is hard to determine the quality of the mix. Deviation from the content mostly indicates that the mix was performed poorly. The production ends with a check at the end of the process. With custom-made extemporaneous preparations a weight distribution is required also; these results must be compared with the requirements of the pharmacopoeia. A maximum deviation of 3% of the mean weight is allowed” (WINAp 1997: 1857-1858). As one can see, reliance on checks is a well-established tradition within the pharmaceutical field. If the available checks do not seem sufficient, new ones are introduced in the pharmacy organization. In the case of the pharmacy at Almere, a possible new check for the auxiliary materials was suggested by WINAp. Above, we mentioned that guidelines are useful for determining the specific standards the medicine should meet. These guidelines could also be useful in constructing an organization to minimize the risk of error occurrence. For example, the NAN guidelines for producing extemporaneous preparations at the Dutch community pharmacy are based on existing practice; new ideas and solutions to problems were added (Boer 1997, KNMP 1997b). Van de Vaart and Boer argued that cooperation among pharmacies is necessary in order to work on a higher quality level; increase in scale will improve the efficiency of the quality guarantees (Schoenmakers 1997). Computerization is another possibility for minimizing mistakes. In order to reduce problems with safety and compliance, alternative distribution systems have been tried during recent decades, such as the unit-dose distribution system (WHO 1989) or the Austrian machine ‘Pharmamat’, which automatically collects and transports the medicine from stock to the counter. Through this, parts of the dispensing process can be computerized. Moreover, the computerization can be used to ensure safe and adequate information, for example, with a Decision Support System for medication surveillance (BOS/MBJ) (De Gier *et al.* 1996a) and with an computerized system for documenting relevant data and supporting the processing of drug therapy, the Electronic Pharmaceutical Dossier (EPD) (De Gier 1996b).

The pharmacy manager of the product mix would design a pharmacy organization with an emphasis on *product and check*. With respect to the product, it should be common practice to have a formulary of some kind compiled within the pharmacy system of the country in order to standardize extemporaneous preparations; e.g. in close cooperation with experts working at faculties of pharmacy (WHO 1989). It should also be common practice that “the pharmacist verifies the legality, safety and appropriateness of the prescription order, checks the patient medication record before dispensing the prescription (when such records are kept in the pharmacy), ensures that the quantities of medication dispensed are accurate, and decides whether the medication should be handed to the patient, with appropriate counselling, by a pharmacist” (WHO 1990: 11). Similar standards can be found for Dutch pharmacists: these describe the organization of dispensing medicine, the Dutch pharmacy standards (NAN). The NAN are field standards and the Dutch pharmacist is stimulated to organize the work accordingly. “At the dispensing of medicine it will be checked if the correct medicine is provided with the correct information to the correct patient. A check is performed by the pharmacist, as a general practice at the day of dispensing. This involves the determination of the legitimacy of the prescription, the appropriateness of the medicine for the patient in terms of nature, strength, administration, dosage, and duration of use; and a check of the settlement of the medication surveillance signals” (KNMP 1996a: 9-10).

The Dutch quality system with respect to extemporaneous preparations comprises laboratories (Laboratorium Nederlandse Apothekers), standardized therapeutic relevant regulations (Formularium der Nederlandse Apothekers; FNA), production records (chargebereidingsvoorschriften), Regional Pharmacy Laboratories (RAL) coordinated by Central Consultative Body Regional Pharmacy Laboratories (CORAL), and a post-academic course of quality guarantee (Tromp 1990). With respect to the check, it seems sensible to know where the responsibility lies for ensuring the correctness of a prescription. In English law, to take an example, that issue was decided by a court of law in the so-called ‘Migril case’ from 1983 where, although a prescription dispensed was correct according to the doctor’s instructions, it was held judicially that the pharmacist should have questioned the dosage specified: this was, in fact, a cumulative overdose (“Pharmacy,” 1986). The patient developed gangrene in both feet and substantial damages were awarded against both the doctor and the pharmacist. Such examples form the clearest recognition by society that the pharmacist’s legal responsibility extends beyond the accuracy with which a prescription is dispensed and involves the nature of the prescription itself and the manner in which it is made available to the patient (“Pharmacy,” 1986). In 1991, a Dutch pharmacist refused dispensing a non-prescription medicine, ‘Clioquinol’, which can only be purchased at a pharmacy (Oosting 1992). The pharmacist argued that the complaint, based on the statements of the patient, appeared to be chronic and was rather complicated. The

