The organisational change agent as an appreciative system.

Increasing effectiveness in business process reengineering through the systems approach.

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"The old paradigm's focus is on management of observed systems: the new paradigm could be viewed as management of observing systems"
(Parikh 1991:160).

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Abstract.

This thesis is concerned with the effectiveness of change agents within organisations. The argument presented is that *the effectiveness of change agents depends on their ability to develop an understanding of the complex situations they are faced with.* This includes a rich understanding of their own role within the situation. The systems approach described by Churchman (1971, 1979) and further developed by Ulrich (1983) provides methods that aid the development of a rich understanding of, inquiry into, and intervention in complex socio-technical situations.

The structure of the paper will take the following form:

Part 1: Appreciative systems and the systems approach.

Performance criteria for change agents are declared. The key role of appreciation in effective change management is highlighted. An explanation of appreciative systems and how the systems approach can make them more effective is presented. Finally an appreciative frame for human populated (social) systems is explained.

Part 2: Investigating sources of purpose in traditional Business Process Reengineering (BPR).

Before developing the complete the appreciative framework in Part 3, our understanding will be consolidated by applying the human populated systems frame to organisational change (business process reengineering) as a system.

Part 3: An appreciative framework for change agents in BPR.

The appreciative framework for change agents is developed. This requires integrating the social system (purposefulness) frame with frames that focus on organisational, technical, personal and implementation issues.

Part 4: Application of the appreciative framework in a real world BPR situation.

The whole appreciative framework completed in part 3 is tested by application to a real world example of business process reengineering.

Part 5: Conclusion and critical reflection.

In conclusion, reflections on the use of the framework, the original argument (that the effectiveness of change agents depends on their ability to develop an understanding of the complex situations they are faced with), and possible areas for future development, is addressed.

When speaking of change agents the use of 'He' is purely for consistency. It does not imply any value judgement of gender competency.

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Part 1: Appreciative systems and the systems approach.

This section explains the concept of appreciative systems and how the systems approach can aid in building effective appreciative frames for the change agent involved in improving human populated systems.

" For me there is only the travelling on paths that have a heart, on any path that may have a heart. There I travel, and the only worth-while challenge is to traverse its full length. And there I travel looking, looking, breathlessly"
Don Juan (Castaneda, 1968:12).

Introduction.

The purpose of this section is to:

- Build a conceptual understanding of how change agents appreciate the organisational reality that they are faced with.
- Develop an understanding of the problems encountered when attempting to appreciate an organisation as a whole system.
- Illustrate how the systems approach can aid in appreciating complex systems.
- Describe an appreciative frame that enables change agents to recognise important components and relationships in human populated systems.

In order to achieve the above the following structure will be adopted:

1. Performance criteria for change agents will be declared.
2. The concept of an appreciative system, its problems, and how the systems approach can help with these will be discussed.
3. An appreciative frame for human populated systems will be presented. As background to this the evolution of organisational appreciation from mechanistic to organismic to social systemic will be described.
4. Reflection on how the above increases the effectiveness of change agents will be presented.

Through the above approach a conceptual understanding will be created that will support the rest of the paper.

Performance criteria for change agents.

The focus of this paper is ultimately the organisational change agent and his effectiveness in facilitating change within organisations. Both Churchman (1971, 1979) and Ulrich (1983) use the label 'designer' to mean the person who is interested in improving the system. In a broad sense the label can be interchanged in this text with the label of 'change agent'. The change agent referred to in this paper is one who's *primary responsibility is the planning and facilitation of investigation, analysis, design and implementation of large organisational change projects.* This is usually a full time activity and the role is not to be confused with individuals who are pro change in organisations.

Churchman (1971:5,8) believes that design at its most basic level has five characteristics. These may be viewed as the basic tasks required of a designer:

1. He attempts to distinguish in thought between different sets of behaviour patterns.
2. He tries to estimate in thought how well each alternative set of behaviour patterns will serve a specified set of goals.
3. He attempts to identify the whole relevant system and its components; the design alternatives are defined in terms of the design of components and their relationships.
4. His aim is to communicate this thought to other minds in such a manner that they can convert the thoughts into corresponding actions which in fact serve the goals in the same manner as his design said they would.
5. He strives to avoid the necessity of repeating the thought process when faced with a similar goal-attainment problem by delineating the steps in the process of producing a design. (He develops methodology).

It is a premise of this thesis is that the above adequately describes the performance criteria against which the effectiveness of an organisational change can be measured.

The key role of appreciation.

The above tasks depend primarily on the change agent being able to *appreciate* components, relationships, and behaviour in complex organisational systems. This process of appreciation is conceptual and complex. In order to able to present frames that can aid the change agent in this central task we need first to understand more about the appreciative process. For this to occur we must have a theory of how humans learn and build pictures of the world. In the following pages such a theory will be described.

The appreciative system.

Introduction.

Vickers (1970) labels the system that enables humans to develop mental constructs about the real world as the 'appreciative system'. In order to build a picture, or mental model, of our world, or any situation in it, we have developed a capacity to:

- select certain aspects of a situation
- discriminate these aspects from others
- compare them against some standard

This capacity is constantly developing and helps shape our further experience. As the system matures it becomes more coherent and less likely to undergo radical change. It is however fundamentally a learning system (Checkland, 1981:263) making use of feedback from the real world to modify itself. Vickers (1970:102) argues that the activities of the appreciative system are not separable from the rest of our psychological functioning and therefore can not be viewed as value free. The appreciative system decides for each individual what facts are relevant. A change agent's *appreciative world* is what his appreciative system enables him to know.

Our aim is not to sink into relativism where every statement depends on the standpoint of who is making it, but rather to develop a framework that increases the change agent's capacity to develop and improve his effectiveness. How do we *consciously* unfold the relevant aspects of organisational reality? Of all the variety inherent in modern organisations what aspects should be selected by the change agent?

One way of consciously unfolding relevant aspects of organisational reality is by using an appreciative *framework*. This is an organised set of mental constructs (concepts, principles, and questions) that form a coherent whole. The appreciative framework is used to guide inquiry into, and thinking about real world situations. Appreciative *frames* are components of a framework that focus on specific aspects of a whole situation.

This thesis develops an appreciative framework for change agents involved in business process reengineering. This framework, presented in Part 3 has as components a frame for appreciating human populated systems (described later in Part 1) and four frames for appreciating organisational form, technology, people, and implementation aspects (developed in Part 3). The whole framework is then tested by application to a real world business process reengineering situation (Part 4).

The systems approach provides frames that help to systematically and systemically, develop a relevant appreciative system for change agents.

Kantian a priori science and appreciative systems.

Kant's philosophy may be interpreted as an attempt to discover the basic set of assumptions that need to be a part of every human's appreciative system in order to build understandable pictures of the world. An example of such basic assumptions are the concepts of time and space. Kant believed that in order to develop any appreciative world one has to presuppose time and space.

"Time is not an empirical concept that has been derived from any experience. For neither coexistence nor succession would ever come within our perception, if the representation of time were not presupposed in them ... Only on the presupposition of time can we represent to ourselves a number of things as existing at one and the same time (simultaneously) or at different times (successively)" (Kant in Churchman, 1950:101).

Similarly in order to appreciate any object we need some general concept of space. For Kant our appreciative world is made up of sensory input that is given meaning by some base assumptions. Kant builds a philosophy that attempts to explain the way we shape sensory input into some "understandable form" (Churchman, 1950:104). Kant builds a theory of how our appreciative systems work.

Any appreciative system needs as components some *a priori* concepts that are assumed in any experience of the 'real world'. These a priori concepts are presupposed. They are not acquired from sensory input. An appreciative system may after sensory input derive other concepts which are then called *a posteriori*. A priori concepts are necessary in order for an appreciative system to produce any experience, and a posteriori concepts develop from experience.

Kant divides a priori assertions into two types, analytic and synthetic. In analytic statements the meaning of the predicate is contained in the meaning of the subject (Churchman, 1950). An example of this is "Blue cars are cars" since the predicate (cars) is contained in the meaning of the subject (Blue cars). These sort of statements do not add to our understanding of the world.

Synthetic statements are where the meaning of the predicate is not contained in the meaning of the subject. An example of this is "Shared values are good for organisations". Synthetic statements convey information about the world. The a priori assertions which help give meaning to sensory input and thus form our appreciative world must be synthetic (Churchman, 1950). We can only 'know' the validity of synthetic a priori assertions through testing and observation in the real world.

A priori concepts are also distinguishable by their degree of independence from experience. Absolute a priori concepts represent knowledge that is "absolutely independent of all experience" (Kant in Ulrich, 1980:320). Kant labels such concepts "pure": they have no sensory content and their purpose is to organise experience. Space and time are considered absolutely a priori (pure) concepts.

Relative a priori concepts are independent of experience "in a given situation" (Ulrich, 1980:320). These concepts are not independent of empirical content, but the content needs to be determined prior to the experience. Ulrich (1980) provides the systems concept as an example. When we refer to the systems approach we see it as a useful tool for describing and explaining reality. The approach demands conceptual boundaries that define what is to be considered as belonging to the system and what is considered as belonging to the environment. Ulrich (1980:321) points out that the conceptualisation of a system is not arbitrary (apart from value judgements), "it takes empirical knowledge to draw the boundary in a meaningful way". Since boundaries need to be determined before the systems approach can "meaningfully be applied to describe the situation", both the boundary and systems concepts "must be regarded as relatively a priori to any empirical statement about the system".

What are the categories of synthetic, relatively a priori assertions that need to be present in a change agent's appreciative system so that it can develop a meaningful appreciative world about any purposeful system? Later we will examine Churchman's (1971) nine necessary conditions that are an attempt at formulating a frame of such assertions.

The problem of comprehending the whole system.

Churchman (1979:5) argues that "in the broader perspective of the systems approach no problem can be solved simply on its own basis". Every problem and system have a greater environment of which they are a part and to which they are somehow connected. When conceptualising any system we need to be careful that we do not neglect to think through how the system we have mentally constructed is connected to its environment. If we fail do this we commit "the environmental fallacy" (Churchman, 1979:4).

The choice of what belongs to a system and what belongs to its environment is entirely up to the change agent. In the real world there is no objective neatly bounded system waiting to be improved. A system's environment is just a larger whole of which the system is a part. This reasoning can be escalated upward until the containing whole system is the planet earth or the known universe. From this incomprehensible whole how does the change agent select a system that is relevant and useful? What framework of synthetic, relatively a priori assertions does the change agent's appreciative system need to contain?

Questions are useful in the systems approach in that they are the vehicles that bring us information about reality. The point is to find the useful questions. Useful questions are those whose answers enable us to improve our comprehension of reality. Some of the most basic questions that need to be asked by any organisational change agent are:

- "What is actually going on here?" (Current Reality)
- "What ought to be going on here?" (Desired Future).
- "What can we do about it?" (Implementation)

These three questions form the foundation of most modern approaches to change management. The questions are however not as simple to answer as they are to pose. The philosopher Kant (Churchman, 1979:145) believed that these three questions were the essence of all his philosophy:

"All the interests of my reason, speculative as well as practical combine in the three following questions:
1. What can I know?
2. What can I do?
3. What can I hope?"

We can see that the problems facing the change agent in organisations are fundamental in that they are similar to the age old problems faced by philosophers. The following table draws comparisons between Kant's basic questions in philosophy, the questions faced by change agents, and the modern organisational terms.

Kant's Question.	**Change agents question.**	**Modern term.**
What can I know?	What is actually going on here?	Current reality.
What can I hope?	What ought to be going on here?	Ideal Future/Vision.
What can I do?	How do we change from is to ought?	Redesign and Implementation.

The three meta-questions form an interdependent triad for the change agent. Although questions one and two can be tackled in any order it is difficult to answer question three without first having a good understanding of the current situation and the desired future one wishes to create. The systems approach provides methods which help in exploring these problems. In order for change agents to act responsibly in any organisational situation they need to develop a good understanding of what is actually going on. One of the useful ways of doing this is to view the situation as a system. The problem now becomes where does one draw the boundaries of the system? Or more explicitly: how do we define the system? Churchman (1971) developed nine conditions that need to be defined by any one interested in a system. By recognising these condition in any situation one is in fact declaring the basic boundaries of the system. Before discussing the conditions, some basic concepts of the systems approach are defined.

The systems approach.

The systems approach is one way that humans define reality. It is based on the principle that all components of human reality *should be* connected together in one "grand rational scheme" Churchman (1979:8). Carter *et al* (1984) present the following definition of a system:

A *recognisable whole* which consists of a set of *inter-dependent* parts. More specifically:

- A system is an assembly of components, connected together in an organised way.
- The components are affected by being in the system and the behaviour of the system is changed if they leave it.
- This organised assembly of components *does something.*
- This assembly as a whole has been *identified by someone who is interested in it.*

The problems associated with the human comprehension of such a grand scheme (whole system) make up the fundamental issues that the systems approach attempts to address. It is important to note that when the concept 'system' is used it does not propose that the real world is made up of systems, rather that it is useful to view the real world, or parts of it, as systems. The *'system' is a mental construct.* The real world (or parts thereof) may or may not be a system, what is important is that it is useful to think of it as a system.

Churchman's (1971:43) nine necessary appreciative conditions.

Before being able to *conceive* something *S* as a system the following conditions (boundaries) need to be recognised by the change agent:

1. *S* is teleological
2. *S* has a measure of performance
3. There exists a client whose interests (values) are served by *S* in such a manner that the higher the measure of performance, the better the interests are served, and more generally the client is the standard of the measure of performance
4. *S* has teleological components which coproduce the measure of performance of *S*
5. *S* has an environment (defined either teleologically or ateleologically), which also coproduces the measure of performance in *S*
6. There exists a decision maker who - via his resources can produce changes in the measure of performance of *S*'s components and hence changes in the measure of performance of *S*
7. There exists a designer, who conceptualises the nature of *S* in such a manner that the designers concepts potentially produce actions in the decision maker, and hence changes in the measures of performance of *S*'s components, and hence changes in the measure of performance of *S*
8. The designer's intention is to change *S* so as to maximise *S's* value to the client
9. *S* is "stable" with respect to the designer in the sense that there is a built in guarantee that the designer's intention is ultimately realisable.

By recognising these conditions in any situation the change agent is organising and developing his appreciative system.

Condition 1: *S* is teleological.

Churchman believes that it is necessary to assume that systems are teleological. This means that some of the properties of a system are functional. Churchman regards the concept of a teleological system as extraordinarily complex. It is essential that a working understanding of the concept is developed in order to strengthen our understanding of the systems approach.

Teleology in this sense draws its meaning within the context of a cause-effect model of nature. Within this model it is useful to define "functional classes". Drawing on the work of Singer (1959), Churchman(1971:44) defines a functional class as "made up of entities that are alike with respect to their production of a certain end result". A designer when considering any system must be able to build a cause-effect model that predicts what end results would occur if the state of certain entities were to change. Senge (1990:73) stresses that designers should be "seeing interrelationships rather than linear cause-effect chains" and "processes of change rather than snapshots".

In order to build such models designers need to identify the *producers* of end results. For an entity to be regarded as a producer of an end result the following conditions need to satisfied.

1. The time that the producer occurs must precede the time of the end result occurring.
2. That in order for the end result to occur the producer must have preceded it.
   (If the end result does not occur the producer did not occur.)

All the producers that are essential to any end result are said to belong to the same functional class. "It is essential that there be a purposive individual who can produce alternatives that lead to varying degrees of success to his desired objectives" (Churchman, 1971:47). These 'alternatives' are producers that are necessary for some end result (purpose).

Teleology and social (human populated) systems.

Ulrich (1983) further develops the concept of teleology by drawing a critical distinction between purposiveness and purposefulness. Purposiveness is a measure of the performance of means or tools, while purposefulness refers to " the critical awareness of self reflective humans with regards to ends or purposes and their normative implications for the affected" (Ulrich, 1983:328). It is extremely difficult to model human populated systems on a cause and effect basis. This is because humans have free will ("purposeful choice" (Ulrich, 1983:328). Human populated systems have a capacity for intrinsic motivation, that is they have internal sources of purposefulness that are "distributed throughout the system itself" (Ulrich, 1983:327).

The following regulative principle serves as a critical reminder to those intervening into social systems by providing 'better' tools or 'ways of doing things': *"In real-world problem solving and design, purposiveness (of tools) depends on purposefulness (of people using tools)"* (Ulrich, 1983:332).

Condition 2: *S* has a measure of performance.

In order for a system to be teleological (see Condition 1) there needs to be someone who has a picture of some desired end result, or product of the system. This person must also be able to conceptualise different ways of achieving this end result. Churchman recognises three such roles: a client (Condition 3), a decision maker (Condition 6), and a designer (Condition 7). The client defines *S*'s measure of performance.

The designer can describe the client's desired end result by a list of properties (goals and objectives). Each of these could be compared to the others and estimates made as to how much of one would be sacrificed in order to increase another. The designer has to be able to measure these preferences. To this end he articulates a measure of performance that reflects the client's principle rules for determining preference in objectives of the system.

Condition 3: There exists a client whose interests (values) are served by *S* in such a manner that the higher the measure of performance, the better the interests are served, and more generally the client is the standard of the measure of performance.

Churchman makes note of the assumption that "the designer's intentions are always "good" with respect to the client, i.e. that the designer's value system is identical to the client's" This in reality is improbable and will be commented on later in this paper. One of the most important tasks to be performed when inquiring into or designing a system is the identification of the client. The client is unlikely to be a single person but rather "a complex of persons whose interests ought to be served" (Churchman, 1971:48).

Four strategies are suggested for use when deciding on who the client is (Churchman, 1971:48). These are classified on how appropriate Systems Design (SD) is believed to be for short and long range planning goals.

1. SD is appropriate for short-term goals not for long-term "ultimate" objectives.
   Choose the client whose short-term goals are legal. This is teleological in the short-term and ateleological in the long term.

2. SD is appropriate for both short and long-term goals.
   Choose the client whose long-term aims are deemed ethical. This is teleological in both the short and long-term.

3. SD is appropriate only for long-term goals.
   Short-term decisions are made on moral grounds. Choose a client who acts on moral motives. Do not design short-term systems for them. This is ateleological in the short-term and teleological in the long term.

4. SD is inappropriate for short and long-range goals.
   It is meaningless to choose any client. This strategy is essentially "anti-planning"

Condition 4: *S* has teleological components which coproduce the measure of performance of *S*.

Most systems are difficult to understand as wholes. By defining their components we are able to describe systems better. These components can be viewed as potential producers of a set of end results (see Condition 1). What is important is the relationship of these coproducers to the performance of the whole system. Once this relationship is understood the designer can predict the overall effect of changing the measure of performance of one component.

In order to conceive *S* as a system the designer must be able to understand how changes in the components produce changes in the whole. Churchman (1971:50) details three levels or degrees of understanding of the relationship between the components measures of performance (m1, m2, m3 etc.), and the whole system measure of performance (M).

1. Weakest understanding of connectedness.
   Here the designer considers M maximised only if all components (m1, m2, m3 etc.) are maximised. In this case there is no commitment to any explicit relationship, and progress is usually by trial and error.