patient should have seen a proper physician, for example, an ENT specialist or a dermatologist. Later, he added that his first task was to be a pharmacist, and only then an entrepreneur. However, the patient obtained the medicine at another pharmacy and complained about the behaviour of the first pharmacist. In this example, the first pharmacist was put in the right. In Dutch law, the pharmacist is not obliged to dispense a prescription medicine (Moss 1996a, 1996b). “The pharmacist being reasonable acting and competent is obliged to motivate the refusal. The basis for refusal is pharmaco-therapy. The opinion of the pharmacist should be verifiable” (1996a: 1135).

Pharmacy organization is structured in order to attain the *highest product quality and product safety*. In Dutch community pharmacies the computer is used today in medication surveillance; this is an ambitious system of prescription handling, in which product quality and product safety are closely guarded. The four most important files relate to the patient, the preparation, the medication history and the financial record. The system renders possible valuable checks of possible interactions, special dosage requirements, contra indications and even compliance (Winters 1986) et cetera. Recently, BOS/MBJ and EPD were introduced, in which respectively computerized support for medication surveillance (De Gier *et al.* 1996a), and computerized support for information about the patient (De Gier 1996b) are provided. The main objective of the product mix is to maximize safety and quality with the least risk. Although risks can become infinitesimally close to zero, the concept of ‘absolute safety’ (zero risk) implies perfect foresight and is therefore an ideal which is not attainable. Risk management is the making of decisions concerning risks and their subsequent implementation, and flows from risk estimation and risk evaluation (Mann 1988). The determination of ‘safety’ does not involve a measurement, but a judgement based on the acceptability of risk, usually taking into consideration not only the measured risk, or risks, but also the benefits and alternative risks at the very least (Tolo *et al.* 1991).

3.3.3. The process mix

Within the process mix, it is assumed that the community pharmacy, like any organization, has to make profit in order to survive. Consequently, within this mix we would expect that the activities of the pharmacy manager relate to money. Before giving a more detailed description of what these activities would involve, let us present an historic observation. At the end of the 19th century, many Dutch pharmacists would “sell medicine with a poor quality at low prices. They gave their customers the impression that they were cheaper than their colleagues; they taught their customers that sales were a main issue for the pharmacist, and that research and extemporaneous preparations were a side issue” (Kruithof 1995: 244). Fortunately, as we have mentioned in the discussion of the product mix, the quality of the product does not have to be poor nowadays. Moreover, the cost price and the reimbursement,

both determined by the authorities, are relatively stable now. It would appear that the community pharmacy sector has reached quieter times than in the past. However, nothing is further from the truth. The community pharmacy sector is on a roller coaster of change, especially with respect to money. Financial activities in the sector have become a major political issue and, logically, pharmacists have become involved in a public debate. The tone of this debate is mostly negative (KNMP 1997c). The authorities regularly express their discontent about the non-transparency of the income of the pharmacists (KNMP 1998). The authorities and insurers, and consequently also the media, contend that pharmacy managers concentrate on process activities and make too much money. In this mode of thought their income is not socially acceptable. However, among many explanations, a possible explanation can be threefold: pharmacy managers do need profit in order to enable survival, making profit by selling medicine to ill people is perceived to be not very ethical, and the authorities are in need of a reduction of public spending on health care. Within this thesis, we intend not participating in an ethical discussion, but will try and concentrate on the financial issues in the field.

Over the last years, the Dutch authorities have taken some measures to contain the financial cost of medicine. For example, maximum prices were introduced for medicine (Graatsma 1995), and measures were taken to cut down discounts and bonuses of pharmacists (Venema 1997a). Furthermore, the authorities stimulated the efficiency of the community pharmacy sector via the introduction of a market economy; the pharmacists are starting to lose their monopoly. This has resulted in various initiatives; for example, the mail order pharmacy (De Wolf *et al.* 1994, Venema 1995), Boots (Venema 1997b, Venema 1997c), and recently, ideas to introduce hospital pharmacies as an outlet in the primary health care and to organize the purchase of medicine via insurance companies (Schneider *et al.* 1998, Coalition Agreement 1998, Van Veen 1998a, Hagenzieker 1998, Allart 1998, Venema 1998a, "Apothekers," 1998, Venema 1998b, Van Rijen and Ottes 1998). It seems evident that we are in a politicized line of business. This is resulting in interesting macro-economic phenomena like the introduction of maximum prices for medicine in combination with stimuli for the market economy. Changes in the financial system appear to be common practice. However, within this dynamic context, the community pharmacy has to sustain itself economically; there has to be profit, which is subject matter in this mix. The activities of the pharmacy manager in the *process mix* relate to what extent the pharmacy is organized profitably and efficiently.

Firstly, the process mix relates to *the organization of the dispensing of the prescription*; this can be arranged in various ways. In the standards for Dutch pharmacists (NAN), there is a broad description which relates to the task and the function of the pharmacy team. "Tasks, competence, and responsibilities of the

pharmacist and the pharmacy personnel are clearly described and documented. At the pharmacy the work is organized in accordance with a well-documented working system which is authorized by the pharmacist” (KNMP 1996a: 12-13). No attention has been paid to the economic side of the dispensing. Interventions from the authorities, although indirectly, have sometimes related to the efficiency of the dispensing. For example, economies of scale were expected with the introduction of a mail order pharmacy. It should be noted that most Dutch community pharmacies are rather small organizations. In regard to this, Mobach and Van der Werf (1996: 1436) argued that “Small pharmacies should avoid extreme division of labour and the introduction of specialists. Mega pharmacies can, in view of the balance problem, and, in combination with smaller fluctuations in the input of prescriptions and the large number of prescription orders, function efficiently with such a division of labour.” They added that “as yet, few studies about the different forms of division of labour at Dutch pharmacies have been made” (1996: 1436).

Secondly, the process mix relates to *the extent to which the work at the pharmacy is organized efficiently and profitably*. We will start with an apparently rather outdated statement from the KNMP: “commercial activities in terms of aiming at increase of turnover are not desired. The pharmacist can contain the cost for the provision of medicine with cost-conscious activities and a commercial purchasing policy” (KNMP 1979: 51). However, it should be noted that in this regard, the issue of money is still vividly present in the sector. Moreover, efficiency and profit have gained more and more the attention of pharmacists and pharmacy organizations over the last few years. According to some recently published opinions by Dutch authorities, the introduction of competition, in the area of sales of medicine, will lead to cost containment. The core of most recent proposals is that the sale of medicine should not be exclusively for pharmacies. Other companies, supermarket chains, for example, should be enabled to appoint pharmacists (“Overheid,” 1994). In contrast, until January 1999 Dutch law described in the ‘Besluit Uitoefening Artsenij Bereidkunst’, made a pharmacist carrying out his business on the premises of a non-pharmacist illegal. This section of the law was rescinded on January 29th 1999. Mail-order companies and the Boots chain have already been given the possibility of selling medicine at retail, and it is now intended that hospital pharmacies also be given the option of selling medicine for primary care. Within this mode of thought, the supermarket system, for example, is supposed to be more efficient and this will lead to a cost reduction. Moreover, it is expected that the quality of the health-care system would not change; it will in fact get better. More parties in the market will reduce costs by 20 to 30 percent, according to the authorities (Goseling 1994). An example of a primarily financially-oriented pharmacy is the mail-order pharmacy which started in Holland some years ago. The mail-order pharmacy gives much thought to efficiency in their organization design. Pols (1994) gives two reasons for the improved efficiency of the mail-order pharmacy