2. Moderate understanding of connectedness.
   The designer believes that a change in a range of values of a producer (m1) will cause a positive change M. The designer hopes to improve the whole part by part. If the changes in a part result in a negative effect on the whole then another part will be selected for improvement.

3. Strongest understanding of connectedness.
   The designer is able to commit himself to a model that describes the functional relationship between the producers and the whole.

Condition 5: *S* has an environment (defined either teleologically or ateleologically), which also coproduces the measure of performance in *S*.

The environment coproduces *S*'s measure of performance, and all producers require one in order to produce. The environment is all changes that are not produced by the decision maker (see Condition 6). To complicate the matter the environment itself is likely to be changing over time.

Condition 6: There exists a decision maker who, via his resources, can produce changes in the measure of performance of *S*'s components and hence changes in the measure of performance of *S*.

As with the client (condition 3) the decision maker may be a group of purposeful individuals. These individuals control the resources that may be applied to the producers. Through these resources the decision maker coproduces the end result along with the environment. In this case Churchman (1971:48) recognises that the value system (measure of performance) of the decision maker need not be the same as that of the client and the designer (condition 7).

Condition 7: There exists a designer, who conceptualises the nature of *S* in such a manner that the designer's concepts potentially produce actions in the decision maker, and hence changes in the measures of performance of *S*'s components, and hence changes in the measure of performance of *S*.

We can now easily imagine the challenge that the designer faces in conceptualising any real system. He identifies a client whose interests he believes should be served by the whole system. He also recognises a decision maker who has the resources to produce the future state of the system. If the decision maker's value structure is not the same as the client's, the designer will attempt the change it. The selection of the client and decision maker becomes one of the most important and difficult problems faced by the designer. The designer needs to realise how important he is in defining the system. He needs to develop an understanding of his own role and an understanding of the system.

Condition 8: The designer's intention is to change *S* so as to maximise *S's* value to the client.

We have already seen that the selection of the client poses problems for the designer. The problem of a mismatch between the designer's value system and that of the client is one of the most important in business today.

Condition 9: *S* is "stable" with respect to the designer in the sense that there is a built in guarantee that the designer's intention is ultimately realisable.

The chief guarantee that the designer has is the quality of his own understanding of the components (producers) and their relationship to the whole system. *The designer must recognise that the development of this understanding is one of his fundamental tasks. The purpose of this paper is to provide tools and examples that facilitate this.*

Churchman (1979) adds another category of conditions which can be interpreted as an attempt to highlight the need for change agents to reflect on their philosophy of change (or planning). In the appreciative system they serve "a critical rather than constitutive role" (Ulrich, 1980:425). These conditions will be discussed when Ulrich's (1983) methodology for planning of, and intervention in human populated systems is presented.

Three categories of Purpose: goals, objectives, and ideals.

From the above it can be seen that one of the key boundaries that needs to be decided is the purpose of the system. It is useful to categorise the purpose of a system into time related sets. (Churchman, 1979).

- *Goals* - these reflect the short term purpose.
  These are used when it is possible to clearly define the system. One can say that in this case the designer/change agent is dealing with givens.
- *Objectives* - these reflect longer term purpose.
  This refers to the problem of imbedding and connecting givens into a larger system or environment. The givens from containing systems are in the form of data descriptions that bound the problem. No attempt is made to question the relevance of these boundaries.
- *Ideals* - these reflect the ultimate purpose of the system.
  This puts aside the given boundaries of the system and then redefines the purpose of the system. The main difference in this type of purpose is that it demands an unfolding process in which inquiry strives to become more and more comprehensive.

An appreciative frame for human populated systems.

Background: appreciations of organisations.

Ackoff (1994) describes the evolution in appreciation of organisations. A useful way to highlight the differences in the ways of viewing organisations is to focus on how the views interpret the categories of Client, Purpose, and Measure of performance (MOP) with respect to organisations.

View	Category	Characteristic
Machine	Client	Individual owner of the business.
	Purpose	Maximise profit and Return on investment (ROI).
	MOP	Profit and ROI.
Organism	Client	Organisation ("construed as person"; Ackoff, 1994:10) Shareholders - multiple owners of the business.
	Purpose	Survival, Profit and ROI - maximise shareholder value.
	MOP	Growth and flexibility, Profit and ROI, shareholder value.
Social System	Client	Many including those of organism view. Internal individuals whose interests should be served. Larger systems (e.g. society) that contain the organisation.
	Purpose	Many including those of organism view. Fulfilment of internal individual's needs Fulfilment of societal needs (housing, education, etc.).
	MOP	Survival, Profit and ROI, shareholder value. Development of individuals capacity to satisfy own needs Development of society to satisfy needs.

As with Churchman (1971), Ackoff (1994:16) regards the concept of purpose as key in any systems approach: "Social systems are systems that have purposes of their own, are made up of parts that have purposes of their own, and are parts of larger systems that also have purposes of their own, and these larger containing systems include other systems that have purposes of their own." From this definition the modern organisation can usefully be viewed as a social system.

Later in part 3 we will develop appreciative frames that can be used to view the organisation from structural, technical, personal and implementation perspectives. These will however be related to the social, or human populated, systems frame. We have so far covered the appreciative system and how it requires certain synthetic, relatively a priori assertions in order to function. Churchman's nine conditions are such assertions that are required in order for the change agent's appreciative system to be able to conceive of organisations as systems. In order to develop an appreciative frame for human populated systems we will now introduce Ulrich's (1983) "Critical Systems Heuristics for Social Planning".

Introduction: Ulrich's (1983) conceptual frame.

Ulrich (1980, 1983) further developed the ideas of Churchman (1971, 1979) by building an epistemological foundation of a critical systems approach for planners. He draws heavily on the work of Kant and builds a set of synthetic, relatively a priori judgements into a frame for use by planners. The 'critical' focus of his approach refers to the fact that these synthetic, relatively a priori judgements "cannot be justified either logically (as can analytic judgements) or empirically (as can synthetic a posteriori judgements). Only a critical solution to the validation problem is possible in this case" (Ulrich, 1980: 420).

When change agents map any part of the real world their appreciative system makes assumptions and judgements about what belongs to the system and what belongs to the 'environment'. For example some change agents involved in business reengineering may implicitly consider people as part of the process or system being redesigned, while others may not. Are existing computer systems viewed as part of the process to be redesigned, or are they to be taken as given (part of the environment)? These assumptions may have far-reaching implications. Ulrich (1983) labels such assumptions 'boundary judgements'. These boundary judgements are synthetic relatively a priori judgements that underlie and help form the change agent's appreciative world. Ulrich argues that it is not the territory (real world) that decides such boundaries but rather:

- The change agent's standpoint or perspective.
- The objective or purpose of the mapping.
- The change agent's preconceived ideas about the territory.
- The values assigned to the territory by the designer.

There is an obvious need for an inquiry process that will reveal the boundary judgements that those involved in organisational change are inevitably making. Once the normative content (assumptions and boundary judgements) have been surfaced, they can be tested through critical reflection.

Ulrich (1983) makes a distinction between those 'involved' in the process of organisational change and those who will be 'affected' by it. The *involved* have input into the planning process while the *affected* are those who do not have input but may have to bear the consequences of the change. Ulrich (1983) believes that the normative content inherent in any plan can only be substantiated by the consent of those affected by the designs. He further argues that it is the change agent's *responsibility* to ensure the transparency of his appreciative system and to discover its potential repercussions. The designer would have to enter into discussions with those affected by the change in order to ensure the "moral and democratic legitimacy" of his maps and designs. Critical Systems Heuristics (CSH) is a conceptual frame that provides heuristic support in surfacing, testing and improving the normative content of maps and designs.

The label Critical Systems Heuristics implies three concepts:

- *Critical:* This refers to the process of change agents making transparent to themselves and the 'affected' the assumptions that underlie their designs. The plans, new structures and new processes designed during organisational change must not be presented as the only objective possibility.
- *Systems*: This is concerned with the inevitably selective way change agents see the 'whole system', and therefore the need to critically reflect on the unavoidably limited nature of their designs. Are there different perspectives on the system?
- *Heuristics:* This is about assisting change agents to discover their own assumptions and providing a process to keep these under constant review. It is a structured trial-and-error learning process. (Adapted from Jackson (1991)).

The three critical principles/standards of planning and design.

Before proceeding any further it is important to gain an insight into the appreciative system that lies behind CSH. These values are best reflected in Ulrich's (1983) three critical standards, or heuristic principles. These provide the change agent with critical mirrors through which he can become aware of the limitations of his appreciative system. Ulrich (1983:263) promotes a "dynamic" interpretation of the three principles in which dialogue is used to "unfold" the assumptions of participants.

The systems principle (process of unfolding):

"In order to discover the sources of deception in your maps, look for comprehensiveness on the side of the conditions and reflect on the inevitable *lack* of comprehensiveness in your maps, as if there were a completely intelligible whole system (totality of relevant conditions.)" (Ulrich, 1983:260). This principle supports a *"process of unfolding"* the "whole" system and all its conditions (Ulrich, 1983:263).

The moral principle (ethical process):

"Design for the improvement of the human condition, and reflect on the inevitable *lack* of moral perfection of your designs, *as if* those affected by your designs were self responsible moral beings." (Ulrich, 1983:261). This principle enables an *"ethical process"* and Ulrich (1983:263) likens it to Jung's "process of moral individuation".

The guarantor principle (process of disillusionment):

"Design for guarantee, and reflect on the inevitable *lack* of guarantee in your designs, *as if* there were a built in guarantor of design." (Ulrich, 1983:262). This idea will support a *"process of disillusionment"* or a "process of democratisation" Ulrich (1983:263), through which the affected can emancipate themselves from the domination of the experts.

The involved and the affected.

The basic distinction made between roles within any situation in which change is being planned is between those involved in planning and design and those affected by such plans and designs. Ulrich (1983) makes it clear that when using the label *involved* we include those affected and involved, and when referring to the *affected* we include only those affected but not involved.

Sources of purposefulness in human populated systems.

Ulrich (1983) describes four sources of purpose that emanate in social systems. They are sources of motivation, control, expertise and legitimation. These sources are important parts of any change agent's appreciative system. *Identifying the current and ideal sources of purposefulness in the organisation will drastically increase an agent's understanding and ability to manage situations.*

Sources of motivation (client: involved).

Ulrich uses the following definition " Power is the ability of an individual or a group to impose its purpose on others" (Galbraith, 1975:88 in Ulrich, 1983:245). The question of power is especially relevant in organisations where the change effort and its intended results are being marketed as *empowering*. Ulrich labels the group whose purposes (values, interests) are, or ought to be, served the 'client'.

Sources of control (decision maker: involved).

This reflects all those who can (should) influence the outcome of progressive change. Who has (ought to have) the decision authority over resources? Who has (ought to have) decision making power? Who will effectively manage the change process? Ulrich (1983) labels this group the 'decision maker'.

Sources of expertise (planner: involved).

This category is made up of all those who contribute (ought to contribute) their skills or knowledge to the change effort. Ulrich (1983) labels this group the 'planner'. The involved, client, decision maker, and planner are not necessarily mutually exclusive, nor do they need to be formal groups within the organisation. The three sub-categories are intended to cover all of the involved.

Sources of Legitimation (Witnesses: affected).

Practically, the affected can only be represented in planning and design by a limited number of representatives chosen by the affected. Ulrich (1983) labels this group 'witness' since they contribute by bearing witness to the ways in which the affected may view, or burden the cost, of any intervention.

The case of the affected reminds the involved of their moral accountability for the actual outcomes and consequences of the organisational change. Their obligation should transcend the requirements of the client and include the risks and costs that may be forced upon the affected. Ulrich (1983:257) believes that "the essential point is that the affected must be given the chance of emancipating themselves from being treated merely as means for the purposes of others."

The heuristics.

In order to better uncover the assumptions entering into any design, Ulrich suggests three questions to be asked about each of above four sources of purposefulness: client, decision maker, planner, and witness.

- Who should contribute to the design and planning of the system?
- What is important to each of the groups?
- Are there any assumptions that are being made by the groups that are not being made explicit? What is the "crux" of the group's concern?

To aid in revealing the normative content of designs, the questions need to be asked in an "is" and "ought" mode and then compared. In this way the change agent builds an actual (what is going on here), and ideal (what ought to be going on here), map of the sources of purposefulness in the system. The answering of the questions provides information about the situation and assumptions present in the situation; they are not meant to, and do not, justify these assumptions. According to Ulrich (1983) the assumptions within a situation can only be validated through rational discourse between the involved and the affected.

It is the responsibility of the involved (change agents) to identify and reflect on their assumptions before submitting recommendations concerning organisational change. When reading through the questions it may be useful to ask them concerning some change you have been or are involved in.

Sources of motivation - (client)?

(1.) Who is/ought to be the system's actual client, i.e. who belongs to the group whose interests and values are served vs. those who do not benefit and have to live with the consequences?

(2.) What is/ought to be the actual purpose of the systems design, measured not in terms of declared intentions of the involved but in terms of the actual consequences (outcomes)?

(3.) What is/ought to be, judged by the design's consequences, the design's built in measure of success?

Sources of control (decision maker)?

(4.) Who is/ought to be the decision maker i.e. who can change the measure of success?
(5.) What conditions for the successful planning and implementation of the design is/ought to be controlled by the decision taker?
(6.) What conditions are/ought not to be controlled by the decision taker, i.e. what represents environment to him?

Sources of expertise (planner)?

(7.) Who is actually/ought to be involved as planner?
(8.) Who is/ought to be involved as 'expert', what is the nature of his expertise, what role does he actually play?
(9.) Where do/ought the involved seek the guarantee that their design will work? In the theoretical competence of experts? In consensus among experts? In the validity of empirical data? In mathematical models/computer simulations? In political support from interest groups? In the experience/intuition of the involved? Can these ensure the design's success?

Sources of legitimation (witness)?

(10.) Who among the uninvolved witnesses represents/ought to represent the concerns of the affected? Who is/ may be affected without being involved?
(11.) Are/ought the affected given/be given the chance to emancipate (liberate) themselves from the experts, or do the experts decide what is right for them? Are they treated as means for the purposes of others?
(12.) What world-view is actually/ought to be underlying the design/plan. Is it the view of (some of) the involved or (some of) the affected?

The involved's responsibility.

Ulrich's (1983) basic premise is that all use of expertise in planning and designing social systems presupposes assumptions about the situation to be improved. It is the responsibility of the involved (clients, decision makers, and planners) to make transparent and reflect upon the normative content of their designs. One way of doing this is by making clear to the affected the nature of the expertise one has and also areas in which that one is *not* an expert. The involved are often not experts about the context at hand but rather about methods and tools which may facilitate the improvement of the situation.

How can the affected defend themselves against the involved?

Ulrich (1983) suggests a method which he labels the *polemical employment of boundary judgements.* In essence, if the affected use their own overtly subjective assumptions in a critical way (by comparing them to the assumptions made by the involved) they will shift the burden of justification onto the experts. By doing this the affected can illustrate three crucial points:

- That the expert is making assumptions about the situation to be improved.
- That the knowledge of the experts can't justify their own assumptions or falsify those of the affected.
- That the experts who attempt to validate their own assumptions on the basis of their own knowledge or by referring to "objective necessities", are being dogmatic or cynical and therefore disqualify themselves.

This facilitates an equality between the involved and the affected and therefore lays the foundation for reasonable participation.

The change agent's appreciative system.

Ulrich provides a useful appreciative frame for human populated systems with which the change agent can

- select certain aspects of a social system situation
- discriminate these aspects from others
- compare them against a some standard (Actual vs. Ideal)

My argument is that *the change agent's understanding of what is occurring in any human populated organisational situation is far better for having the CSH frame*, and the better the understanding of a situation is the more effective the change agent will be.

We have now covered the performance criteria for change agents, how the appreciative system works, and how the systems approach helps in providing appreciative frames for change agents involved in organisational change. Before developing the whole appreciative framework (Part 3) let us consolidate our understanding by applying Ulrich's (1983) frame to business process reengineering as a human populated system, this follows in Part 2.

Part 2: Investigating sources of purposefulness in traditional Business Process Reengineering (BPR).

This section applies the appreciative frame for human populated systems described in Part 1 by using it to investigate traditional BPR.

"People arrive at a factory and perform a totally meaningless task from eight to five without question because the structure demands that it be that way there's no villain, no "mean guy" who wants them to live meaningless lives, it's just the structure, the system demands it and no one is willing to take on the formidable task of changing the structure just because it is meaningless.

But to tear down a factory or revolt against a government or to avoid repair of a motorcycle because it is a system is to attack effects rather than causes; and as long as the attack is on effects alone, no change is possible. *The true system, the real system, is our present construction of systematic thought itself, rationality itself,* and if a factory is torn down but the rationality which produced it is left standing, then that rationality will simply produce another factory." (Pirsig, 1973:94).

BPR: An introduction.

Many companies are today involved in "business reengineering". Many of the same companies are involved in trying to change their culture to one that is more open, and to improve their rate of organisational learning. In some organisations building viable teams and employee ownership of business processes are the stated goals of the business reengineering effort.

Hammer and Champy (1993:32), define BPR as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service, and speed". For Hammer and Champy "fundamental rethinking" entails asking basic questions about our companies, and how they work. We need to ask w*hy* we do what we do (what is the purpose?), and why do we do things the way we do? (From a systems view: Why is the system designed as it is, and is this a good design?). By doing this Hammer and Champy believe that people will be forced " to look at the tacit rules and assumptions that underlie the way they do business." This section illustrates one way of surfacing and critically reflecting on some of these assumptions.

"Radical redesign means getting to the root of things: not making superficial changes or fiddling with what is already in place, but throwing away the old" (Hammer and Champy, 1993:33). Reengineering brings with it massive change for an organisation and its people. According to Hammer and Champy (1993:80) it "ultimately changes practically *everything* about the company". Four aspects of the business are highlighted for change; people, jobs, managers, and values. This presents an awesome responsibility to anyone involved in BPR, since the working life of many people will ultimately be affected by their planning and designs.

Hammer (1994:59) to his credit has begun to recognise some of the problems inherent in BPR: "While it is optimistic (and accurate) to describe working in a reengineered company as exiting, stimulating and rewarding, it can just as accurately (albeit pessimistically) be described as stressful, anxiety-laden and overwhelming .... Are we actually prepared for such an intense working life? One reengineering pioneer observed that his efforts, "had saved the company, but had destroyed the organisation". Another said, "operating results are spectacular, but day to day life is grim." If we survive the process of reengineering, will we be able to operate in its aftermath?"

The systems approach may offer some help in coping with what is beginning to be recognised as a complex intervention. The task of surfacing the assumptions that underlie any BPR effort is not an easy one. There is a danger of only dealing with the most obvious reasons for BPR. In the spirit of the systems approach we have however to wrestle with any unintended consequences of our actions within BPR. In this way we become more comprehensive in our thinking and subsequent action.

Traditional sources of purpose in BPR.