in comparison with the community pharmacy. Firstly, the profit of the enterprise is connected with management. The management will be more efficient than at a normal pharmacy. At the community pharmacy, the pharmacist is working with a lot of different things at the same time: the assistant pharmacist may be called to answer the telephone, even though he/she is packing the medicine, for example. The work is much easier to structure in a mail-order pharmacy, so the work will be cheaper. Secondly, it is expected that large-scale purchase will result in savings. Similar expectations underlie the introduction of the mail order pharmacy, the Boots chain, and hospital pharmacies as an outlet in primary health care and the purchase of medicine via insurance companies. The pharmaceutical field is responding to these developments. In general, the pharmacists seek to cooperate. In other sectors, similar efforts for cooperation can be observed; cost reduction is one of the main reasons for cooperation (Van der Bijl 1998). An example of such cooperation is the establishment of so-called 'formulas' within the community pharmacy sector. Within these formulas, pharmacists are cooperating with respect to education, provision of information, purchase, presentation, company logo, interior design etc. (De Jong 1996, Sturkenboom and Van Ochten 1996). Other reactions within the pharmaceutical field are, for example, regional and local quality circles of the KNMP (Van de Vaart and De Smet 1995), and managed care (Tromp *et al.* 1996), and pharmaco-economic research to visualize the cost effectiveness of the present organization. In this latter context, Plumridge and Wojnar-Hortan (1998: 175-176) have argued that "evidence does exist that clinical pharmacy services have positive economic benefits, and it is this evidence that, at present, supports the assertion that pharmaceutical care has potential to increase the value of pharmaceuticals in society by minimising drug-related morbidity and mortality". A rather special development is the forward integration of the wholesaler OPG (Venema 1998c, Boiten 1998, Pols 1998). Over a period of time, OPG purchased about 30 pharmacies. OPG aims at a total of 50 pharmacies which are to be used as an experimental garden for efficiency. The purchase is a preparation for whenever the Boots chain, or other chain organizations, are able to penetrate more deeply into the pharmaceutical market.

The pharmacy manager of the process mix would design a pharmacy organization with an emphasis on *money*. "A pharmacy is a 'business' with a considerable turnover, high and necessary investments and no mean cost for personnel, housing, general management etc." (KNMP 1979: 51). In this case, pharmacies will pay attention to financial management. Carrol (1991) has argued that financial management focuses on making wise decisions about obtaining and using financial resources. Pharmacy managers face many financial decisions: for example, how much inventory to carry, whether to participate in third-party prescription plans, whether to buy a new computer, and so on. The principal goal of financial management is to increase the value of the organization. This goal is achieved by making the most

efficient use of financial resources. Pharmacies, for example, can make the most efficient use of cash invested in inventories by carrying the smallest amount of inventory necessary to meet consumer demand. Moreover, they can also obtain discounts in the sector. Discounts consist of a reduction in money or a supply in kind. Pharmacy managers can influence the revenue of the pharmacy substantially with discounts. At the moment, in the discussions about money within the community pharmacy, the issue of discounts is a volatile one. We would however expect pharmacists to pay some attention to the purchase of medicine. Smart purchase will save financial resources which can be useful for the survival of the pharmacy organization. Dutch pharmacists are effective purchasers (Venema 1998d). However, as was mentioned earlier, the authorities intend to organize the purchase of medicine via insurance companies. Hagenzieker, the present chairman of the KNMP, has admitted that excessive trade advantages are present, and should be invested into care. Moreover, he has argued that “regional purchase will lead to bureaucracy and extra overhead cost” (Venema 1998d: 895) and has proposed concentrating on transparency of the financial system of the pharmacy instead of introducing other channels of purchase.

Pharmacy organization is structured in order to attain *highest productivity*. Productivity is the relation of a quantifiable measure of outcome (measured in pieces, kilograms, et cetera) to a quantifiable measure of effort of production factors (measured in working hours, units of means of production, units of means of raw materials) (Wöhe 1974). The main objective is to maximize productivity at lowest cost. In this sense, evaluation might be helpful. Draugalis *et al.* (1989) defined two types of economic evaluation. The first method is efficacy or effectiveness evaluation, a method in which the consequences of the alternatives are examined. The second method is cost analysis, a method in which only costs are examined. To accomplish a full economic evaluation, both the costs (inputs) and consequences (outcomes) of the competing alternatives must be examined (Stoddard *et al.* 1984). Draugalis *et al.* have described four methods of analysis; Cost-Benefit Analysis (CBA), in which the primary concern is the most beneficial use of limited resources; Cost-Effectiveness Analysis (CEA), in which the primary concern is the least costly way to achieve an objective; Cost-Minimization Analysis (CMA), in which the primary concern is efficiency; and Cost-Utility Analysis (CUA), in which the primary concern is quality of life. With respect to the working organization of pharmacies, maximizing productivity could be attained by, for instance, redesigning a more efficient organization which could then achieve more prescriptions per assistant pharmacist in the same time. Cost reduction could also be attained by, for instance, redesigning a more efficient organization in order to achieve the same amount of work with fewer (qualified) personnel, or to achieve more work with the same quantity of (qualified) personnel, both in the same time.