In order to demonstrate the application of CSH and through this gain insight into Hammer and Champy's (1993) process of reengineering let us inquire into it as a social system. It is important to note that we will be focusing on reengineering as a system and not at this stage on any specific application. Hammer and Champy (1993:102) identify five roles that have emerged within companies undergoing BPR:

- *Leader:* a senior executive who authorises and motivates the overall BPR effort.
- *Process Owner:* a manager with responsibility for a specific process and the BPR effort focused on it.
- *Reengineering team:* a group of individuals dedicated to the reengineering of a particular process, who diagnose the existing process and oversee its redesign and implementation.
- *Steering committee:* a policy making body of senior managers who develop the organisation's overall reengineering strategy and monitor its progress.
- *Reengineering Czar:* an individual responsible for developing BPR tools and techniques, and for achieving synergy across the company's separate BPR projects.

These roles are not explicitly identified as social roles but can be viewed as such while using a social systems appreciative frame. The absence of any witness role is immediately apparent.

Using the heuristics to examine BPR.

I have chosen to use the questions contained in the human populated systems frame to examine the assumptions behind BPR as they are presented in Hammer and Champy (1993). The critical intent of the questions is highlighted by asking them in both the 'is' and 'ought' modes. The 'is' questions surface Hammer and Champy's assumptions and implications concerning BPR relative to the 'ought' answers, which will unfold the systems approach's assumptions. The notation (H&C) will denote Hammer and Champy (1993).

I do not pretend to do justice (be comprehensive) in my interpretation of Hammer and Champy (1993) since this section's purpose is merely to allow an initial exploratory application of the human populated systems frame. The inquiry will be broad and the answers limited to those that provide illustrative value. It is performed in the spirit of the fact that "Reengineering is a young art, and there is room for more than one approach" (H&C:116). The structure of the inquiry will be around the four sources of purposefulness identified within CSH: client, decision maker, planner, and witness.

Sources of motivation: clients of the BPR project.

"Power is the ability of an individual or a group to impose its purpose on others" (Galbraith, 1975:88 in Ulrich, 1983:254). The question of power in BPR is an important one. This is especially relevant in organisations where the BPR effort and its intended results are being marketed as progressive and empowering.

1 (a) Who is BPR's actual client, i.e. who belongs to the group whose interests and values are served vs. those who do not benefit and have to live the consequences?

- The "Leader" who benefits by using BPR to express "a passion to reinvent the company" (H&C:103). He is certainly an actual client if "It's a self-nominated and self-appointed role" (H&C:103).
- The "Steering committee" (H&C:114) provides direction, therefore their interests are being served to some extent.
- The reengineering team. "These are the people who actually reinvent the business" (H&C:109). Benefits enjoyed are experience, travel, and learning.
- The team members of the "work units" that "change from functional departments to process teams" (H&C:65) will have to live with the consequences of BPR.

1 (b) Who ought to be the client (beneficiary) of BPR?

- All humans who make up the system being reengineered. (Customers, staff, shareholders, suppliers etc.).

Ideally, all people in the system being reengineered ought to be viewed as sources of motivation. Being aware that members of the reengineering team may not have to live and work in the new structures and processes that they are building, highlights the need for wider involvement. Those 'involved' in core reengineering teams often benefit from travel and training not enjoyed by those 'affected' by the effort.

2 (a) What is the actual purpose of BPR, measured not in terms of declared intentions of the involved, but in terms of the actual consequences (outcomes)?

- The declared intentions are contained in the definition of reengineering. The purpose is to "achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service, and speed" (H&C:32).
- The actual outcomes may reflect the declared intentions but they may be that "operating results are spectacular, but day to day life is grim. If we survive the process of reengineering, will we be able to operate in its aftermath?" (Hammer, 1994:59)

2 (b) What ought to be the purpose of BPR?

- To develop an organisation that reflects the shared values of its members.
- To increase the organisation ability to develop.
- Increasing the organisational and individual's ability to fulfil legitimate needs.
- The creation of a purposeful system (see page 19).

Sources of motivation: clients of the BPR project.

I have found the questions about purpose enlightening. There is not only often a tension between the declared intentions and the involved's personal intentions, but also possibly between declared intentions and actual outcomes.

3 (a) What is judged by BPR's consequences, BPR's built- in measure of success?

- The reduction of operational service and production costs.
- Improvement in service to customers through:
  The reduction of lead-times on service and production requests.
  An increase in the quality and accuracy of service and production.
- The ability of the new work units to constantly improve the above measures.

3 (b) What ought to be the design's measure of success?

In addition to the above the following:

- The increase in participation and decision making for team members within the new structures.
- Increase in the capacity of stakeholders to meet their needs.
- The development of all staff.

Organisations are groups of people, not just cost ratios, lead-times, and quality statistics. Change agents are more effective if reminded of this fact every once in a while.

Client: critical reflections against the three principles.

Systems principle: Process of unfolding.	Attempt to sweep in as many purposes that are inherent in the system, and build common purpose.
Moral principle: Ethical process.	Limit the use of people as means to produce ends that they themselves have not been involved in conceptualising.
Guarantor principle: Process of disillusionment.	Use the creation of shared purpose as a guarantee for successful BPR. Reflect on the limited degree of shared purpose.

The issue of purpose is central to the systems approach since it underlies all other actions within any system. The BPR process may be very different if its purpose is the development of all stakeholder's capacity to legitimately fulfil their needs, versus "dramatic improvements in critical, contemporary measures of performance such as cost, quality, service, and speed" (H&C:32). The critical point is that the first purpose could produce fulfilment of the second, but could the second produce fulfilment of the first? One also needs to ask how sustainable each BPR effort would be?

Sources of control: decision makers in the BPR project.

This set of questions is about decision makers within BPR. Ulrich (1983:255) defines the decision maker as "the complex of persons who can produce and control changes in S's measure of improvement".

4 (a) Who is actually the decision taker, i.e. who can actually change BPR's measure of success?

- The steering committee. "This group decides, for example, the order of priority among all competing reengineering projects and how resources should be allocated" (H&C:114).
- The steering committee who are "part supreme court" (H&C:114) could change the *required* measure of success, i.e. reduce the degree of cost reduction required.
- "The reengineering leader makes reengineering happen. He or she is a senior executive with enough clout to cause an organisation to turn itself inside out and upside down" (H&C:103).
- The reengineering team's members who help in redesigning the business processes take decisions that will affect the actual measure of success.

4 (b) Who ought to be the decision taker, i.e. have the power to change the measure of improvement?

- An implementation group consisting of steering committee, the reengineering team, and elected representatives of the area being reengineered. The decisions taken during BPR need to be validated by those who will be affected by them.

The steering committee alone is not informed enough to unilaterally make decisions on BPR. Such centralisation of power could lead to disastrous results. One of the assumptions related to BPR is that we require 'outsiders' to be involved in the redesign. This is because they are less likely to be constrained by the current reality of the existing situation.

5 (a) What components (resources and constraints) of successful BPR are actually controlled by the decision taker?

- Financial resources.
- Technical resources, in the form of new information technology.

5 (b) What components (resources and constraints) of BPR ought to be controlled by the decision taker to ensure successful BPR?

- All areas being reengineered should report to the decision maker. This will reduce the level of politics and increase the flow of information.
- The human resources affected should be controlled through facilitated participation and the development of shared purpose.

Sources of control: decision makers in the BPR project.

The author takes it as given that some level of coercion will take place during the reengineering effort. Resistance to change and protection of interests and power is unavoidable. These issues need to be tackled with the values of the company foremost in our minds.

6 (a) What conditions are not controlled by the decision taker. i.e. what represents environment to him?

- Human resources cannot be controlled as such since they could have purposes of their own.
- The scope and boundaries of the actual phases of BPR will define whether:
  Existing line of business information systems are taken as given.
  Certain expert functions are regarded as "off limits" and therefore given.
  Certain "turf" is regarded as given for political reasons.

6 (b) What resources and conditions ought to be part of the environment and not controlled by the decision taker?

- Ideally as little as possible. However, if certain things are not taken as given, one runs the risk of attempting to solve all the problems within a business area. This may require large, long and costly BPR projects that soon run into diminishing returns.
- Human resources should be controlled by the reengineering leader who "invests everybody in the company with a purpose and sense of mission" (H&C:103).
- Company values that have been agreed by all should be taken as given.

It is extremely useful to gain explicit agreement on what the scope is for the any phases within BPR. Agreeing on what is to be taken as given (the environment), and what is to be considered for change (the system), reduces the risk of attempting to solve all the problems that may be present in any situation. Change agents need to remain critical and realise that they are always only aware of a portion of the totality of conditions that make up any situation.

Decision maker: critical reflections against the three principles.

Systems principle: Process of unfolding.	Sweep in and unfold the organisational reality by using participation and consultation in decision making.
Moral principle: Ethical process.	At least make people affected by decisions aware of the rationale behind them.
Guarantor principle: Process of disillusionment.	Use consultation and participation to increase the likelihood of decisions being understood and implemented to ensure successful BPR.

Sources of expertise: planners in the BPR project.

These questions aim at the sources of expertise required to map, redesign and implement the improved business processes. Ulrich (1983:255) recognises expertise as a resource but does not treat it as being necessarily under the control of the decision makers.

7 (a) Who is actually involved as planner/designer/change agent?

- Hammer and Champy's five roles (see page 33).
- The members of the steering committee and the core reengineering team are involved in recognising and enrolling further expertise into the project.

7 (b) Who ought to be involved as planner/designer/change agent?

- The actors mentioned above.
- People identified by the affected as being knowledgeable in any process.

Ulrich (1983:256) defines the "planner" as " a special case in that his crucial skill consists in bringing together all the people whose expertise is needed, not in replacing any of them." This person usually has a strong network across the company and constantly creates and maintains relationships between knowledgeable people. They may also develop relationships with experts outside the company. Often relationships are formed with similar companies undergoing BPR whereby mutual learning and a fresh views of reality are obtained.

8 (a) Who is involved as 'expert', what is the nature of their expertise, and what role do they actually play?

- The five roles (H&C:102) all bring certain expertise.
  The technical expert whose expertise is experience in information technology that may enable BPR.
- Consultants whose expertise hopefully arises from having been through successful BPR projects.

8 (b) What kind of expertise ought to flow into the redesign of business processes, i.e. who ought to be considered an expert and what should be their role?

- The above actors.
- "There are no experts in the systems approach...The real expert is still Everyman, stupid, humorous, serious, and comprehensive all at the same time...the problem of the systems approach is to learn what "everybody" knows" (Churchman, 1968:231).
- A learning facilitator whose expertise lies in creating human processes that enable learning.
- A counsellor whose expertise lies in being able to support people through the change.

An "expert" is "whoever has some relevant knowledge, experience or skill to contribute to the planning process". (Ulrich, 1983:255) This is problematical from a BPR point of view,

since although the people who work within the current business processes have experience to offer, one does not want to recreate the old business processes or structures.

9 (a) Where do the involved seek the guarantee that their design will work? Can these ensure the design's success?

H&C (201) take an inverted approach when advising on the guarantees for BPR: " What follows is a catalogue of the most common errors that lead companies to fail at reengineering. Avoid them and you can't help but get it right." (List summarised from H&C:201-213)

* Don't focus on business process, or try and fix a process instead of changing it.
* Ignore everything except process redesign, and neglect people's values and beliefs.
* Be willing to settle for minor results.
* Place prior constraints on the definition of the problem and the scope of BPR.
* Allow existing culture and management attitudes to prevent BPR getting started.
* Try to make BPR happen from the bottom up.
* Assign someone who doesn't understand BPR to lead the effort.
* Skimp on resources devoted to BPR, or bury BPR in the corporate agenda.
* Dissipate energy across a great many BPR projects.
* Attempt BPR when the CEO is 2 years from retirement.
* Fail to distinguish BPR from other business improvement programs.
* Concentrate exclusively on design.
* Try to make BPR happen without making anybody unhappy.
* Pull back when people resist BPR changes, or drag the effort out.

It is unlikely that such a reductionist approach will facilitate the creation of a purposeful system.

9 (b) Who ought to be the guarantor of BPR, i.e. where ought the designer seek the guarantee that his design will be implemented and will prove successful?

- Ideally all members of the company should through their efforts guarantee success.

Ulrich (1983) suggests that one major guarantor that needs to be clarified is the type of consultation model used. The amount of participation and consultation that takes place will reflect the relationship between expertise and practice. Hammer and Champy (1993:201) address this indirectly by advising that one should not "neglect people's values and beliefs". The level of participation that is appropriate for BPR is difficult to attain. On the one hand you seek fast, creative decisions during design, and on the other your primary guarantee that designs will be successful lies in widespread participation.

Planner and expert: critical reflections against the three principles.

Systems principle: Process of unfolding.	Increase learning by including as many sources of expertise as possible as inputs in the design process.
Moral principle: Ethical process.	Beware of expertise that cannot stand up to a wide spectrum of critique by 'ordinary' people.
Guarantor principle: Process of disillusionment.	In human populated systems the only real guarantee of successful and sustainable change is participation and consultation.

Sources of legitimation: witnesses in the BPR project.

The previous roles have been aimed at those involved in BPR. The last questions deal with those that will be affected by the effort. The "affected", do not "contribute resources or expertise, nor do their purposes motivate the planning effort". These are the majority who remind those involved in reengineering of their "moral responsibility for all the practical consequences of their designs" (Ulrich, 1983:256). In BPR this responsibility should go beyond achieving any traditional measures of success, it should extend to the costs and consequences for those who are not in the client group.

10 (a) Who among the involved witnesses represents the concerns of the affected? Who is affected without being involved?

- H&C do not address this problem explicitly.
- Within specific processes some "people who currently work inside the process undergoing reengineering" (H&C:109) will form part of the reengineering team. These "insiders" however are not there to represent the affected, but rather, "act as key agents in convincing the rest of the organisation to buy into changes" (H&C:110).

10 (b) Who ought to belong to the witnesses representing the concerns of the staff who will or might be affected by the changes BPR brings. That is to say who among the affected ought to get involved?

- There should be official representation of the concerns of staff who may be affected by reengineering. These witnesses should be elected to legitimise their input on behalf of the affected.
- The involved can also design processes whereby the affected can be swept into the design process. This is especially relevant when remuneration issues may be under redesign.

For traditional management this idea of having witnesses that represent the concerns of the affected may seem radical. The systems approach believes that the more sources of purposefulness that one is able to sweep in when designing, the better the design will facilitate the creation of a purposeful system.

11 (a) Are the affected given the chance to emancipate themselves from the experts and take their fate into their own hands, or do the experts determine what is right for them? That is to say are the affected treated merely as means for the purposes of others, or are they treated as "ends in themselves" (Kant)?

- H&C do not address the issue of the affected being empowered to emancipate themselves from experts during a BPR project. They do however believe that " People working in a reengineered process are, of necessity, *empowered.* As process team workers they are both permitted and required to think, interact, use judgement, and make decisions." (H&C:70 my italics). They are not however expected to be self reflective "with regards to ends or purposes" (Ulrich, 1983:328). Here H&C are in fundamental conflict with the systems approach.

11 (b) To what degree and in what way ought the affected be given the chance of emancipation from the promises of the involved?

- The affected ought to be able to contribute on issues that have a direct effect on their quality of work life. These include:
  The constitution, leadership and physical location of teams.
  The issues surrounding possible changes in remuneration structures.
- The affected ought to be able to challenge any part of BPR process against the values of the organisation. If shared values (drawn up by all members of the organisation) do not exist, then the creation of these should be one of the first tasks in BPR.

These questions get to the heart of the problem of power in reengineering. How do we radically transform organisations in order to improve costs, quality, lead-times, and flexibility and yet also build organisations that are purposeful and have at their core a set of shared values that are agreed by all in the organisation?

12 (a) What world-view is actually underlying reengineering. Is it the world view of (some of) the involved or (some of) the affected?

- H&C's (iii) world view is reflected in their central thesis - "that American corporations must undertake nothing less than radical reinvention of how they do their work". This is definitely the view of someone involved in BPR. It is unlikely that Hammer or Champy will ever have to work in a reengineered environment.

12 (b) Upon what world views of either the involved or the affected ought reengineering to be based ?

- The shared values of the company undergoing BPR.
- I believe that each person involved in reengineering will have their own world view. The responsibility of those involved is to make their worldview explicit and open to challenge.

These questions point to further problems which haunt reengineering. Is there a correct world view upon which reengineering should be based? What right do I have as a designer to impose my world view on others?

Witness: critical reflections against the three principles.

Systems principle: Process of unfolding.	Attempt to comprehend all the ways that BPR will affect people within the organisation. Inquire into these.
Moral principle: Ethical process.	Reflect on how people may be subtly coerced into 'buying into' BPR. Rather promote people co-creating BPR.
Guarantor principle: Process of disillusionment.	In the end the company is the people. The only real guarantee of any large scale organisational change working is through the involvement and commitment of the people affected.

Other sources of purposefulness.

Churchman in his classic work "The Systems Approach and its Enemies" (1979) characterises four enemies of rational systems planning and change. They are Politics, Morality, Religion and Aesthetics. In the spirit of the systems approach Churchman believes that we need to sweep in the views of our enemies or in more radical terms we need to enter a state of "being ones enemy" (Churchman, 1979:204). His elegant description of this state captures the intended paradox:

"I'm talking about the rational planner who has lived deeply in rationality, in modelling, in conceptualisation, in trying to measure some aspect of reality, and who had taken these tasks with deadly seriousness. In "being" the enemy he/she has not lost this "other me" at all but rather has objectivised it. The resultant "being" is neither a loose dreamer nor a hard thinker. To be the enemy means to release the bonds of hard rationality." (Churchman, 1979:205).

At the end of his book Churchman selects an example to illustrate this thinking. The example is meaningful to change agents since it deals with organisational theory. As a planner Churchman (1979:205) attempts to put himself "in the body of the enemies". The following roles are identified.

The informant.

This role has to do with the organisational process of communicating "politically loaded information" (Churchman, 1979:206). The key role in this process is the 'informant'. this person often has no political aspirations but their special skill lies in the identification of information around which others in the organisation will form polis. Churchman (1979: 206) notes that such information "is often "confidential" or "secret" from the point of view of the collective conscious of the organisation". The informant uses a political approach that is however often moral as well since they do not wish to form polis themselves but rather communicate information that will "stir the moral sensibilities of others".

The instigator/counter instigator.

Instigators form polis around organisational issues. These issues are often "around the need for change" (Churchman, 1979:206). In BPR these instigators recognise the need for fundamental change long before any formal BPR projects are initiated. Counter instigators attempt to "kill the polis" (Churchman, 1979:206) for change. They question the need for change and the risk it will bring to a seemingly stable environment. They are useful in BPR as a critical source of reflection on what can become a frenzy of change. These are essentially politically based roles.

The embarrassor.

This is a key source of critical moral input in any organisation (especially one undergoing BPR). The embarrassor is very aware that "organisations dearly love to make promises

that the collective conscious agrees to and the collective (realistic) unconscious knows is a bunch of malarkey" (Churchman, 1979:206). These promises are often reflected in the principles that organisations are supposedly based on. If the organisation has a formal set of values then these can also be viewed as such ideals or promises. The embarrassor points out at the most critical times that the decisions just taken are in violation of the principles or values of the organisation. This is done with tact and often some humour. Within BPR this role becomes invaluable since often the involved make promises to the affected by agreeing to operate against certain principles and values.

The jester.