3.3.4. The customer mix

In order to illustrate what is meant by the customer mix, again, as we did with the product mix, we will use the same definition of 'pharmaceutical care': "the responsible provision of drug therapy to achieve definite outcomes, which are intended to improve the quality of a patient's life" (Hepler 1996: viii). We argued before that drug therapy is definitely in the pharmaceutical domain and is a matter of importance within the product mix. Here, we would like to focus on the quality of a patient's life. In the discussion of product mix, it was suggested that everything will be alright in terms of the quality of life as long as the patient takes the medicine correctly. However, in the customer mix, a different point of view is used, one that is all about customer satisfaction. An example: a patient with serious cancer argued that the quality of life would not improve with the administration of 'cytostatics'; life would only be extended. The patient refuses the medicine. In terms of the product mix, the pharmacist would not be content. The pharmacist would want the patient to take the medicine in order to complete the pharmaco-therapy. It should be remembered that, in the product mix, pharmaco-therapy is necessary to improve the quality of life of the patient. In the customer mix, the pharmacist would be content whenever the patient is content within reasonable limits. In the example, the wish of the patient would be respected, and the medicine would not be dispensed. However, in this situation, the pharmacist would feel responsible for the management of pain and the dignified death of the patient. In the customer mix it is assumed that customer satisfaction could improve the quality of life of the patient, even in the (for pharmacists extreme) case of non-compliance. Within this context, the work of Buurma *et al.* (1996) is also illustrative. Two definitions of 'information' were given: 'facilitating information' and 'intentional information'. "The goal of facilitating information is transfer of information or increase of knowledge; free of obligations for the customer. The goal of intentional information is behavioural and attitudinal change of the customer, which is evidently more obligatory" (1996: 219-220). Both goals relate to patient compliance. However, a different point of view has been presented in other studies (Yellin and Norwood 1974, Norwood 1975, Helling *et al.* 1979) where the positive effect of patient communication on customer satisfaction was confirmed. The activities in the customer mix were more or less directly related to these studies. Information then would clearly stimulate customer satisfaction. Again, recall that we are discussing the pharmacy mixes in a pure form. It seems evident that both patient compliance and customer satisfaction would be an important aim for any community pharmacy manager. Consequently, as could be expected, the *customer mix* deals with the way in which the wishes of the customers are met.

The customer mix relates to the positive demand on the pharmacist to *provide information and advice* for patients with their specific questions. It involves the provision of knowledge as well as participation, directly or indirectly, in the care of

patients. The new fields of work for pharmacists can be broadly defined as either 'patient-oriented' or 'society-oriented' (WHO 1989). In connection with this issue, the WHO noted that "good primary care systems also value the patient's contributions to care. They encourage the participation of individuals and of self-help groups organized around specific health issues ..." (WHO 1993b: 133). Moreover, "good primary health care professionals also act as advocates of the individual patient when in contact with the rest of the health service system. Rules and conventions of practice on referral among primary health care providers and between them and secondary care providers should always operate in the patient's interest rather than for administrative or provider convenience" (WHO 1993b: 133). In that same year the professional code and rules of conduct of the KNMP was issued. A general statement with respect to the customer was formulated in it: "the community pharmacist will serve the patient/customer to the best of his/her ability" (KNMP 1993b: 3). Later, the Dutch pharmacy standards (NAN) described the role of the customer explicitly in relation to the provision of advice and information: "the pharmacist puts the interest of the patient central and respects the patient's own responsibility" (KNMP 1996a: 4), and "the customer is treated in such a way that a correct understanding of the provided information as well as confidence in this information is secured" (KNMP 1996a: 5). Weltevreden (1998) argued that attitude of the personnel and customer treatment are serious constituents of professional advice. However, it is too still often a chance hit, she argued. The structure of advice at the pharmacy should be improved. From the annual report of the Commission into Complaints in Community Pharmacy, which started in 1997, it can be constated that of all categories, complaints about customer treatment were most frequently registered. It was argued that "most of the complaints originated from inadequacies with respect to treatment and communication. Generally, the customer can accept the fact that an error did occur if the error is admitted openly, information about the cause of the error is provided, apologies were offered, and a meaningful solution to the problem was found" (Klachten Commissie Openbare Apotheek 1998: 945).