When the organisation (or BPR project) is becoming autocratic and the use of authority excessive the jester steps in and counters the situation through effective use of humour. The jester plays an aesthetic role and is useful in reminding those in organisations not to take things too seriously. The jester does not need to be a single person and often a good team spirit allows open jesting between members. Churchman (1979:207) believes that "the more the collective conscious finds itself under pressure, the greater the need for the jester". During BPR the collective conscious of organisations can come under enormous pressure, and there is a corresponding need for humour which allows members to gain perspective. The jester provides invaluable input into any organisation or BPR project.

The medicine man.

This is an aesthetic role that is "alert to any disease that may beset the body of the organisation" (Churchman, 1979:207). The medicine man is usually a good listener who will encourage and support people through change. BPR projects are enriched by this role which can be fulfilled by a professional councillor or psychologist.

Although these other sources of purposefulness are not applied in our framework they are useful in enriching our concept of roles during BPR.

We have now completed our investigation into traditional BPR. Ulrich's (1983) frame for inquiry into human populated systems has enabled us to broaden our understanding of the human dynamics of BPR. Now that our understanding of the human populated (purposeful) frame has been enriched by application let us develop our appreciative framework by defining frames that focus organisational form, technology, people and implementation in BPR.

Part 3: An appreciative framework for change agents in BPR.

This section develops a complete appreciative framework by complementing the human populated systems frame with frames that focus on organisational form, technology, people and implementation. The complete framework enables the change agent involved in BPR to develop a rich appreciative world.

> "Why are mental models so powerful in affecting what we do? In part, because they affect what we see." (Senge, 1990:175).

Purpose of the appreciative framework.

Our purpose is to enhance the effectiveness of change agents involved in BPR by providing a broad appreciative framework of synthetic, relatively a priori concepts that facilitate the unfolding of important components of organisational reality. We have so far used the frame of the systems approach developed by Churchman and later by Ulrich to build an appreciative world of BPR as a human populated (social) system. Within any organisation there are situations that may be viewed through different appreciative frames.

Multiple appreciative frames.

Four appreciative frames that are useful to change agents are developed by the author in this thesis. The following table defines the key focus of each frame.

Frame.	**Key focus.**
Organisational form.	How structure and relationships affect whole system performance.
Technology.	How computer technology affects whole system performance.
People.	How human resources affect whole system performance.
Implementation.	How the implementation of change affects whole system performance.

As components of the whole appreciative framework advocated in this thesis the frames will need to be connected to the overall purpose uncovered in the human-populated frame developed by Ulrich (1983). This integrity or alignment of purpose constitutes the first category of each of the four frames developed in this section. A graphic outline the whole appreciative framework and how the different frames relate is presented on page 50.

The concept of the four frames was conceived by the author by synthesising personal experience in BPR with the idea of multiple perspectives developed by Linstone (1989). A key contribution of this thesis is the creation of the four appreciative frames that are made up of questions developed by the author (unless referenced) to aid in guiding inquiry into any BPR situation.

The questions that make up any frame are organised under four perspectives. The first is always purpose integrity which questions the alignment of the part (organisational form, technology, people, or implementation) to the whole (human populated system). Depending on the frame (see table page 47) the remaining three perspectives will be drawn from Linstone's (1989) perspectives (technical, organisational, and people), and the author's added perspective of implementation. When we view a part of organisational reality through one of the frames it is useful to have different perspectives of that part. Linstone (1989) argues that this enables us to see different aspects of the situation that may otherwise have eluded us. There can be many O and P perspectives in any one situation.

The following table illustrates the organisation of the four frames. The perspectives used are: purpose integrity (PI), organisational (O), technical (T), personal (P) and implementation (I).

Frame.		Perspectives.			
	PI.	O.	P.	T.	I.
Organisational form.	√		√	√	√
Technology.	√	√	√		√
People.	√	√		√	√
Implementation.	√	√	√	√	

Now that we have an understanding of the structure of the multiple frames we will explore Linstone's (1989) concept of multiple perspectives.

Multiple perspectives.

The following table presents a summary of the characteristics of Linstone's (1989) three perspectives:

	Technical (T)	Organisational (O)	Personal (P)
Goal	Problem solving, product	Action, stability, process	Power, Influence, prestige
Mode of inquiry	Modelling, data analysis	Consensual and adversary	Intuition, learning, experience
Ethical basis	Rationality	Justice, fairness	Morality
Planning horizon	Far	Intermediate	Short, with important exceptions
Other characteristics	Cause and effect	Agenda (problem of the moment)	Challenge and response
	Need for validation replicability	Political sensitivity, loyalties	Filter out inconsistent images
	Claim of objectivity	Reasonableness	Need for beliefs
	Quantification	Incremental change	Fear of change

Linstone (1989) stresses the following points:

- Any complex situation may be viewed from any perspective. For example, an organisational decision may be viewed from a T perspective, and technology may be viewed from a O perspective.
- We cannot prove that a set of perspectives is the "right" set any more than an executive can prove he listened to the right input before making a decision. We cannot derive the proper weighting in integrating perspectives any more than a jury can in integrating the testimony of different witnesses.
- Two perspectives may reinforce each other or cancel each other out. They frequently "cross-cue" each other and therefore enrich the overall view.

- The T perspective focuses on analysis. Implementation however depends first and foremost on the use of human resources. This means that O and P become crucial as we move from analysis to action.

The following justifies the use of multiple perspectives in socio-technical situations:

- Each perspective yields insights not obtainable from others.
- The O and P perspectives are essential in bridging the gap between analysis and action.

Guidelines when applying multiple perspectives: (Mitroff and Linstone, 1993:107)

- *Strive for a balance among T, O, and P perspectives.* Balance your own bias, if you are naturally strong on technical issues then make sure you spend time examining the other perspectives closely.
- *Use "good" judgement in selecting perspectives.* There are as many O perspectives as there are divisions, departments and teams in the organisation. For O and P perspectives it is advised that the change agent construct a dialectic between different internal perspectives. Do not always depend on the organisational chart as an indicator of influence. Informal leaders can affect outcomes greatly.
- *In obtaining information, recognise that O and P require greatly different methods than T.* The O and P perspectives emerge from meetings and interviews with groups and individuals. The T perspective is obtained through data and models.
- *Pay particular attention to the mutual impact, interdependencies, and integration of perspectives.* This is one of the most critical steps in the entire process. There is no procedure that guarantees that all interactions are taken into account.
- *Beware of thinking statically in dynamic environments.* Ultimately the systems approach is non-terminating; it recognises the ongoing and dynamic nature of the real world. Actors in the drama of change are entering and leaving the stage, and change their perspectives over time. The change process seems to go through different phases. Cross-queuing and feedback need to occur across phases.

We are now in a position to synthesise the appreciative frames (human populated systems, organisational form, technology, people, and implementation) into a complete appreciative framework for change agents in BPR.

The complete framework.

The approach argued by this thesis recognises the critical need to integrate the four appreciative frames with the human populated systems frame described and applied in parts 1 and 2. Once the containing social system has been unfolded the other parts (organisational form, technology, people and implementation) need to be aligned with its purpose. This facilitates a conscious understanding of how the different perspectives co-produce a rich understanding of the whole system. At a more practical level it facilitates an understanding of how different aspects (purposefulness, organisational form, technology, people and implementation) co-produce the success of BPR.

On the following page a graphic representation of the complete appreciative framework advocated by this paper is presented. The graphic is designed to aid change agents in understanding how the components of the complete framework (the frame for human populated systems, and the four frames) inter-relate to produce a rich appreciative world.

The questions contained in the frames that follow are designed as triggers to aid change agents and designers in surfacing and testing synthetic, relatively a priori assumptions within the context of BPR. The argument is that this process of surfacing and testing assumptions unfolds aspects of organisational reality that may otherwise have been overlooked. *The more comprehensive the understanding of organisational reality the better the chances of successful change.* In Part 4 a real life application of the complete appreciative framework will be illustrated.

An appreciative framework for change agents in BPR.

Argument: The better one understands the 'real-world', including one's own normative assumptions the more chance of succesfully facilitating organisational change.

Root metaphor:
Organisation as a human populated (social) system.

An appreciative frame for human populated systems:

Base assumption: Organisations should be purposeful systems.
Method: Critical Systems Heuristics (Ulrich 1983).

Principle values or ideals: three heuristic principles:
The systems principle (lack of comprehensiveness)
The moral principle (improvement of human condition)
The guarantor principle (lack of guarantee).

Major elements of the appreciative frame: purposeful sources of

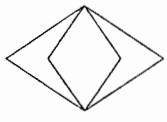
MOTIVATION:	CONTROL:	EXPERTISE:	LEGITIMATION:
Client	Decision Maker	Planner	Witness
Purpose	Components	Experts	Emancipation
Measure of improvement.	Environment.	Guarantor.	Worldview.

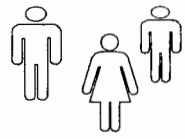
Within the context of a social system the following appreciative frames can be used:

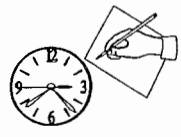
Multiple perspectives
Base assumption: each perspective will yield insights not obtainable from the others.
Method: Multiple perspectives (Linstone, 1989).
Principle values or ideals:
There is no "right set of perspectives.
Implementation depends on humans (O and P).

Four appreciative frames and their major elements, inquiry into:

ORGANISATIONAL FORM:	*TECHNOLOGY:*	*PEOPLE:*	*IMPLEMENTATION:*
Purpose integrity	Purpose integrity	Purpose integrity	Purpose integrity
Technical view	Organisational view	Technical view	Technical view
Personal views	Personal views	Organisational view	Organisational view
Implementation view.	Implementation view.	Implementation view.	People view.







Graphic outline of the appreciative frames and their relationship in the appreciative framework.

A frame for inquiry into organisational form.

BPR often requires changes in the structure of an organisation. Hammer and Champy (1993:65) believe that "Practically every aspect of the organisation is transformed, often beyond recognition". The following questions will help change agents recognise important issues with regard to organisational form. The questions are grouped under technical, personal and implementation perspectives of organisational form.

Purpose integrity.

What is the purpose of the organisation/structure? Does this support the overall purpose of the human populated system? The form of the organisation should support it becoming a purposeful system.

Technical perspective.

Stafford Beer's (1981) Viable Systems Model (VSM) provides a useful technical appreciative frame for organisations. It is a cybernetic model that consists of five functional elements that are connected through communication and feedback channels. Appendix 2 provides a diagrammatic representation of the VSM.

The operational/implementation element (system 1): System 1 is made up of the primary activities or operations of the organisation. All other functions within the organisation should support system 1. As much decision making autonomy should given to operations as possible since this would increase its ability to deal with variety.

The co-ordination element (system 2): Although operational units should be autonomous there is a danger that sub optimisation may occur at the expense of the overall organisation. The co-ordination function's role is to solve such conflicts, and to promote interdependence. The importance of this function to viability will increase in times of rapid change.

The control element (system 3): The control function forms an interface between the internally focused functions (system 1 and system 2), and management. It allocates resources to the operations in system 1, facilitates any resource bargaining, ensures effective policy implementation, and carries out audits. It plays a large part in helping define the internal reality of the organisation.

The intelligence/development element (system 4): The intelligence function interfaces between the organisation and its total external environment. It provides a model of current and future external environments in order to create an environment for decision making. It also needs to rapidly transmit urgent information from the internally focused elements systems 1, 2, and 3 to the policy function (system 5).

The policy element (system 5): The policy function provides identity and purpose for the organisation as a whole. It is responsible for the formulation of broad policy around which the organisation must function. It attempts to balance the external demands of intelligence and the internal demands of control. This function also represents the organisation in the wider environment.

The following questions (adapted from Flood and Jackson, 1991:96) are useful in critically reflecting on any new organisational structures proposed by BPR:

Do all operational/implementation elements have local management?

Are co-ordination, control, intelligence and policy bureaucratic? Do they serve the organisation by supporting operations?

Do functions exist which do not support or develop any operations?

Is co-ordination strong? Has it enough status?

Is intelligence taken seriously?

Is policy attempting to perform control functions?

Does policy provide identity and facilitate shared purpose?

Does communication occur between the functional elements?

Personal perspective.

Is BPR just an excuse for management "doing it to us" again ?

How will the changes affect me? Empowerment? Remuneration? Status?

Shandler (1990) has developed a perspective that focuses on the interaction between the technical prescribed (physical organisation, formal hierarchies and reporting lines) and personal elements (motivations, values, talents and interpersonal relationships) of structure that drive organisations towards or away from their desired purpose. The following questions (adapted from Shandler, 1990) highlight personal issues in organisation structure:

What unspoken rules take priority over spoken rules? There are often massive differences between prescribed structures (the spoken rules), and what actually takes place at a personal level (the unspoken rules).

What are the payoffs of the current structure? Who benefits?

What are the payoffs of the future structure? Who benefits?

Implementation perspective.

Are project and implementation requirements considered when designing the new organisational structure? During BPR reengineering teams need to be close and accessible to the organisational teams they are working with. Often the new organisational structure may have to be unfolded through phases of the project.

What new relationships between people need to be developed in order for the new organisational form to operate effectively? Implementation may require that relationships are developed between people in advance of actual structural changes.

Now that we have an inquiry frame to aid change agents in appreciating and uncovering issues relating to organisational form let us explore a frame for unfolding important aspects of technology use in BPR.

A frame for inquiry into technology.

Within BPR technology in the form of computer applications usually plays an important "enabling role" (Hammer and Champy, 1993:83). The following frame aims to provide a basis for understanding and critically reflecting on the role of technology in BPR. Hammer and Champy (1993:84) believe that technology implementation requires inductive thinking: "the ability to first recognise a powerful solution and then seek the problems it might solve". They require us to ask how we can use technology "to allow us to do things that we are not already doing?" (Hammer, 1993:85).

Purpose integrity.

What is the purpose of the technology? Does this support the overall purpose of the human populated system? The application of technology must support the overall purpose of the social system that BPR is hoping to create. The computer applications cannot be viewed as separate from the organisation and humans that are part of it. This is often taken for granted until change agent/designer has to actually sit down and critically reflect on the question.

Do the components of the applied technology support the measure of performance of the human populated system? How do they do this? This requires a more detailed thinking through of the design of computer systems relative to the containing social system.

Organisational perspective.

How does the technology affect ways of thinking and behaving? Does the technology "reinforce old ways of thinking and old behaviour patterns" (Hammer & Champy, 1993:83)? The information that computer systems present to the organisation contribute towards decision making. The change agent needs to think through how new technology may affect decision making processes.

Does the technology make knowledge public? Does the application enable better communication and learning amongst the user community? Traditional business computer applications are often designed by breaking business events down into tasks that are performed separately. Attention has to be given to the effect any design has on the capacity of the users to solve their own problems.

Does the technology centralise or decentralise power? Does the application create new "experts"? Business computer applications should *reduce* the need for experts within any organisation. Change agents need to reflect on whether this is in fact the case.

Personal perspective.

How will the technology affect the individual user's need for power, influence and prestige? The technology should not reduce the individual's ability to fulfil his legitimate needs in respect of the above.

Does the technology increase people's ability to describe the situations they are faced with? The computer system should be designed so that it facilitates effective description of complex business situations. With information systems now playing a defining role in business, the computer system in essence becomes the business.

Who owns the system? Do end users have power (the ability to affect purpose)? Change agents need to remember that application designers and BPR project teams are not the clients of the new technology. Computer systems need to be designed so that their ownership can easily be transferred to the individuals that ultimately use them every day.

Implementation perspective.

Is the scope of the technical intervention clear to all stakeholders? Computer systems development projects are notorious for scope expansion and time and cost overruns. Design management can be facilitated by objectives that are easily communicable, and written down in precise and unambiguous terms. They need to be specific, measurable, tangible, verifiable, but not overtly complex. The scope needs to be realistic and attainable. Any objectives should include statements relating to time, cost, and quality.

What resources and knowledge do we require in order to implement this technology? How does this affect our larger BPR plans? Often leading-edge technology is used during BPR interventions. This can pose risks that need to be addressed. Pilot projects should be set up so that knowledge and experience can be gained before attempting larger implementations.

How will the new technology integrate with existing computer systems? Project Managers often commit the environmental fallacy by not thinking through how the new technology will impact on the existing technological environment.

Are additional technical resources, not specifically part of the project, required? Do we have a central communication point for such resources? The issue of technical consultants is often important in BPR projects. Consultants have purposes of their own that may differ at times from the BPR project purposes. This needs to be managed.

Another component of our whole framework is now complete. We will complement it with an inquiry frame that highlights people aspects that need to be recognised in BPR.

A frame for inquiry into people aspects.

The following questions help to uncover important assumptions as regards the role of people in any change initiative. The inquiry is structured around technical, organisational and implementation perspectives on people.

"There are two things wrong with the role of science in our society. One is its use as a tool of power, wherever that is concentrated by economic forces. The other is its elite image. None of us wishes to be manipulated by power, to hell with it. None of us wishes to entrust our liberty to a man in a white laboratory coat, armed with a computer and a row of ball-point pens, if he does not share in our humanity" (Beer, in Flood and Jackson, 1991:87).

Purpose integrity.

What are the purposes of the individual members of the organisation? Do these support the overall purpose of human populated system? Does the purpose of BPR support the purposes of the individual members of the organisation? Effective social systems require some level of shared purpose.

Technical Perspective.

Do people understand the competencies that are required by the 'new' organisation? Is there a model of such competencies? BPR often requires radical changes in the way that people perform their work. These requirements need to be made clear to all expected to contribute in the "new world of work" (Hammer and Champy, 1993:65).

Are there explicit connections made between personal performance and the overall performance of the organisational social system? It is expected that change agents understand these. However the rationale behind personal performance and overall organisational performance needs to be understood by every individual in the system.

Are personal performance criteria fair and negotiated? When reflecting on this aspect it is wise to keep the moral principle (see page 26) in mind.

Organisational perspective.

Do individuals have a say in how teams are constituted? Is the rationale behind team selection made explicit? The people we work with make up a significant part of our day to day organisational reality. The quality of relationships between people is an important co-producer of a team's performance. The best technological systems can fail because of bad team dynamics.

Do teams contribute in deciding on team leaders? BPR often involves a change in management style away from traditional management towards leadership. Leadership implies followership. If we are to expect followership from people then they must participate in the selection of their leaders.

Does the new organisation explicitly provide for the learning and development of individuals and teams? The espoused theory of the new learning organisation needs to be backed by practical opportunities for development.

Implementation perspective.

Are individuals affected by the BPR project kept informed at all times? BPR projects are often conducted at a furious pace. It is very easy for change agents and designers to forget those not involved. What may seem small issues to the BPR team may have significant meaning to the affected. One cannot over communicate during BPR.

Are people viewed as an integral part of the project? How is this practically manifested? During any BPR project there are thousands of tasks that need to be accomplished. People will naturally commit to something they have a part in creating. Change agents can facilitate this by involving as many people as possible in project tasks that require less specialised skills.

Are the roles and expertise of the BPR project team understood by all the affected? If BPR teams behave as if their contribution is special they may run the risk of alienating themselves from the very people they wish help develop.

What are the key relationships that need to be developed between members of the reengineering team and members of the business area undergoing BPR? It is useful during implementation to have some strong relationships between members of the teams undergoing change and members of the reengineering team.

Are members of the reengineering team approachable during implementation? Have specific members of the team been identified as the first level of support? High levels of feedback and support are required during the fragile implementation phase.

In addition to the containing human populated system frame we now have constructed frames that cover organisational form, technology and people. What remains is to describe the inquiry frame that will aid in uncovering issues of implementation.

A frame for inquiry into implementation.

All the thought and analysis required of change agents is tested during the implementation phase of BPR. "Implementation is about turning ideas and designs into operational reality. It is the true test of a design's suitability for intended purpose. Implementation addresses the "gap" so often deplored between analysis and action. Implementation depends first and foremost on the use of human resources and this means that the O and P become critical." (Mitroff and Linstone, 1993:102). The following questions will help in uncovering important aspects of implementation.

Purpose integrity.

Are the goals and objectives of phases within the BPR project explicitly linked to the overall purpose of the human populated system? Tactical design options that are employed during implementation need to be explicitly linked to the strategic purposes that they are ultimately supporting. This process of aligning tactical moves will guard against the project slipping off course.

Technical Perspective.

Is there a project plan that is visible to all affected? This seems so obvious that it should not warrant critical reflection. This project plan is not the detailed plan used by the classical project manager but rather a large representation of scheduled events and tasks that need to occur. It should represent all major facets of the project (organisational, technical, and personal).

Is there a comprehensive list of risks that need to be managed during the project? The whole point of BPR is to achieve something new, to venture, to take chances, to risk. Risk management is the preparation for possible events in advance, rather than responding as they happen. Risk itself can be viewed from multiple perspectives (technical, organisational and personal).

Are technological systems designed to facilitate staged implementation? BPR projects are at their greatest risk at implementation time. The vulnerable period between the old and new ways of doing things needs to be managed with care. If change agents and designers keep the requirements of this period in mind they may design technological systems differently.

Organisational perspective.

Does the implementation process reflect the shared values of the organisation? The credibility of BPR projects can come under risk if the way in which implementation is done does not conform to the way things should be done in the ideal organisation. One cannot expect teams to be open, honest and client focused if during implementation the BPR project team is closed, not totally honest, and technically focused.

What is the correct size for the reengineering team? Small teams are easier to control than large teams. They also regulate themselves better. One needs to balance the need for resources with the capacity to communicate and self regulate within the project team.

Personal perspective.

Are performance expectations of people in the new teams realistic? Has the time taken for learning and stabilisation been taken into account? The performance of people and teams may get worse before it gets better. In BPR we need to be realistic and make allowance for this fact.

Do the affected people have an unbiased and trustworthy resource whom they can approach for guidance and support during the stressful post implementation phase? With all the change that occurs during the first few weeks of an implementation people may need to unload tension every now and again.

Our appreciative framework is now complete. It is however only a framework and as such is not designed to be fully comprehensive. However the structure it provides is designed so that it can support change agents in constructing their own context specific inquiry. Its true value lies in providing a structure around which change agents can organise their thoughts. An example of the framework's application in a real world BPR project follows in Part 4.

Part 4: Application of the appreciative framework in a real world BPR situation.

This section applies the complete framework described in Part 3 to a large scale BPR effort within the life insurance industry.

"In a way the story is a puzzle, solved in the most part, perhaps. During some phases of it- in particular the ending of it, if there is an ending - I was one of the observers. But the heart of the matter rests within the memories of others, and because each of us sees or feels or uses the senses in differing degrees from all other human beings, inevitably there are conflicts in the tellings. The world we view is a complex mirror that tricks us with false images so that what we believe to have happened to us or to others may or may not have taken place as is fixed in our memories."

Brown (1983:1)

"One's standpoint is one's blind spot: this everyday insight holds true for the transcendental approach, for it cannot help relying on the first frame of reference which it cannot itself validate...But the fact that transcendental questioning raises a genuine philosophical difficulty does not of course mean that such questioning is critically irrelevant and that it may be safely disregarded"

Ulrich (1983:107)

Introduction.

The appreciative framework developed thus far consists of the following components:

- A human populated (social) systems frame based on CSH and Churchman's 'enemies' involved in organisations. Its purpose is to critically surface the change agent's assumptions regarding the system's sources of purposefulness.
- An organisational form frame containing technical, personal and implementation perspectives. This frame aims to surface assumptions about the way in which the new organisation should be structured, what functional components it should consist of, and how these components interact to co-produce the fulfilment of the human populated system's purpose.
- A technology frame that uses organisational, personal and implementation perspectives to uncover some of the assumptions underlying the use of technology as a co-producer or enabler in the fulfilment of the human populated system's purpose.
- A people frame that applies technical, organisational and implementation views to discover some of the assumptions that shape the way change agents work with people in order to satisfy the purpose of the human populated system.
- An implementation frame that applies technical, organisational and people perspectives to help uncover some of the assumptions underlying the issue of change implementation.

The primary argument of this paper is that the above components form an appreciative framework that when applied by change agents to any BPR situation will co-produce a rich understanding of the whole situation to be improved. They will also produce in the change agent an awareness of how their own assumptions can shape the way in which they see the situation and therefore how they intervene into it. *It is argued that this enhanced comprehension of the situation, and how they themselves influence it, can only lead to the increased effectiveness of the change agents.*

The author's role in the Life Customer Services BPR project is that of senior project manager. The first phase of this project was conducted while I was studying Ulrich (1983) and Churchman (1971, 1979). The appreciative framework is thus a product of academic study and experience. This means that although the questions were present a priori, their formalisation in the appreciative framework is after the fact. As future phases of the project occur the framework is used to trigger a priori assumptions.

The appreciative framework presented is not designed to be comprehensive, rather to provide a supporting structure around which change agents/designers can construct their own context specific appreciative worlds. The approach taken in this section will be one in which the unfolding of a specific organisational reality is facilitated through the appreciative frames. To this end a brief introduction of the situation will be presented. This will mean that the process of unfolding is described in a practical fashion and that the reader has a chance of experiencing the use of the appreciative framework. Synthesis across questions raised by the frames will be presented during the unfolding.

The reader will naturally be synthesising his/her own personal understanding during the process. This could lead to some frustration since the reader may feel the need to inquire into the real situation themselves in order to facilitate such synthesis. If this occurs it can be interpreted as a good sign since the framework is designed to surface such secondary inquiry. The process of unfolding requires an awareness of what change agents need to know but do not as yet know. *The purpose of this section is to engage the reader in the process of unfolding through the appreciative framework, and thus provide a test of the usefulness of the framework.*

Organisational context.

The Southern Life Association Limited is the fourth largest life assurer in South Africa. It has branches nation-wide and currently has two head offices, one in Cape Town and one in Johannesburg. The context of this project is within the Cape Town head office. The organisation consists of four divisions or strategic business units. Life Division is made up of Life Customer Services (LCS) which administers life policies and the field staff who sell life assurance and investment products. The Employee Benefits division sells and administers pension and group business. The Investments division controls the investment of all policyholder and surplus funds. The Broker division supports the broker community in marketing Southern's products.

The vision or purpose of Southern Life is stated as being "*To become First Choice of Customers, Staff and Shareholders in selected financial markets.*" This vision rests on three pillars which are: our people, who need to be competent and passionate; our customers whom we need to gain and maintain; and the profits we provide which need to be long-term and growing. Another way of interpreting our purpose is to be first choice to all stakeholders. This could be problematical since the stakeholders involved (staff, shareholders, and customers) may have different interests.

The LCS Divisional Steering Committee (DSC), which comprises the senior management responsible for the current functional areas, has determined a LCS vision within the context of the greater Southern Life vision. The LCS vision or purpose is to " *Move from processing paper to delighting customers*". We hope to achieve this through *passionate people* using *quality systems* within a *flexible structure designed around customer needs.* All interventions need to be tested against whether they are helping us *move from processing paper to delighting customers* .

Technology Context.

Image and work flow management technology was identified as a possible tool that could help enable the realisation of our vision. This is because a large majority of insurance business is driven by paper. Service requests are usually triggered by a letter or form (input to the process). The request is then serviced by inquiry into, or changes to, data on

computer systems (the transformation process). Finally some sort of letter or schedule is produced and sent to the client (the output from the process).

The advent of image technology presents powerful tools to help with the management and control of such paper based operations. Image technology allows an image of a document (like a photocopy) to be stored electronically on a computer. The image is created by passing the paper through a scanning device. Once an image is stored and indexed electronically, a number of things that are not possible with a paper document become possible:

- It can be viewed by more than one person at the same time.
- The image can be used to electronically trigger work.
- A person can work off a large computer screen without the need of paper.
- Client files can be accessed rapidly from widely distributed locations.

The fact that because of image technology, historically paper based work flows can be automated and controlled led us to investigate the use of Image and Work flow technologies in the Annuity area. This would allow the radical redesign of business processes through the elimination of the dependence on paper.

People Perspective.

The following quote made by the general manager responsible for Life Customer Services enriches this brief description of the context of application.

"Our division is currently very much process oriented, with a production-line structure which reinforces compartmentalisation both in the way in which we operate and in the way in which we think. We remain very heavily dependant upon paper flows and have no clear understanding as to which of our activities are truly value added and which are redundant. We are more focused on the process of moving paper through the division than on the outcome or result, i.e. delighting our customers.

We recognise that the achievement of our vision will require not only a radical transformation in the way we do things but also a significant change in the way we think. Moreover, our structure and the mental attitudes of all our people will have to be superbly flexible to handle and deal with the rapid and growing pace of change. Indeed, the achievement of such flexibility will give us a unique competitive advantage difficult to emulate in the short or medium term."

The Life Customer Services BPR Project began once the company had drawn up a charter of shared values (see Appendix 1). This was achieved through a participatory process in which every member of staff was involved. The value sharing process through the charter provided a clear documentation of the shared values aspired to by the majority of the members of the Southern. It was used as a reference point for those involved in the Life Customer Services BPR project.

Appreciating Life Customer Services (LCS).

In Part 2 we used CSH to uncover some of the assumptions behind Business Process Reengineering. In this section we will apply CSH to a business context that is the focus of a BPR project. The questions will therefore be asked about the way that Life Customer Services *is* and how it *ought to* be. In appreciating Life Customer Services we will first unfold sources of purposefulness in the system and then investigate organisational form, technology, people and implementation issues. This should provide a test and illustration concerning the usefulness of the whole appreciative framework.

The author's role in the LCS BPR project is one of senior project manager. This covers the scope of tasks identified by Churchman (see page 13). The critical change agent faces a terrible dilemma: "that in order to advance his cause he needs to criticise not those whose work is irrelevant, but those who try most to do something relevant to that cause" (Ulrich, 1983:371). The following pages need to be understood in the light of my respect for the Southern Life, its members, and their efforts to create a progressive and socially relevant company.

Unfolding sources of motivation.

"Power is the ability of an individual or a group to impose its purpose on others" (Galbraith, 1975:88 in Ulrich, 1983:254). The question of power in LCS is an important one. This is because BPR effort and its intended results are being marketed as progressive and empowering.

Actual client.

Who is LCS's actual client, i.e. who belongs to the group whose interests and values are served vs. those who do not benefit and have to live the consequences? LCS's classically hierarchical design can mean that internally those at the top benefit more that those who make up the majority of staff. The difficulty arises when management implicitly becomes a surrogate client for real clients (premium paying customers), shareholders, or staff. It can be argued that it is management's job to look after the interests of customers and shareholders. The critical question is whether management decisions are ever influenced by there own interests. This must occur in any business. Another issue is whether the staff of LCS are *actually* clients of the system? LCS is becoming more open and representative and new structures are emerging through BPR that have built in balances of power.

Ideal client.

Who ought to be LCS's client, i.e. who ought to belong to the group whose interests and values are served vs. those who do not benefit and have to live the consequences? The vision of the Southern Life is *"To become First Choice of Customers, Staff and Shareholders in selected financial markets"*. This explicitly addresses the issue of the ideal client. In becomes plain that in this context any BPR effort should have as its purpose the creation and development of such ideal clients. The vision of LCS (*Move from processing paper to delighting customers*) is not as rich as regards the ideal client. Two of the company's ideal clients, staff and shareholders, are not mentioned. Another critical point is that although all staff are informed about the LCS vision and its ideal client the customer, only the highest levels of management were involved in its formulation. This implies that these levels are implicitly regarded as important clients of the system. The BPR process within LCS has tended to focus strongly on the 'customer' and 'staff' ideal clients, the rationale being that if these are served then by implication the shareholders will be served.

Ideally, all members of the Life Customer Services system ought to be clients. The critical intent of Ulrich's (1983:393) questions is that practically *"not everybody can be the planner's client* and that no conceivable plan will meet everybody's needs". For the change agent these questions strike at some of the most fundamental (not necessarily conscious) assumptions at the political core of organisations. In terms of BPR and designing purposeful systems the question could read: Which sources of motivation ought to be swept into the process? The key point being that because sources of motivation are not considered does not mean they do not exist and exert their purpose within the system.

This seems obvious but can often be a source of delusion in autocratic hierarchical organisations, where the purposes of those being planned for are at best only partially integrated.

Actual purpose.

What is the actual purpose of LCS, measured not in terms of declared intentions of the involved, but in terms of the actual consequences (outcomes)? LCS is a profitable division whose business is growing at a steady rate while increases in operational costs are kept within the rate of inflation. Two annual 'outcomes' are worth noting, the salary increases, and budget formulation. These together involve a large amount of effort and time and are both used as means of control by management. A third monthly 'outcome' is the process of 'closing off' the month's new business. This entails the capture and validation of new policy information into the main computer systems. The division's declared purpose of "Moving from processing paper to delighting customers" can be critically viewed by questioning the amount of time and effort spent on activities that have an clear alignment with this purpose versus those that do not.

Ideal purpose.

What ought to be the purpose of LCS, measured not in terms of declared intentions of the involved, but in terms of the actual consequences (outcomes)? LCS's purpose ought to have integrity with the Southern Life's purpose. Its aim ought to be the development of a purposeful system that contributes towards the fulfilment of the Southern's vision. The company's vision once again shows depth in that "first choice" implies a purposeful system of staff, customers and shareholders. The challenge is to facilitate the effective distribution of the company's resources across such a system. The question arises as to whether LCS's ideal purpose should be any different from the company's.

For change agents it is useful to question the ideal purpose of the change project itself. The purpose of the LCS BPR project is:

1. To substantially improve quality and service to customers.
2. To develop business processes that ensure sustained productivity improvement and thus customer delight.
3. To reduce long and short term costs.
4. To provide every employee with a sense of ownership and accountability.
5. To ensure that maximum benefit is derived from systems and technology.
6. To increase the competence of our staff (i.e. knowledge, skills and appropriate behaviour) to ensure customer delight.

The second point is the most important in that it implies a purposeful system that is continually improving.

I have always found the questions about purpose to be very enlightening. There is not only a tension between the declared intentions and my personal intentions, but also possibly between declared intentions and actual outcomes. As a change agent the only way I have

found of dealing with this is to try and be as honest as possible and make transparent my own motivations for BPR. The values of the Southern (see appendix 2) are ideals that were created through the participation of all staff, and as such they could represent an adequate purpose for BPR. The purpose could be stated as: Redesigning the division so that its operations reflect the values of the organisation, while ensuring that the overall purpose of the company is served.

Actual measure of success.

What is judged by the design's consequences, LCS's built-in measure of success?
The measure referred to here is "the underlying principle behind the client's trade-offs" (Ulrich, 1983:254). Within the context of our actual client mapping (page 65) the accumulation of new business against target, and performance of operations against budget are the key actual measures of success for LCS. This seems one-sided towards growth of sales, and efficiency of operations, but lately other, less hard, measures of performance are beginning to be used. These include the nature and frequency of feedback from customers, the morale and commitment of staff, and the amount of learning and movement to towards the vision that is occurring.

Ideal measure of success.

What ought to be, judged by the design's consequences, LCS's built-in measure of success? When viewed as a socio-technical or socio-economic system the LCS's actual measures of success are biased towards economic or operational efficiency. The ideal measure of success should be that which most effectively facilitates the achievement of the ideal purpose for the ideal clients (customers, shareholders, and staff). Since the Southern would be 'first choice' to the different ideal clients under different conditions the system may have a number of measures that need to be balanced. For the ideal purpose of LCS (move from processing paper to delighting customers), the measure of performance would be the ratio of paper processed vs. the number of delighted customers. This measure focuses on operations and only one of the containing systems ideal clients. This measure also lacks any reference to reform of the workplace.

The outputs of the BPR effort constitute the new LCS system. These ideal outputs of the BPR project are documented as follows:

1. Sustained sponsorship.
2. Clear reasons for change.
3. Competent enthusiastic change agents.
4. Staff involvement and participation.
5. Shared future structure.
6. Delighted customers.
7. Efficient, effective processes.
8. Co-ordinated technical effort.
9. Competent people

These could constitute the core of a balanced set of ideal measures of success for LCS.

Inquiry into the actual and ideal measures of success for an organisation forces the change agent to critically consider the whole system. It is very easy to be seduced into measures that are easy to control and report on but are not in the interests of the ideal clients. The variables we pick to measure systems in fact define those systems for us. This is true also in organisations where 'reality' is shaped by the measurement and feedback on variables that may in fact not support our long term ideal purpose.

Unfolding sources of control.

This set of questions is about decision makers within LCS. Churchman (1971:43) defines the decision maker as "the complex of persons who can produce and control changes in S's measure of improvement".

Actual decision maker.

Who is actually the decision maker, i.e. who can actually change LCS's measure of success? Historically because LCS has had a hierarchical, functionalist structure, most important decisions are made in a committee labelled the 'Divisional Steering Committee' (DSC). This is made up of the most senior management in the division (all male). This is the body that drew up the LCS vision (move from processing paper to delighting customers). Condensed minutes of the monthly DSC meeting are made available to management. Once every three months all senior managers spend a morning with the DSC in an informative session. No important decisions are taken here, rather feedback is given on how different areas are progressing. The implicit assumption in this internal structure must be that this is the best way to purposefully control LCS on behalf of the client ('delighted customer').

Ideal decision maker.

Who ought to be the decision maker, i.e. have the power to change the measure of improvement? Ulrich (1983:401) rephrases this question as "What internal structure would make the decision maker a purposeful and effective controller of the system under consideration?" Two basic requirements are suggested. First the body should be competent as regards the task of purposefully controlling the LCS system, and secondly it should be representative of its ideal clients. 'Purposeful control' assumes that the body is "self reflective with respect to its own normative implications, seen from the point of view not only of the involved but also of the affected" (Ulrich, 1983:334). The issue of representation can be approached in many ways. Processes that bring the body into practical discourse with the affected and representatives of the client group could be institutionalised, or representatives could have membership of the body.

These questions strike at the heart of power in organisations. Through this element of the appreciative framework the change agent becomes aware of how politics and power can distort a socio-technical system. The arguments for central, powerful control are rarely rational and often depend on the untested assumptions of those making them. In fact BPR has an uncanny way of concluding its reorganisation before any major changes to the real decision making power distribution is effected. When this occurs BPR becomes nothing more than "mere tool design" vs. design for a purposeful system. Ulrich (1983:329) describes tool design as "a problem solving attitude that takes problems and purposes as given and refers decisions on them to irrational (because value laden) acts of belief on the part of political decision makers".