It also should be remembered that parts of the pharmaceutical care process relate to the customer mix. Strand *et al.* (1992: 6) noted that "there now appears to be an obvious demand from society and from the pharmacy profession itself for a professional role that restores emphasis on the pharmacist's direct responsibility to the individual patient." In this regard, Van Mil (1994) described ten steps in which pharmaceutical care can be incorporated in the dispensing process. Three steps, step one, six and ten, are related to the customer mix. "Step one is, work on a good pharmacist-patient relation. Step six is, determine, together with the patient, the best solutions for eventual problems. Step ten is, regular registration and evaluation of the therapy plan with the patient" (1994: 493). Rupp and Kreling (1994: 57) argued that "pharmaceutical care literature does include studies of patient satisfaction with care

and/or caregivers.” They also noted that “few researchers have reported patient levels of satisfaction with pharmacists and their care ...” (1994: 57). We noted above that the studies of Yellin and Norwood (1974), and Norwood (1975) had found a very interesting link between patient communication and customer satisfaction. Their studies supported the hypothesis that increased patient communication regarding drug therapy can improve consumer attitudes toward the pharmacy. Later, the study of Helling *et al.* (1979: 328) showed that “patients receiving direct clinical pharmaceutical services in a family practice setting would demonstrate significantly more favourable attitudes towards the overall quality of their medical care than would patients not receiving clinical pharmaceutical services.”

The pharmacy manager of the customer mix would design a pharmacy organization with an emphasis on the *customer*. Smecka (1989) noted that systematic time and motion studies in Czechoslovakian pharmacies have led to quite clear concepts as to what a pharmacy should provide in terms of facilities if it is to meet the patient’s needs. These studies culminate in the concrete definition of a specific dispensing unit known as ‘dispensing module’. The module is mostly of a circular shape: starting from the arm, one can measure the reach of a man of average stature (82 cm) in both horizontal and vertical directions, the dimensions of which correspond to the distances within arm’s reach. In this module the pharmacist could dispense medicaments without taking a single step and without having to reach or bend down unnecessarily. Theoretically his work would be free of avoidable physical strain and the pharmacist would gain more time for his contact with the patient. This module was in fact put into operation as early as 1963. Similar installations have also appeared in the USA and later in the [former] Soviet Union in 1971 (Smecka 1989). In Sweden the idea of a circular shape was used in the development of the carrousel by Apoteket AB and Sintek; a round compact storage system for medicine with horizontally revolving shelves. The carrousel can be used for different purposes at the same time; two staff can serve customers directly from stock, while a third person replenishes it. In the Netherlands, the carrousel is used in the counter model which was designed by Farmac under the authority of SAL Apotheken and inspired by Swedish examples. The aim of the Dutch version of this model was to emit calmness, and, in doing so, improve the facilities for a private conversation with the customer. The counter model integrates tasks in dispensing medicine: from working stations on several locations with several persons, to working stations on one location with fewer persons. One person filled the prescription at the counter which is then checked by another person (Mobach and Van der Werf 1993).

Pharmacy organization is structured in order to attain the *highest service quality*. Service quality should be more than just dispensing medicine. The pharmacist is responsible for more than the delivery of a product to the ultimate consumer.