The reason why many BPR initiatives fail, and BPR's inability to address the sources of power, is one and the same. These questions, or the lack there-of, in the appreciative framework of the change agent significantly contributes to this state of affairs.

Actual control.

What conditions for the successful planning and implementation of LCS are actually controlled by the decision maker? The actual decision taker controls the following components:

* Financial resources: project funding, operational budgets and staff allocation.
* Financial rewards: salary and bonus.
* Human resources: only those who report directly to the DSC and then only partially.

When critically examined it becomes clear that the decision taker (DSC) does not in fact control many components of the system. The components that are controlled have a powerful effect on the system as a whole. The future direction and shape of the system is controlled through project funding. This includes the BPR project and the major information technology projects. The other key resource besides technology is staff levels. These are controlled through the annual operational budgets. The control of humans within the system is a difficult issue. Those individuals who directly report to the DSC members might be considered as resources that are controlled. However the DSC attempts to control the large majority of humans in the system through salary and bonus payments. The above controls are *purposive* in that they do not recognise individuals as having purposes of there own nor do they facilitate critical refection about the system's or individual's purposes.

Ideal control.

What conditions for the successful planning and implementation of LCS ought to be controlled by the decision maker? From the standpoint of the systems approach the key resource in any human populated system is 'intrinsic motivation'. This refers to the system's "*source of purposefulness* (source of motivation) when this source cannot be localised within an external decision maker but is distributed throughout the system itself" (Ulrich, 1983:327). It is perhaps contradictory to suggest that in the ideal LCS the decision maker should control this intrinsic motivation, but if one considers the ideal decision maker as a representative participatory body then the system becomes self controlled through the alignment of sources of motivation. This should occur at many levels throughout LCS.

The author takes it as given that some level of coercion will take place during the BPR effort. Resistance to change and protection of interests and power is unavoidable. These issues need to be tackled with the moral principle in mind. The change agent needs to remember that these 'component' questions are based on the idea that the components in the system co-produce the system's performance. The harnessing, sharing, and alignment of sources of motivation has to be one of the key co-producers of success in any human

populated system. Herein lies the logic behind self directed teams and the learning organisation which promotes reflection on not only means but also ends (shared vision). It is useful for any change agent attempting projects that aim to increase the capacity of an organisation to learn, to have these concepts of components and intrinsic motivation as part of their appreciative system. This will enable a deeper understanding of their unique context and how to design for the improvement of it.

Actual decision environment.

What conditions are not controlled by the decision maker. i.e. what represents environment to him? The decision environment refers to those conditions that are not under the control of the decision maker but are necessary co-producers of the system's success. Capital expenditure for large projects has to be sanctioned by the board which is not controlled by the DSC. Most of the human resources that are affected by the DSC's decisions are only partially controlled through monetary reward. The technological environment is not strictly controlled by the decision maker since often the choice of technology is determined by international trends. The larger business environment of markets and consumers is usually changing rapidly and not under the control of the decision maker.

Ideal decision environment.

What resources and conditions ought to be part of the environment and not controlled by the decision maker? The ideal decision maker would be a body serving the purposes of the ideal client (customers, staff, and shareholders). This would ideally require that there are no conditions that co-produce LCS's success that are not under the control of the decision maker. In reality even if the actual affected (who in this case are ideal clients) are represented on a decision making body there is the danger that the witness then becomes one of the involved. This occurs often where individuals of the affected group who are effectively representing worker interests are promoted into management positions. One way of minimising this is to rotate the witnesses thus avoiding any manipulation by the involved. Ulrich (1983:409) points out that the affected 'ought to remain "environment" for the decision maker in the sense that the decision maker needs to take into account their needs but is not able to manipulate or control them'. In business the involved will always have some control over the affected by way of monetary reward. This however does not negate the ideal of a purposeful LCS. The concept of 'decision environment' can be viewed as a mechanism to balance the power of the decision maker. This should not occur at the expense of efficient decision making, where time is legitimately critical to success and will improve the effectiveness of decisions.

The self directed teams that have been, and are in the process of being created by LCS's BPR effort can be viewed as environment to the DSC (actual decision maker) since it is very difficult to manipulate whole teams of people. In fact 'control' of the teams rests upon a shared mental model, in this case a desire to provide excellent service the customer. With the introduction of workflow management the ability of the teams to

engage senior management in meaningful discourse about the business has improved tremendously.

Change agents need to raise and test the assumptions inherent in their designs about what is and what is not under the control of the decision maker. This should lead to a clearer insight into the workings of power within the organisation. This understanding will enhance the agent's ability to effectively plan and implement improvements in his organisation.

Unfolding sources of expertise.

These questions aim at the sources of expertise required to ensure a successful LCS. Ulrich (1983:255) recognises expertise as a resource but does not treat it as being necessarily under the control of the decision makers, since this would presuppose "a decisionistic" model in which the "rational" effort of planners and experts are bound by the "decisions" of those who happen to be in control of resources".

Actual planner.

Who is actually involved as planner? Ulrich (1983:256) states that "The planner is a special case in that his crucial skill consists of bringing together all the people whose expertise is needed, not in replacing any of them". It is not assumed that the planner has the necessary expertise. In LCS the General Manager for Special Projects fills this role. It is important to note that in this case the planner has significant power since he is one of only two General Managers in the division. He is a member of the DSC and therefore can represent BPR (designing and improving the system) at the highest level. He is competent at recognising the expertise required for BPR and in utilising it in a team environment. The greatest strength this role can display is the willingness to let experts contribute without overriding them. As far as implementing BPR is concerned this is one of the key roles which co-produce project success. In the case of the whole LCS the DSC does play a planning role. However the role of planner and decision maker being so closely interwoven may present a conflict of interests.

Ideal planner.

Who ought to be involved as planner? The ideal planner needs to be able determine the required expertise and is therefore ultimately responsible for the change effort. This is a severe challenge in BPR since "How can the planner ever know that the expert's skills, experience, or tools are not a source of deception rather than a source of guarantee that improvement will result?" (Ulrich, 1983:256). In the LCS BPR effort this issue was helped by bringing in experts from foreign companies who had been through a BPR process. This enabled the planner to audit some of his sources of expertise and provided valuable feedback and learning to the BPR team. The ideal planner recognises the affected as a source of expertise and in our case would sometimes represent their views in order to balance a perspective. This is the one role where, from a BPR project point of view, the actual and ideal are the same.

In business organisations the planner needs to be someone who has no political turf to defend. He should have no vested interests that would elevate one area above another. This competency is extremely difficult to find and is only effective when the necessary power and status are actually given to the job. The role is one of catalyst that binds together the expertise necessary for successful improvement of the system.

Actual expert.

Who in LCS is involved as 'expert', what is the nature of their expertise, and what role do they actually play? Traditionally there have been three main sources of expertise in LCS. The first is financial or accounting expertise. This is prudent since LCS is part of a financial organisation. This expertise has been highly valued since some of the most powerful positions in the hierarchy are filled by accountants. The second source of expertise that has traditionally been valued is information technology. LCS is dependant on large computer information systems that process the data required to administer life assurance policies. The role of computer experts have traditionally been viewed as that of a scientist and as somehow separate from the rest of LCS. The third source of expertise is administrative. Historically LCS required competent administrators to deal with the volumes of detail that are inherent in its business. These individuals have usually worked their way up the hierarchy over long periods of time. A critical question the change agent needs to ask is whether these sources of expertise are still appropriate?

Ideal expert.

What kind of expertise ought to flow into LCS? Who ought to be considered an expert and what should be their role? The above sources of expertise should not be neglected but balanced with the following. The planning and management of organisational change is beginning to be recognised as a source of expertise. With the increasing rate of change in the world of business, facilitated by improvements in computer technology, this source of expertise needs to be developed. Project management is another source of expertise that needs to be developed and swept into the planning process. The 'shop floor' is a further source of expertise that has been and will continue to be utilised as the BPR project continues. Who knows better about the reality of business processes that the people who perform them? The role of the 'shop floor' is to validate the plans made by the other players who will not have to work in the new processes being designed. Competence in the design and management of adult learning processes needs to be recognised as essential for the development of LCS. Knowledge and skill in group processes and facilitation needs to be part of the systems design process since this will allow the effective sweeping in of all other expertise.

An "expert" is "whoever has some relevant knowledge, experience or skill to contribute" to the system design process. (Ulrich, 1983:255). Planning and design are practical in the sense that once implemented designs become practice. The process should then not be viewed as some theoretical exercise performed by nutty scientists in inaccessible offices. Planning and implementing organisational change requires a sound philosophical and ethical basis that supports the true heart of planning and design, that is practical discourse between interested parties. Since the change agent's actions will affect many people within the organisation he requires an appreciative frame that includes an ethical, philosophical, and practical dimension. CSH provides all three and is complemented by the practical organisational, technology, people and implementation frames.

Actual guarantor.

Where do the involved seek the guarantee that their design will work? (In the theoretical competence of experts? In consensus among experts? In the validity of empirical data? In mathematical models/computer simulations? In political support from interest groups? In the experience/intuition of the involved?) Can these ensure the design's success? LCS seeks guarantee in three areas. The first is in the expertise of other life insurance companies who face similar challenges to us. This proved useful in the early stages of improvement attempts, but it soon became clear that each company is unique. Broad guidelines may be taken from other contexts, but any attempt to reproduce other companies within LCS would be a grave error. The second guarantee is in political support for improvement projects. The actual planner has a strong network within the company and this facilitated the forming of a support base. Organisational politics can stall the best designs for improvement and change agents would be wise to build networks of support within their systems. The last area of guarantee is that of leadership and participation. The new teams created during BPR elect their leader from a short list provided by the involved. A reasonably transparent selection process is used to determine the short list and anyone within LCS can apply for the job of co-ordinator (team leader).

Ideal guarantor.

Where ought the involved seek the guarantee that their design will be implemented and will prove successful? Ideally all members of the division should through their efforts guarantee success. The involved become guarantors only when they sweep the affected into the system. This enables critical feedback to occur and facilitates the development of intrinsic motivation. The 'customer' ideal client group should also be included in the process through the collection and feedback of compliments and complaints. The method used to implement designs is a key guarantor. A phased approach that includes critical review sessions is useful. This together with the structure of human relationships will be covered in the frames dealing with organisational form and implementation. The technology used within LCS is an ideal guarantor if it facilitates the development of a purposeful system. It must enable the people using it to better describe and converse around issues that affect the ideal measures of performance of LCS.

Ulrich (1983) suggests that one major guarantor that needs to be clarified is the type of consultation model used. The amount of participation and consultation that takes place will reflect the relationship between "expertise" and "practice". The relationship that is appropriate for LCS is difficult to attain. On the one hand we seek fast, creative decisions during design and on the other our primary guarantee that designs will be successful lies in widespread participation.

Unfolding sources of legitimation.

The above questions have been aimed at the roles of those "involved" in LCS. The last questions deal with those that will be "affected" by LCS (see page 27). The "affected" do not "contribute resources or expertise, nor do their purposes motivate the planning effort" (Ulrich, 1983:256). These are the majority who remind those involved in power " of their moral responsibility for all the practical consequences" of their designs. (Ulrich, 1983:256). In LCS this responsibility should go beyond achieving any measures of success, it should extend to "the costs and risks imposed on all those who do not belong to the client" (Ulrich, 1983:257).

Actual witness.

Who among the uninvolved witnesses represents the concerns of the affected? Who is affected without being involved? Within LCS there is no official or institutionalised actual witness. The concerns of the affected are voiced within the teams and at this level of the system there is some legitimacy. The affected have no opportunity of raising their concerns at the DSC (the actual decision maker). When viewed critically it has to be said that the vast majority of LCS staff are affected without being involved. This situation is being rectified through the BPR project which aims to create semi-autonomous self directed teams. By flattening the hierarchical structure of LCS these teams will have more power and therefore the concerns of the affected will have more chance of being heard. It is interesting to note that in this case one of the ideal clients of LCS (first choice to staff) is in fact the affected. An internal labour union represents the remuneration concerns of the affected. The planner sometimes raises the concerns of the affected.

Ideal witness.

Who ought to belong to the witnesses representing the concerns of those who will or might be affected by LCS. That is to say who among the affected ought to get involved? We perhaps ought to have 'official' representation of the concerns of staff who may be affected by LCS. This is difficult since these witnesses may easily be influenced by the involved. The planner should be a witness for staff. The rationale for this requires a systemic understanding of his own limitations and the concept of intrinsic motivation. The process of legitimation can be one in which design reviews are held that entail "practical discourses in which the involved (DSC, BPR team, and co-ordinators) must publicly secure the consent of the affected (staff)" (Ulrich, 1983:257, bracketed labels mine). The makeup of the decision maker group should be more dynamic. This guards against the danger of group think and would allow the rotation of witnesses through the group. There seems to be no rational reason why the decision maker group needs to be secretive or have static membership.

The issue of witnesses for the affected sets down a challenge to the political power dynamic of business organisations. It strikes fear into most traditional managers. Within

the LCS BPR process the issue of witness needs attention. One improvement could be that before the reengineering team begins working in an area, that area can elect a number of representatives who can perform the role of witnesses.

Actual emancipation.

Are the affected given the chance to emancipate themselves from the experts and take their fate into their own hands, or do the experts determine what is right for them? That is to say are the affected treated merely as means for the purposes of others, or are they treated as "ends in themselves" (Kant)?
Ulrich (1983:257) prefers the term emancipation to legitimation since "it reminds us that social mapping and design is not merely a matter of instrumental orientation toward some purpose (as functionalistic "systems science" seems to assume), but that for *socially* rational planning it is essential that the planner initiate a *process of emancipatory self reflection on the part of the affected.*" Historically the culture of the LCS has not been one which openly challenges management (the involved). This is changing through the BPR effort and the influence of learning organisation concepts. However years of hierarchical command and control are difficult to reverse and some managers still feel they have a right to decide on issues that will affect the lives of others within LCS. In reality the affected in LCS are afforded very few if no opportunities to emancipate themselves from the experts. The belief in the superiority of experts and the involved is strongly held by management. This system of beliefs is slowly beginning to be eroded as more and more of the involved come into contact with new approaches in management.

Ideal emancipation.

To what degree and in what way ought the affected be given the chance of emancipation from the promises of the involved? Practical emancipation is achieved through participation of the affected in purpose creation and decision making. The affected ought to be able to contribute on the issues that have a direct effect on their quality of work life. These include: the physical layout of desks for teams, the constitution and leadership of teams, and issues surrounding possible changes in remuneration structures. The affected ought to be able to challenge any part of LCS process against the values of the organisation. The values of "Mutual Trust and Respect", and "Open Communication" (see Appendix 1) are two that are especially relevant to the "affected". Full minutes of the decision maker meetings (DSC) should be circulated to all staff.

These questions get to the heart of the problem of power in reengineering. How do we radically transform organisations in order to improve costs, quality, lead-times, and flexibility and yet also build organisations that are participative and have at their core a set of shared values that are agreed by all in the organisation? The challenge is never ending and change agents often have to be content with knowing that the seeds planted and tended will only produce fruit in years to come. In fact in LCS we are designing *for* (the purpose of obtaining) purposeful systems. We are designing so that teams can agree their own purposes and continually improve in order to attain them.

Actual world-view.

What world-view is actually underlying LCS? Is it the world view of (some of) the involved or (some of) the affected? My own world view with regard to LCS is that it must empower and develop the people who are affected by it. Empower them through participation in decision making and an increasing ability to take fate into their own hands. I believe that each person involved in LCS will have their own world view. The responsibility of those involved is to make their worldview explicit and open to challenge. In addition those on the BPR project team must be aware of the world-views that possibly separate the affected from the overall intervention. It is difficult to become enthusiastic about a vision if one feels dominated and coerced in one's day to day working environment. The worldview that is biased towards building purposeful teams is still that of only some of the involved (the BPR team) and some of the affected (most of the co-ordinators). However as our ability to articulate this view develops, more and more people are agreeing with it. This is supported by the increase in real examples of the conceptual base we operate from. An example of this is that we have found that once the pilot teams were in place it became easier to describe concepts such as intrinsic control and motivation.

Ideal world-view.

What world-view ought to underlie LCS? Is it the world view of (some of) the involved or (some of) the affected? The Southern values (see appendix 1) represent the shared ideals of all in the company. They should be used as the legitimate world view upon which BPR in LCS should be based. They are however ideals and a large part of our BPR is the development of new shared world-views that allow us to better deal with the complexities of a fast changing world. Essentially if in BPR one is designing *for* purposeful systems then we are aware that those systems themselves will create new shared world-views that are appropriate to the humans that populate them. Our design attempt should support such autonomy through organisational form, technology, and implementation.

Is there a correct world view upon which LCS ought to be based? What right do I have as a designer to impose my world view on others? These are the problems that the responsible change agent has to wrestle with. The systems, moral, and guarantor principles have helped me to gain perspective on this complex issue. The system approach has aided us in developing a world-view that is defensible and ethical. Perhaps the most important lesson learned is that change agents can't change anybody. What they can do is design *for* purposeful systems that have the capacity to change themselves. CSH's critical bias has enabled us to constantly keep reviewing our actions in BPR against the overall purpose of LCS and the Southern. Finally Ulrich's (1983:322) regulative principle that *"In real-world problem solving and design, purposiveness (of tools) depends on purposefulness (of people using tools)"*, has allowed us to focus our improvement attempts in the appropriate place.

Unfolding organisational form.

This section uses the organisational form appreciative frame to unfold aspects of LCS's actual and ideal organisational structure. The unfolding of LCS's organisational form will occur from the perspective of the BPR intervention. This will result in some of the descriptions referring to actual situations and some to ideal or planned situations.

Purpose integrity.

What is the purpose of the organisation/structure? Does this support the overall purpose of the human populated system?
LCS's organisational form should develop and support:

- Intrinsic motivation within teams and the whole division.
- Intrinsic control of servicing operations.

Technical perspective.

A brief description of the planned and partially implemented LCS structure using VSM follows.

The Paper In operation (system 1a).

Environment: This operation interacts with its environment through incoming mail from clients and branches. The environment has high variety since many types of requests for service are received.
Operations: All these pages are scanned onto the computer and attached electronically to the individual policyholder's file. They are coded according to category of service required. The coding of documents is very important since it is this code that will drive all subsequent work allocation and determine how and where the document image will flow. Validation on type of document and the policy number of the contract ensures as little defective coding as possible.
Management: The co-ordinator of this area needs to have an excellent understanding of the work flow management system in use. He performs a control function within the team by conducting frequent audits to ascertain what pieces of work have outstanding documents and ensuring that they are timeously scanned and coded. The through-put of all work is dependent on the speed and quality of his team's performance.

The Client Service operations (system 1b).

Environment: Once incoming mail has been scanned and coded it becomes available as input to one of many client service teams. The image system allows access to all correspondence and history on a policyholder's file.

Operations: Ideally these teams should be able to service any request they receive without referral to outside the team. This would allow them to "own" customers and business processes.
The extent to which this will be achievable will depend upon:

- The variety of requests allowed to enter the team.
- The knowledge or access to knowledge that the team has.
- The quality of the computer systems the team has at its disposal.
- The ability of the team to learn, and work together.

Management: The "co-ordinator" will have to be able to facilitate team learning and intrinsic motivation. He will need the following competencies:

- An understanding of team and interpersonal dynamics.
- An understanding of how adults learn and how teams learn.
- An understanding and a commitment to our values.
- A clear understanding of current customer expectations.
- A clear understanding of the operations function and its performance criteria (cost, quality, lead time and flexibility).
- A good understanding of the work distribution systems, including the concepts of priority, queues, etc. and how these behave over time.

The Voice Response operation (system 1c).

Environment: Customers need to be serviced by one person in one call. This translates into a high variety environment, presenting many types of requests across many possible products.
Operation: The operation consists of a team of people who have headsets and microphones enabling them to use their hands to operate a workstation. Once the policy number of the client is established it is be possible to electronically retrieve any documentation that the client may have sent to LCS. The status and a history of any service request is also be available. Client interface skills are the most important competency required by operators. A broad knowledge of the business and a lot of "common sense " is also considered important. The job is very pressurised and operators typically have about 1 minute to write up calls once a client has been serviced.
Management: The ability of the co-ordinator to create an environment of continuous improvement will be crucial to the viability of the team. Ideally the team needs to consist of insurance experts who can service and advise on a wide variety of products and inquiries.

The co-ordination system (system 2).

A large portion of this function is performed by the work flow management system which determines priorities, balances work between the client service teams, and provides statistics. Co-ordination needs to occur between the separate Client Service operations, the Paper-in operation and the Voice Response operation. This is achieved through daily operations meetings between the relevant Systems 1 managers. A senior manager each responsible for about six System 1 operations also performs some of the co-ordination

function. The function enjoys support from the operational managers since it is not performed by a third party. The workflow management system enables a large degree of 'intrinsic control'. This is achieved through on-line real-time feedback concerning the status of service requests to team members. Feedback at team and area level is also provided. The system allows a large degree of transparency so that team members can easily detect and address problems in performance. This supports the company ideals of openness, honesty and teamwork.

The control system (system 3).

The senior managers responsible for sets of system 1 operations perform the control function. The work flow management system enables rapid access to information about how the systems 1 teams are performing. Statistics of all teams are available to the senior managers, supplying the control function with a holistic view of the larger systems performance. Authority is exercised through regular meetings between senior managers and the managers of the systems 1 operations who report to them. Resource bargaining is performed if it cannot be resolved by the co-ordination function (system 1 managers' daily meetings). The nature of the relationship between Control and the Operations is mostly democratic and relies heavily on the concept of teamwork. Control is viewed as a necessary function but not one that exists just for its own sake.

The intelligence/development system (system 4).

Intelligence and development consists of computer technology support, and the learning centre. Technology support's main activities include:

- First line of support for any of the computer administration systems.
- Business Requirements for changes in IT systems.
- Briefing and information about systems.
- Training on any systems.

The learning centre's purpose is to

- Broaden people's knowledge about LCS, the Southern , and themselves.
- Develop and release the talents of all members of Life Customer Services.
- Increase skills in order to become more multiskilled.

The policy system (system 5).

The policy function needs to lead the organisation as a whole. It provides strategic control and development. In our redesign of structures so far we have focused primarily on systems 1 to 4. The reason for this is that most of the current political power within LCS resides in the Divisional Steering Committee. This group should be performing Systems 5 functions. The group is in fact performing co-ordination functions between departments. It would be a tragedy if BPR redesigned the whole of LCS around customer needs but left this body intact because of political expediency.

The brief example of the usage of the VSM above needs to be complemented by the Company values (see Appendix 1) and CSH's Moral Principle. The value of teamwork and designing for the improvement of the human condition balance what may be interpreted as a cold VSM approach. A model that was produced while we were in the early stages of this phase is presented in appendix 3. The model shows the operations function at the top supported by other functions.

The following questions (adapted from Flood and Jackson, 1991) are useful in critically reflecting on any new organisational structures proposed by BPR for LCS:

Do all operational/implementation elements have local management? Currently they do. However during the first six months after changing to the new structure the Paper-In and Voice Response operations were without dedicated local management. This was because at that stage there were only five team members in each team and it was felt that once the teams grew to ten members then local management would be elected. This was with hindsight an error since both areas were new operations to LCS and the variety generated was larger than expected.

Are co-ordination, control, intelligence and policy, bureaucratic? Do they serve the organisation by supporting operations? Traditionally these functions within LCS have tended to become bureaucratic. One of the key ideas in the restructuring was to ensure that everyone in LCS is supporting the service operations who are in turn servicing the customer.

Do functions exist which do not support or develop any operation? The restructuring of the division into flat semi-autonomous operational teams meant that functions which did not support these operations were either reallocated to areas they did support or done away with altogether.

Is co-ordination strong? Has it enough status? The main co-ordination function occurs between team leaders (co-ordinators). Operations meeting are held three times a week at which all co-ordinators are present . The flattening of hierarchical structures means that the status of this function has in fact improved. In reality the control and co-ordination functions are both largely performed through the process of these operational meetings. The workflow system's ability to redistribute work also facilitates effective co-ordination.

Is intelligence taken seriously? The intelligence function is now made up of team processes which involve the co-ordinators, the technical team and control functions. These meetings and planning sessions are usually held separately to the operational meetings so that internally, and future focused thinking are not confused. Plans are underway to send co-ordinators to foreign companies on an exchange basis so that learning can be traded. Since the intelligence function is not performed by people outside the system it in intrinsically motivated and thus taken seriously.

Is policy attempting to perform control functions? The extent to which this occurs has reduced because Policy's confidence in operations has improved. The policy function now receives higher quality feedback and is beginning to perform its required role in terms of balancing operations and intelligence.

Does policy provide identity and facilitate shared purpose? During the transition period when parts of LCS are reengineered and others are still traditionally organised this shared understanding is being facilitated by large meetings held every two months. At these meetings Policy restates the overall purpose of LCS, and management who are involved in different aspects of the division share news of about their specific contexts. An area for improvement is that policy needs to become more accessible to the average member of LCS by 'walking the talk' more.

Does communication occur between the functional elements? The main communication processes are the operational and intelligence meetings. At a higher level the steering committee of the BPR project meets every month or sooner if there are any issues requiring their input or decisions.

Personal perspective.

What unspoken rules take priority over spoken rules? The huge increase in transparency that has occurred in the new teams due to the workflow implementation, combined with their the team's flat structure have co-produced a very open culture. The idea is to have as few prescribed rules as possible allowing the emergence of motivations, values, talents and interpersonal relationships.

What are the payoffs of the current structure? Who benefits? The current structure in this case is the old hierarchical form. In that situation management benefited through reward for in some cases minimal actual contribution. The key payoff was that if you were a manager and built up good second level assistant you could seem to be 'managing' a good area while in fact you were doing very little.

What are the payoffs of the future structure? Who benefits? There is a more equitable distribution of payoffs in the new system since workflow enables everyone's contribution to be seen easily. Those contributing creativity and ideas are recognised in meetings consisting of all the team members. Individuals who are working well are visible to all through the technical systems feedback statistics.

Is BPR just an excuse for management "doing it to us" again ? During the initial stages of the BPR project this view would have been valid, since at that stage it was not practical to involve large numbers of people. However as the implementation began, and especially with the advent of the election of team leaders by team members, we all began to 'do it to ourselves'.

How will the changes affect me? Empowerment? Remuneration? Status? Status symbols come under attack during any BPR project. Team leaders now sit amongst teams and not in separate large offices. The flattening of the hierarchical structure and the implementation of workflow technology meant that people who used to control now had to work in teams along with what were formerly subordinates. There are still uncertainties about what the future remuneration model will look like. A project team is currently being assembled that will facilitate the creation of a shared performance related remuneration model. This will require high levels of participation and needs to proceed cautiously.

Implementation perspective.

Are project and implementation requirements considered when designing the new organisational structure? This concerns the idea that one should 'design for implementation' and then evolve towards the ideal structure. An example of this was that we designed the initial two service teams to be ten members each. In our ideal plans we are considering a size of twenty. The smaller initial size has increased costs in the form of more team leaders, but has enabled the development of stronger teams and leaders. In the same spirit, while our ideal is to create cross functional teams with a minimum of experts, some expert teams are being retained until the transition onto the workflow system is completed.

What new relationships between people need to be developed in order for the new organisational form to operate effectively? We always considered that the relationships between people would be one of the few true sources of guarantee for the BPR project. To this end we have small project teams which are increased only after extensive interviewing. The constitution of the service teams is decided with the input of team members and while practically everyone may not be able to work in teams constituted exactly as they wish, we attempt to balance personal preferences with an equitable spread of competencies.

We now have an understanding of LCS in respect of sources of purposefulness and organisational form. We will enrich this appreciation by inquiring into aspects of technology within LCS.

Unfolding technology.

This section uses the technology appreciative frame to describe and explain aspects of LCS's actual and ideal technology deployment.

Purpose integrity.

What is the purpose of the technology, does this support the overall purpose of the human populated system? The chief implementation of technology in the LCS BPR project is the introduction of Image-workflow. The technical system enables fast feedback to occur within the teams. These statistics are able to be seen by all team members. The workflow system labels the steps that a service request needs to pass through in order to be completed. This labelling facilitates the development of a common descriptive language within the teams. The common language and increased capacity to describe their problems facilitates more effective team learning, and continual improvement. This is in fact the purpose of the technical system: the enablement of more effective team processes and learning. This has integrity with the Southern's purpose of 'First Choice'.

Do the components of the applied technology support the measure of performance of the social system? How do they do this? The main components of the technological system are: A history facility providing context and showing all past activity on a service request, packaging of any images of documents needed to process the request, and real-time feedback on the status and volumes of service requests. These components directly support the ideal measures performance (see page 67 for full list). Staff involvement and participation are increased through their improved descriptive abilities. The feedback facilitates intrinsic control which produces efficient and effective processes. The team member's competence improves through team learning and a better understanding of the business process.

Organisational perspective.

How does the technology affect ways of thinking and behaving? Does the technology "reinforce old ways of thinking and old behaviour patterns" (Hammer & Champy, 1993:83)? Workflow technology affects thinking by making transparent to everyone involved in a business process exactly how that process works. The constraints that occur within a process are quickly highlighted. Shared understanding of what needs to occur in order to improve the process is effectively established. We have found that the team members are now demanding that other systems that constrain some processes be improved.

Does the technology make knowledge public? Does the application enable better communication and learning amongst the user community? This is one of the key results of implementing the image-workflow technology and team based structures. Whereas before problems might be hidden for fear of reprisal they are now openly visible and shared. Team meetings and problem solving sessions are more effective since every one

understands the descriptive language used. Data to support inquiry and decision making is easily extracted from the system by the team members. Experimentation is encouraged since different teams can have different versions of the same workflow, and thus when improvements are designed and proven they are shared across the teams.

Does the technology centralise or decentralise power? Does the application create new "experts"? The workflow system facilitates the distribution of work to the different teams. Reporting and feedback occurs at individual and team level. There are no workflow 'experts' and most of the requests for workflow changes originate from the teams themselves. The new flat team structures facilitate a decentralisation of power. The technical team supporting the system could be considered as new 'experts'.

Personal perspective.

How will the technology affect the individual user's need for power, influence and prestige? The system can be intimidating at first since every activity a user performs is logged into the history. This includes the start and end time of each step in the workflow. When we first implemented the technology there was a concern that these statistics would be used to coerce better performance out of individuals. The idea that 'big brother was watching' was also of concern. These fears have now been removed, and feedback from individuals in the teams who have been using the technology for over a year indicates that they would never 'go back' to the old way of doing things. The key difference is that the whole process of feedback is now more open.

Does the technology increase people's ability to describe the situations they are faced with? Before the introduction of the image-workflow system few people had an overall picture of the different business processes performed or how each process was made up. Individuals would work only on certain processes and often only on certain steps within a process. Although this still sometimes occurs the system's ability to provide context, and describe processes, has contributed to a better understanding of the business situation.

Who owns the system - do end users have power (the ability to affect purpose)? The teams who have been on the system for more than six months are encouraged to take ownership of their workflows and begin requesting changes to support continual improvement. Although most teams perform a set of similar processes, separate team definitions of the flows are maintained. This supports ownership and experimentation by the teams. User defined customisation of inquiry facilities for teams and individuals are also encouraged.

Implementation perspective.

Is the scope of the technical intervention clear to all stakeholders? The scope of the technical intervention was defined clearly in terms of the overall objectives of the BPR project. We are always critically aware of how the scope of technical interventions can 'creep'. We therefore take an explicit 'package' approach that attempts to initially implement workflow within the constraints of the product we are using. This enables an

efficient first phase implementation that can be followed with later phases of more effective integration. The approach enables both the project team, and the users to consolidate their learning about the new 'whole' system (organisational and technological) before defining any further requirements.

What resources and knowledge are required in order to implement this technology? How does this affect our larger BPR plans? The sources of expertise required to implement the new image-workflow system were not all present at the start of the project. These entailed the mapping and redesign of current workflows, and the technical programming required to customise the package to our specifications. The effect this had on our plans was that we set up a pilot project of two teams which was a learning ground for the project team. The purpose of the pilot project was to prove the whole systems intervention (organisational, structural and technological) and to develop our internal capacity to enable further teams. The plan entailed developing a small highly knowledgeable project team that could expand as demand for further implementation increased. The team size also facilitated the creation of common purpose and mental models between project team members.

How will the new technology integrate with existing computer systems? Since all existing computer systems are accessed from within the context of the workflow there is potential for integration that will allow users to process work in more efficient and effective ways. Our initial implementation has been with a minimum of such integration. This however does not impede the user's ability since the new technology allows him to be working in many systems at the same time. Previously users could only be signed in to one system at a time. This was inefficient since it entailed entering and exiting core systems many times a day.

Are additional technical resources, not specifically part of the project, required? Do we have a central communication point for such resources? The use of consultants to aid in the initial technology implementation was tightly controlled. This was achieved by careful selection of the individual consultants and clear definition documents. We used two consultants (a business analyst and a programmer). Both we selected because they had to their credit working implementations. They were also judged suitable for our culture and purposes. All formal communication and directives were channelled through the Southern project manager so that confusion was minimised.

The picture we have built of LCS now includes sources of purposefulness, issues of organisational form and important aspects of technology deployment. This picture will be further developed by unfolding people issues within LCS.

Unfolding people aspects.

This inquiry applies the people appreciative frame to unfold some of the human aspects of Life Customer Services

Purpose integrity.

What are the purposes of the individual members of the organisation? Do these support the overall purpose of the human populated system? Does the purpose of BPR support the purposes of the individual members of the organisation? Our initial inquiry into people's personal motivations uncovered a need for ownership, decision making power, and fair reward for work done. These were not in conflict with our values or our vision of becoming first choice to customers, staff and shareholders. The feedback capabilities of the technology provide ownership of problems at a team and individual level. The autonomous team structures increase appropriate levels of decision making. The transparency and accuracy of measurement attained by the technology facilitates fair reward for fair work. The new reward and remuneration system will further develop the link between performance and pay.

Technical perspective.

Do people understand the competencies that are required by the 'new' organisation? Is there a model of such competencies? At the individual team member level the competencies required are represented by the workflows or business processes. Our aim is to multi-skill people across many business processes. The common language that workflow facilitates, aids in the identification and learning of new competencies. On the interpersonal and leadership side a competency profile was created, and development workshops are held. Our original competency model is developing as the reality of the new teams unfolds.

Are there explicit connections made between personal performance and the overall performance of the meta social system? A lot of emphasis was placed on this during the pilot project. However in subsequent teams it has been made less explicit. This is an area for improvement. The feedback from the workflow system is presented in such a way that it becomes obvious how any one individual's performance affects the whole. The connections however may need to be made on a regular basis by the team leaders.

Are personal performance criteria fair and negotiated? Teams have the ability to set target standards for each step in any business process. These are arrived at by taking actual averages and then weighting them by a factor that the team is happy with. We have been weak on not immediately providing targets for individuals on implementation. This is needed since they provide meaning and intrinsic control in a radically changed environment. In the old structure individuals were given batch of work on paper to complete within a specified time. On the new workflow technology work is presented to a team member one piece at a time. Although users can see what they have completed at any

point there is a fundamental difference in the two approaches. Clear and fair targets are therefore especially needed during the transition from the old to the new. Once the standard target times are in place and the new work ethic established the individuals begin to set their own targets (i.e. they behave purposefully). We have found that as the teams mature they also begin to use the system to distribute work in different ways depending on their service demand and context.

Organisational perspective.

Do individuals have a say in how teams are constituted? Is the rationale behind team selection made explicit? In the pilot teams a large amount of time was spent mapping the relationships between people. The inquiry entailed questions about respect and who would be approached for technical or personal support. The individual's names were then assembled into possible teams. The next step was to attempt to balance the competency spread in each team. The possible teams were presented to the team members and feedback was obtained. Both these teams have now been operating well for over a year.

Do teams contribute in deciding on team leaders? Once the team constitution has been finalised the teams are presented with a selection of co-ordinators who they interview and then rank for selection. The co-ordinator has the choice to reject an offer from a team if he wishes to. A weakness in the system was that the BPR steering committee decided on the initial group of co-ordinators that the teams may select from. Application to become a co-ordinator is voluntary and open to anyone in the division.

Does the new organisation explicitly provide for the learning and development of individuals and teams? The Learning Centre is designed to provide an environment in which new and existing team members receive intensive training on business processes. The individual leaves his team for a prescribed period to work in the centre. A continual flow of people is planned so that the whole systems level of competency is forever improving. Currently there is a need to develop a learning process specifically for co-ordinators. This would focus on leadership and problem solving skills. These skills become critical to the success of a flat team based structure.

Implementation perspective.

Are individuals affected by the BPR project kept informed at all times? During large change initiatives one can never over communicate. As in most cases we can improve our performance in this area. The difficulty is that often designs are kept fluid until late stages in the process and one does not want to cause unnecessary confusion by defining the new reality for others before one has a good understanding of it oneself. In the early stages of the project a key problem for the project team was the identification of what we did not yet know, but needed to know.

Are people viewed as an integral part of the project? How is this practically manifested? Our aim was to design for purposeful systems with each of the semi-autonomous teams being viewed as a future purposeful system. This assumes that people are viewed as an

integral part of the project. Learning processes were designed for people who would be part of the change ahead. The mapping of current processes was very participative with shop floor experts giving most of the input. A qualified counsellor is available to people who need emotional support during the change process.

Are the roles and expertise of the BPR project team understood by all the affected? In the early stages this was not clear since the project team itself was immature. Official roles were made clear but with a small team these often became blurred. From the perspective of the affected the roles within the project team are not important since when requiring support any member of the team can be (and often is) approached.

What are the key relationships that need to be developed between members of the reengineering team and members of the business area undergoing BPR? Ideally the members of the project team involved in implementation need to have a relationship with all the affected. In practice the strongest relationships are built around sources of control and motivation within the areas undergoing BPR. This means current and future leadership, whether it be formal or informal. Relationships with sources of legitimation need to be strong during the simulations and the first few weeks of working in the new structures with the new technology.