Hildebrandt (1992) argued that advice on medicines is regarded as a bonus free of charge: advice is normally given as an additive. The medicine expert, whether he wants to or not, tends to solve all problems of patients with medicine. In this regard he has good reason to feel competent. In the sense of modern management and marketing theories, the pharmacy could become a place for solving customer's health problems. In this view the pharmacy would be a place for the sale of medicine and equally, just as a place for the sale of advice. Within the customer mix, the main objective of this information would be to maximize customer satisfaction. De Jong (1998: 9) argued that "patient quality is what a patient expects. Consequently, a pharmacist is in need of a patient-oriented attitude: he has to measure the wishes and needs of the patients on a regular basis." Fornell (1991) describes a customer satisfaction index as the counterpart to productivity measures. Whereas productivity refers to quantity of output, a Customer Satisfaction Barometer (CSB) measures quality of output as experienced by the customer. Several methods of measuring the level of patient satisfaction are used in pharmacies in different countries. The most direct way is simply to "... ask them for their views on the subject. Another less direct way involves inferring attitudes from behaviour that is elicited essentially for other purposes, for example, by studying the pronouncements and writings of individuals and groups" (Wertheimer *et al.* 1981: 107). In Sweden, Apoteket AB was the first to monitor customer satisfaction on a national level with the CSB at pharmacies; the direct way of measuring patient satisfaction. This technique was supported by KNMP and stichting VNA in Holland, and used by Stichting Health Base (SHB) in the Netherlands since 1992. Later, so-called 'mystery guests' (assessors pretending to be real customers) were introduced in order to analyze customer satisfaction (Graatsma 1996).

We have established the pharmaceutical basis for this thesis, so far. We have distinguished three pharmacy mixes as relevant to our main question 'What problems does a pharmacy manager experience if he/she 'travels' to the customer mix?'; namely, the product mix, the process mix, and the customer mix. We have assumed that the pharmacy manager will perform pharmaceutical activities in the product mix, financial activities in the process mix, and customer activities in the customer mix. However, even after we have determined these three pharmacy mixes, we still do not know why the pharmacy manager would be interested in 'travelling' to the customer mix. In other words: 'Why is there a change to the customer mix in the community pharmacy sector?'

3.3.5. Change to the customer mix

In most developed countries, pharmacy managers seek to structure their organization in accordance with the customer mix. Bakker (1989: 10) noted that "not so long ago, the pharmacist was obliged by legal rules to remove information for the user from

the packing of the medicine. Now, the policy is completely different: one wishes to inform the patient as good as possible. Consequently, numerous initiatives were taken by pharmacists in order to optimize the information process.” Changes in health policy towards the community and self-care make it necessary that the pharmacist functions fully in the community and not only within the walls of his pharmacy (WHO 1989). Fornell (1991: I) later argued that “in today’s market, it is not sufficient to ensure high levels of productivity, the quality of what is produced is becoming increasingly important.” Simply doing business productively and efficiently no longer suffices today to convince broad segments of society of the legitimacy and value of private corporate dealings. A growing part of our society wants to know not only how much a corporation earns, but also how these earnings are achieved (Tolo *et al.* 1991). Tromp noted recently that “until today pharmacists protected people and society against drug abuse and misuse, but from today pharmacists will support patients to use proper drugs in a proper way” (1998: 3).

In a Dutch study (KNMP 1991), it was shown that important target groups of pharmacy organization did not know what the additional value of the pharmacy was. The KNMP concluded that the pharmacy should be actively marketing these values, not in the sense of ‘maximizing the sale of medicine’, but marketing in the sense of anticipating the needs and wishes of the environment; environment-oriented thinking. Later, in a study initiated by KNMP (1993), it was found that pharmacists think that the additional value of the pharmacy is service (good and quick) and supply of information. In this context, patient-friendly activities consist of information and the delivery of medicine at home. In another study, an initiative of the KNMP and NIVEL (Sluijs *et al.* 1995: 7), it was argued that “attention for the treatment of customers is but only one aspect of the many modernizations which occur at the present pharmacy. Other themes do relate to the news tasks and functions of the pharmacy, and also do relate to an increasing orientation of the pharmacy, directed at the environment and customer-friendliness.” Moreover, the KNMP (1996b: 1) argued that the patient is central, and “for the pharmacists the interest of the customer and his request for care is first.” A more recent study showed that, information and counselling are dominant issues, and the patient is a central issue for Dutch community pharmacists (Skim Indis 1997). The Dutch Patients’ Association (Frijlink 1997) argued that “the experienced quality by the patient varies per individual and per situation” (1997: 925). However, “a total picture of the perceived quality of customers about Dutch pharmacies is not yet available” (1997: 925). Very recently, the KNMP (1998: 13) assumed that, compared to past activities, pharmacists pay “more attention to the counselling of the patient and his use of medicine and take his perception of the environment into account.”

In other countries, similar patterns can be observed. The Council of Europe (1994: 2) stressed that “pharmacists and pharmacy students must have the appropriate initial training and further training opportunities which enable them to fully contribute to patient care. These should ... also encompass relevant aspects of communication sciences and of sociology.” In the British health-care system, some years ago, changing market conditions exposed the dilemma between the pharmacist as an entrepreneur and the pharmacist as a care worker. The Nuffield commission (“Pharmacy,” 1986) stressed the need of a professional pharmacist in his role as a care worker. The Nuffield report showed an emphasis on the dispensing of prescriptions at minimal cost in some health-centre pharmacies. As a result, the service provided in these health-centre pharmacies was worse than elsewhere. The report showed that independency and credibility were endangered if pharmacies gave high priority to financial profit. The opposite situation is that, the pharmacist as a care worker can give independent advice, and is a reliable professional for general practitioners as well as for patients, despite all threats from the commercial environment. To guarantee the professional occupation of pharmacists, two measures were recommended. Firstly, the commission recommended the payment of ‘new’ categories of activities: the consultation with practitioners, the provision of information to the patient, the medication surveillance and so on. This measure was recommended since advice brings no financial return while the sale of medicine does. In this situation the pharmacist concentrates on maximizing the sale of medicines. This was regarded as an important barrier in changing pharmacies in accordance with other active participants in the health-care system, in order to attain high-quality service. Secondly, the commission recommended that the profession of pharmacists should be led by professional responsibility rather than by laws, regulations, and so on. In Great Britain, many pharmacies are owned by non-pharmacists, a similar pattern which can be expected in the Netherlands since the Dutch law was changed on January 29th 1999. Such pharmacists especially would have an independent professional responsibility (Leufkens 1987). Recently, the KNMP realized a ‘professional statute’ which should guarantee that the pharmacy manager, regardless of work conditions, is able to realize quality standards at the pharmacy; standards such as described in the Dutch pharmacy standards (NAN). Later, Noyce argued that in the UK “clearly, the focus of the practising pharmacist is moving towards the role of drug therapist and medicines manager. This does not mean that there is any less requirement for understanding the science and technology of drug action and delivery, but alongside the natural science curriculum, therapeutics and patient management have become equally important” (WHO 1997b: 20).

3.4. Towards the pharmaceutical field

We have argued above that the analytical basis of this study consisted of three pharmacy mixes of activities; the product mix, the process mix, and the customer mix. It was assumed that the pharmacy manager will stress a set of activities which is related to one of the three pharmacy mixes. In addition, it was assumed that the Dutch community pharmacy manager generally seeks to structure the organization in accordance with the customer mix. Moreover, the general difference between *thought* and *action* were described, as well as some expected general problems in organizational change. Now that we have determined our theoretical basis, we would invite you to take a step on the diving board and 'dive' with us into the pharmaceutical field. However, before we do that, beware of the fact that, so far, we have only described the three pharmacy mixes as pure types. We would expect the reality to be somewhat different. It is quite clear that the modern pharmacy manager must be able to juggle everything at the same time. He/she must let the pharmacy organization survive within a threat of possible competition, and therefore must pay attention to customer satisfaction and financial revenue without affecting the quality of the pharmaco-therapy. The pharmacy manager would select a combination of activities related to the three pure mixes described here. Moreover, the issues of money and care are entwined within the community pharmacy sector (Cancrinus-Matthijssse 1995, Van der Werf 1996). That could provide us with some specific problems, which are not present in other organizations, for example, the ones which are mainly profit-oriented. However, our interest is in the actions of the Dutch community pharmacy manager and specifically which actions were selected and emphasized in the real world. The questions applied were: 'What is the empirical use of the three mixes?', and 'What is the correspondence between *thought* and *action*?'. Consequently, the next three chapters consist of two main phases. *Phase one* relates to the investigation of pharmacy mixes in Dutch pharmacy practice (chapters 4 and 5). *Phase two* relates to the central theme of this thesis and ought to visualize problems in the organizational change to the customer mix. You are reminded that there is an ongoing dispute within the community pharmacy sector: which is all about care, money, and ethics. We have resolved *not* to participate in such an ethical discussion. Now that we have illustrated some issues from management science and some issues from pharmacy practice research, we invite you to take a 'dive' into the pharmaceutical field.