Are members of the reengineering team approachable during implementation? Have specific members of the team been identified as the first level of support? The small project team size is beginning to affect our capacity to service support requests. However the project team is located amongst the newest teams and access to team members is not inhibited in any way. Our learning approach was for new users to get a brief overview of the system followed by extensive practical experiences during which high support is available.

In order to complete our application of the appreciative framework we will investigate issues of implementation in the LCS BPR project.

Unfolding implementation.

This section uses the implementation appreciative frame to inquire into issues of implementation in Life Customer Services.

Purpose integrity.

Are the goals and objectives of phases within the BPR project explicitly linked to the overall purpose of the human populated system? In the minds of the project team it is clear that to become first choice we need to enable service teams to become purposeful and self directed. With the intrinsic control capabilities of the technology the self directed teams will become highly responsive to their customer environments. Processes need to be created whereby teams are explicitly reminded about how what we are doing fits into our overall purpose. The phases of the project are viewed as building blocks that increase the capacity of teams to realise the vision of becoming first choice.

Technical perspective.

Is there a project plan that is visible to all affected? We found it useful to set up a large calendar on a movable white board. The calendar represents the plan for any phase of the project and includes such tasks as testing, learning sessions, and implementation. It is always our aim to enable the affected to own practical implementations so that it is not just 'the project team's problem'. In this way the project team and the affected become joint participants in the process. Any changes in plans for implementation are first legitimated by the affected.

Is there a comprehensive list of risks that need to be managed during the project? During the pilot phase we drew up a list of risks from multiple perspectives. This covered risks presented by the technology, by the organisation, and those that could emanate from people. At project meetings this list would be reviewed and appropriate action taken to manage areas of concern.

Are technological systems designed to facilitate staged implementation? Our initial technical implementation is designed to take maximum advantage of the workflow package with minimum effort and risk. We built as few customisation programs as possible. Our rationale was that the workflow system was proven in other sites and that if we stayed simple it would ease learning by the users. Once the users are competent on the system we would begin changing workflows as per their request. This strategy has reduced the initial implementation variety and facilitated further *business driven* improvements.

Organisational perspective.

Does the Implementation process reflect the shared values of the organisation? The key company values (see Appendix 1) that relate to implementation are Teamwork, Flexibility Open Communication and Learning. In fact the whole initiative and its purpose has integrity with the values in the mind of the project team. During the pilot project the affected were explicitly asked to feedback their views of the process against the critical standard of the company values. This enabled the project team to modify their behaviour and plans to better reflect the values.

What is the correct size for the reengineering team? This depends on how you scope the intervention. In our case we wanted a small closely knit team that could learn at an accelerated rate. There is the risk with such an approach that if members of team become unavailable the performance of the project may be severely effected. We have benefited from a small team in the following ways. High quality interpersonal relationships have been formed. This is essential in change projects where the involved are going through changes in the way that they view the world. We believe that for fundamental change to occur change in the project's members has to occur. The ability of the team to hold a common mental model of the situation is enhanced if the team is small. Feedback also occurs easily in small teams. Careful selection of new reengineering team members has ensured a close knit team of strong independent individual change agents.

Personal perspective.

Are performance expectations of people in the new teams realistic? Has the time taken for learning and stabilisation been taken into account? We estimated a twenty percent initial drop in productivity for teams involved in implementation. What we underestimated was the length of time it would take before the teams were at a satisfactory level of operational performance. This time is decreasing as new teams are instituted. This can be ascribed to the learning that has taken place throughout the whole human populated system. An example of this is that new team co-ordinators now have role models in existing teams whom they can call on for support and guidance.

Do the affected people have an unbiased and trustworthy resource whom they can approach for guidance and support during the stressful post implementation phase? Since the new co-ordinators were elected by the teams they become the first level of support in such cases. In addition to this there is a dedicated counsellor who provides service to the affected. Confidentiality is practised in this case with only general feedback occurring back to the involved.

The application of the complete framework is now concluded. The appreciative framework has facilitated an inquiry that has efficiently and effectively enriched our appreciative world in respect of LCS. In the next section critical reflection on the practical use of the framework will be presented.

Part 5: Conclusion and critical reflection.

This section critically reflects on practical use of the appreciative framework, reflects on the original argument, and suggests further areas for research.

"Last night, as I was sleeping,
I dreamt-marvellous error!-
that I had a beehive
here inside my heart.
And the golden bees
were making white combs
and sweet honey
from my old failures."
(Machando, in Arrien, 1993:49)

Critical reflection on the practical use of the appreciative framework.

- The approach advocated in this paper calls for change agents to be critically self aware of their own limitations with respect to the complex challenges they are faced with. I have found that such a challenge is extremely difficult in that it requires some personal re-evaluation that left me feeling inadequate as a designer and change agent. The frames uncover levels of complexity that were not appreciated before. This can be overwhelming at times. I need to stress that these levels of complexity were always present, it is just that I was not aware of them.
- The framework has enabled the change agents on the project to organise their thoughts around BPR in such a manner that the communication of designs and their rationale were made easier.
- The systems approach is conceptually seductive and one of our main challenges has been to balance thought and action. In the last section real world examples were presented that should help change agents make the connection between theory and practice.
- My role in the BPR project team placed me in a position of power where the input and influence I place on designs and direction could have an affect on many people. I believe that using the framework has helped me be more honest with myself, and with those with whom I work.
- Only after a thorough reading of the philosophy behind the systems approach did I really begin to grasp the value of the heuristics and questions.
- I now try to be as explicit about my plans and the assumptions behind them as possible.

The three critical principles of CSH along with the concept of purposefulness are constant guides and have helped me to check myself against the misuse (unintentional or otherwise) of the position in which I find myself:

Purposefulness (see page 19). This led me to examine in detail my own agenda as regards BPR. It also led to a growing respect for the interests of others and the responsibility I have towards them. Ulrich's (1983:322) regulative principle that *"In real-world problem solving and design, purposiveness (of tools) depends on purposefulness (of people using tools)"*, has allowed me to focus on design for purposeful systems. This focus is fundamentally different to my initial standpoint in which I believed that the BPR team could through their designs create a better sustainable organisation. What change agents can do is to design so that other humans in the system have the capacity and opportunity to create their own new organisation. If the new system is co-created it will be sustainable.

The systems principle (see page 26) has helped me come to terms with the fact that any situation in which I work as designer or planner is much bigger and more complex than I can comprehend or imagine. This has helped guard against falling into the trap of being too sure of my own knowledge, or believing that I really "know" what is going on.

The moral principle (see page 26) forces me to consider all the people that may be affected by my actions within BPR. We need to design business processes that 'improve the human condition'. One way of facilitating this is through the design of team processes that enhance participation, learning and the development of all. The striking fact that this idea highlights is that I will not have to work in such teams and therefore need to be vigilant about considering those who will.

The guarantor principle (see page 26). The critical intent of this idea reminds me that the very things that I may feel guarantee a successful implementation, may in fact be false. This has led me to entertain many scenarios for how implementation will actually transpire, and has convinced me that good implementation is best secured by focusing on the conditions that increase the likelihood of a wonderful accident happening. One such focus has been to steadily increase the level of participation by the new co-ordinators and team members.

Reflection on the original argument.

The position taken in this paper is that *the effectiveness of change agents depends on their ability to develop an understanding of the complex situations they are faced with.* This includes a rich understanding of their own role within the change situation. The importance of people within the organisational situation has been stressed with a strong emphasis on designing *for* purposeful systems. In order to accomplish this the change agent needs to build an appreciative world that enables him to recognise important aspects in the organisational situation.

Appreciative frames that are sets of critical principles, heuristics and questions are fundamental in enabling the change agent to select and discriminate information from the incomprehensible 'whole' organisational reality they are faced with. The frames presented covered issues of purposefulness, organisational form, technology, people and implementation. Although the complete framework is not presented as being comprehensive it does provide structures around which we have been able to organise our thinking with regard to BPR in LCS. The test of the usefulness of this is in the real world application of the framework as presented in the last section.

In order to judge the usefulness of the framework one has to imagine attempting change on the scale that is occurring within LCS with traditional frames. Although traditional approaches may work when dealing with bounded segments of reality, they assume design separability and therefore tend to commit the environmental fallacy (see page 16). The use of the systems approach appreciative frames needs to be dynamic in the sense that they are not a recipe to follow but rather heuristics that allow the change agents to keep their own thinking under constant review. They also enable the better articulation of such thinking which is crucial to the change agent's performance (see page 13). Finally they provide a structure which can be customised by the change agent so that the necessity of repeating some of the thought process is removed. In this sense they form the skeleton of a

methodology around which change agents can add context dependent heuristics and questions. When considering the performance criteria of a change agent (see page 13) one can see that *the appreciative framework enables and supports all five key tasks. They therefore can only improve the performance of the change agent relative to these criteria.*

Future research.

As use of the appreciative framework continues new frames, heuristics and questions that cover new aspects of change will be added. Use of the framework in other contexts would also enable a better evaluation of it and help uncover areas for future development. Context specific frames that take into account the scope and type of organisation could be built, and in the future a library of appreciative frames could be established.

Appendix 1: The Southern's values.

BPR took place against a company wide process of Value sharing. Every employee in the company attended a two day value sharing workshop and while at the workshop, participants crafted the values they believe the Southern should have. Representatives from all areas of the company were than elected to craft the final set of company values. The following represent the company values as drawn up by the representatives.

Customer focus (service excellence).

We attract and retain customers through identifying and satisfying their needs and exceeding their expectations through quality service, products and innovation.

Fairness and non-discrimination.

We value diversity by creating an environment of equal opportunity for all.

Flexibility.

We are open minded, flexible and welcome the opportunities that change provides.

Leadership.

We are all accountable to ourselves and each other and are effectively empowered to provide dynamic leadership that is value-driven, visible, transparent and focused.

Learning.

We have a learning environment for all individuals and teams to continuously acquire skills and knowledge, freely sharing it with others for the benefit of all stakeholders.

Mutual trust and respect.

We develop and earn mutual trust and respect through openness, honesty and a willingness to understand one another. We uphold human dignity and self-worth.

Open communication.

We have regular, open, honest, timeous communication leading to understanding and alignment, and together we treat information responsibly.

Performance, recognition and rewards.

We recognise, communicate and reward continuous improvements in productivity, quality and effectiveness, to enhance competitiveness in support of our Vision.

Social responsibility.

We creatively apply resources for the enhancement of the environment and the community.

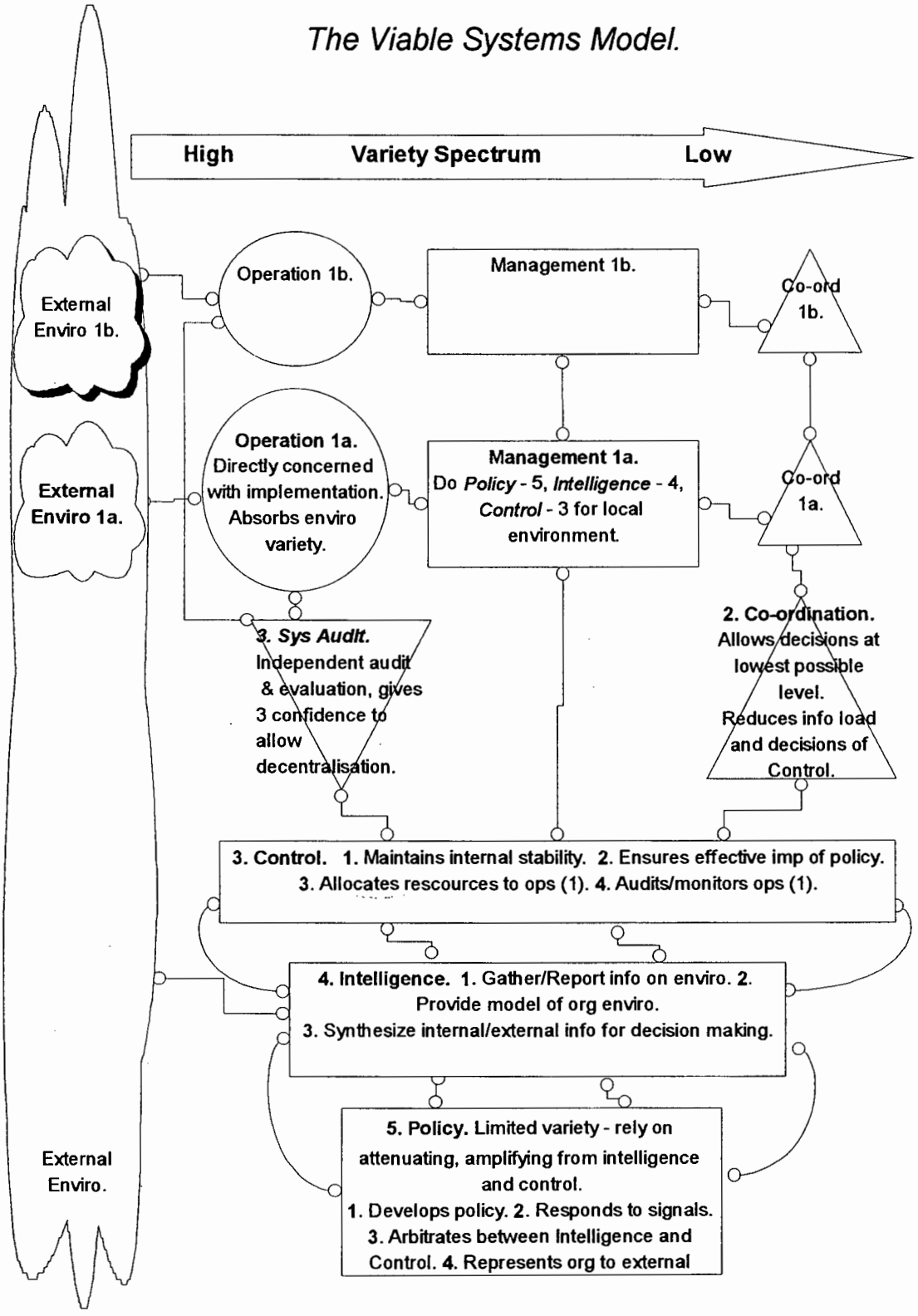
Teamwork.

Through teamwork, interdependence and individual creativity we meet our outputs. We accept joint and individual accountability for our performance.

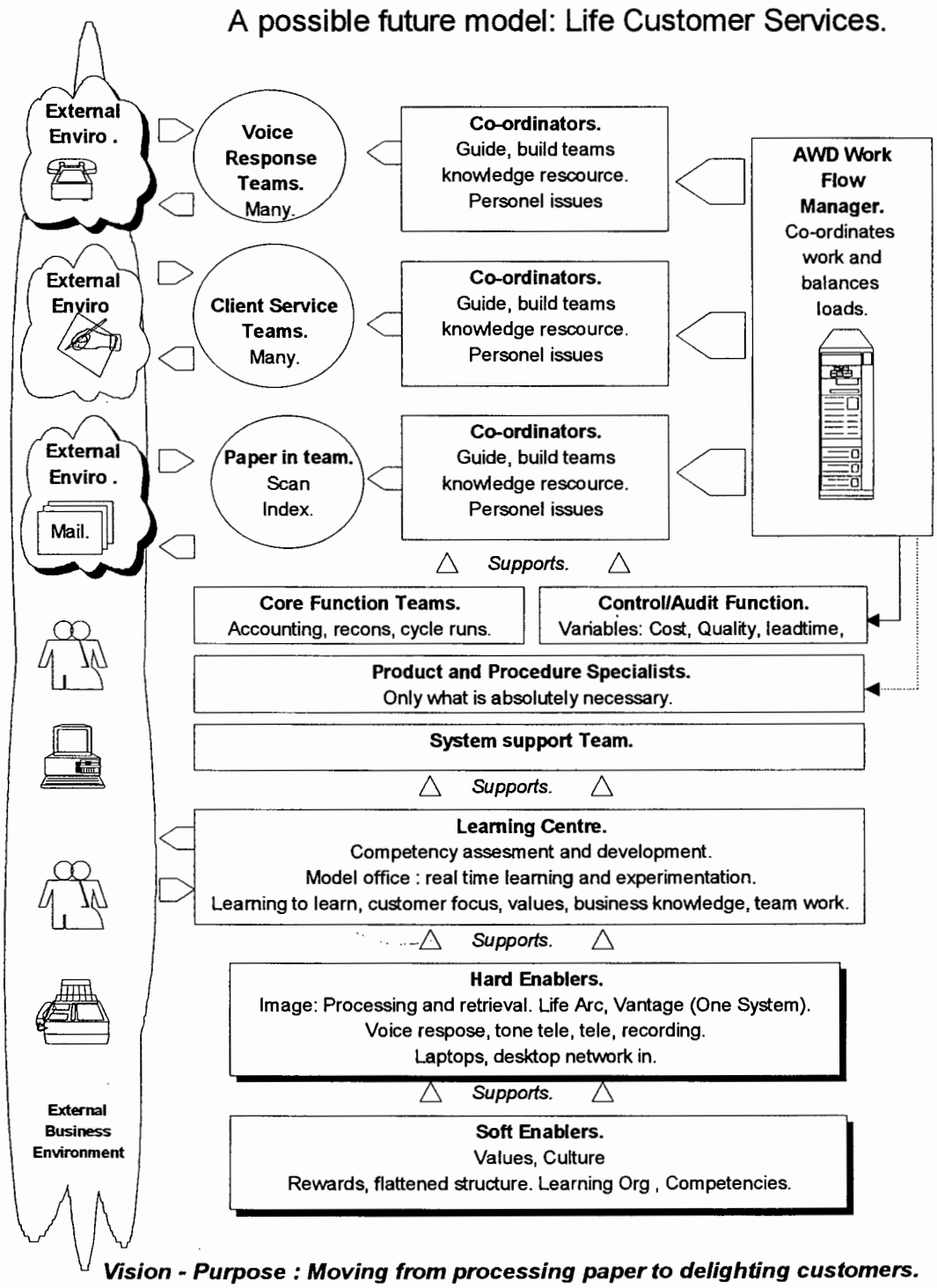
Wealth creation.

We create wealth and achieve long-term profitability through quality performance, products and investments to the benefit of all our stakeholders

Appendix 2.


The Viable Systems Model.
High
Variety Spectrum
Low
External Enviro 1b.
Operation 1b.
Management 1b.
Co-ord 1b.
External Enviro 1a.
Operation 1a. Directly concerned with implementation. Absorbs enviro variety.
Management 1a. Do Policy - 5, Intelligence - 4, Control - 3 for local environment.
Co-ord 1a.
3. Sys Audit. Independent audit & evaluation, gives 3 confidence to allow decentralisation.
2. Co-ordination. Allows decisions at lowest possible level. Reduces info load and decisions of Control.
3. Control. 1. Maintains internal stability. 2. Ensures effective imp of policy. 3. Allocates rescources to ops (1). 4. Audits/monitors ops (1).
4. Intelligence. 1. Gather/Report info on enviro. 2. Provide model of org enviro. 3. Synthesize internal/external info for decision making.
5. Policy. Limited variety - rely on attenuating, amplifying from intelligence and control. 1. Develops policy. 2. Responds to signals. 3. Arbitrates between Intelligence and Control. 4. Represents org to external
External Enviro.

Appendix 3.



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