

**Title: APPLICATION OF SOFT OPERATIONS RESEARCH FOR ENHANCING
THE SERVICESCAPE AS A FACILITATOR**

AUTHORS:

Dr. Masood H Siddiqui
Faculty-Operations Research & Decision Sciences
Jaipuria Institute of Management,
Lucknow.
mhsiddiqui@gmail.com, masood@jiml.ac.in

Dr. Shalini N Tripathi
Faculty-Marketing
Jaipuria Institute of Management,
Lucknow.
shalinit@jiml.ac.in

APPLICATION OF SOFT OPERATIONS RESEARCH FOR ENHANCING THE SERVICESCAPE AS A FACILITATOR

ABSTRACT

The Servicescape provides a visual metaphor for an organization's total offering. It can also act as a facilitator by either adding or hindering the abilities of employees and customers in performing their activities. Repatronage of the service provider is assumed to be dependent on consumers' level of satisfaction with the service rendered. Through better creation and management of service-environment, shopping malls and retail stores may be able to contribute towards achieving both external strategic marketing goals and strategic internal organizational goals.

This paper discusses the use of Soft Operations Research, in dealing with the strategic issues of designing, improving and managing the physical service environment for organizations delivering high contact services like shopping malls and retail stores. Servicescape planning and management is a problem solving activity that has to take place in the condition of uncertainty and complexity, because of participations of many actors having different perceptions, conflicting interests, and different nature of social interactions. To secure strategic advantage from the Servicescape, cross functional co-operation in planning and decision making is of paramount importance. Hence, analytical approaches to decision making and decision support must take into account the human dimensions like wider consultation with different and possibly all stakeholders and players. This emerging trend in business strategy research can be very well reflected by growing application of Soft OR methodologies because Soft OR methodologies enable managers and others to take account of the interrelationship between organizational contexts, activities, processes and structures, and therefore can add substantial value for policy makers and managers concerned with the improvement by enabling them to break away from narrow reductionism.

Here, we have applied selective mixing of two Soft OR methodologies Soft System Methodology (SSM), developed Peter Checkland (1981, 95, 99) and Strategic Choice Approach (SCA), developed by Friend and Hickling (1997), for enhancing Servicescapes as a facilitator because this mixing can enhance and enrich the process of strategic decision making in these types of problems. Root definition and CATWOE from SSM provides all the base components to complete the understanding and definition of business (Servicescape) model. Uncertainty Space and Commitment Package tools from SCA are especially useful for handling risk and uncertainty inherent in it. So, wider consultation and channelising the discussion towards a common goal using SOFT O.R techniques (SSM and SCA here) may significantly contribute towards the success of the project of designing, improving and managing the service environment of shopping malls.

Key Words: Servicescape, rich picture, root definition, conceptual model, uncertainty areas, multiple perceptions.

Introduction

Service environments relate to the style and appearance of the physical surroundings and other experiential elements encountered by customers at service delivery sites. Bitner (1992) coined the term 'Servicescapes' in reference to the physical surroundings as fashioned by service organizations to facilitate the provision of service offerings to customers i.e. the physical facilities of a service company. The physical service environment plays an important role in shaping the service experience and delivering customer satisfaction. In service organizations the same physical environment that communicates with and influences

customers, may affect employees' satisfaction, performance, productivity, and motivation (Baker, Berry & Parasuraman, 1988). Both customers and employee groups may respond cognitively, emotionally and physiologically to the service environment. Designing the service environment is an art that takes considerable time and effort and can be expensive to implement specially for organizations delivering high contact services like shopping malls and retail stores because Servicescape could support positioning and segmentation strategies, secure strategic advantage and so enhance strategic marketing objectives. Service environments are complex and have many design elements. In particular, if we consider design elements of a shopping mall/retail store service environment, then major dimensions will be exterior facilities, general interior, interior displays and social dimensions (attitude, behavior of staff etc) (Berman & Evans, 2001 and Turley & Milliman,2000).

There is a need for cross functional co-operation in decision making about service environment. Facility planning and management is a problem solving activity that lies on the boundaries between architecture, interior space planning and product design, organization (consumer) behavior, and planning and environment psychology. Designing, improving and managing service environment will have an impact on human resource goals, operations goals and marketing goals. So, the planning should involve inputs from managers in these three areas along with inputs from actual users i.e. customers and employees. So, larger the number of actors and stakeholders involved in planning, the more, is the scope for conflicting agenda.

These types of decision making have to take place in the conditions of uncertainties and complexities, because of participations of many actors having different perceptions about the "problem situation", conflicting interests, different conventions and expectations and different nature of social interactions. These types of situations may not be predictable, rather ill-structured, complex and messy. It is not certain how many variables can have an impact on the situation, the linking and degree of interrelationship between these variables is not certain. The business environment is dynamic and the rate of change in the business environment is rather uncertain.

In the previous generation, the emphasis was on analytic modeling (represented normally in quantitative analytic form), the factors/alternatives & relationship among them in a decision situation are represented mathematically & then using computer/software packages to solve them. Mostly these tools & techniques aim at finding the 'best' solution, though considering a number of assumptions. Classical approaches to both planning and decision-making are inappropriate in theory, and have proved inadequate in practice for managing such ambiguous risks, which may fall apart in the real life situations (Rosenhead and Mingers, 2001). Different people interpret problem situations from particular standpoints and in terms of distinctive interests. Fortune and Peters (1995) talk of 'complex discursive' networks frequently giving rise to contending interpretations of the system, problems and solutions to problems. Therefore problem situations in this area generally are ill-structured and management and performance improvement initiatives based either on 'rationally' predefined goals or spontaneous 'quick fixes' are likely to end in disappointment.

To be able to adequately handle such situations, analytical approaches to decision making must take into account the differences of perception and conflict between multiple actors. Companies are finding that traditional models of strategic planning have serious shortcomings in the new business environment. So, companies should now bring together the need and expectations of diverse constituencies, each with unique and sometimes conflicting requirements. Additionally; social, economic and political factors; although difficult to predict; needed to be reconciled. Hence, the time has come for alternative techniques and methodologies known as Problem Structuring Methods (PSMs). They certainly represent an emerging trend in business strategy research.

PSMs accept, as a fact, that the most demanding & troubling task in formative decision situations is to decide what the problem actually is. There are too many factors, many of the relationships are unclear or in dispute, and do not reduce naturally to qualified form, different stakeholders/players have different priorities. PSMs use models to help group decision making. The aim of PSMs is both more modest & more ambitious than previous generation of optimizing methods because they may not provide the 'best' solution but it will be meant for more general situations considering much less assumptions so more useful in the real business life (Rosenhead & Mingers, 2001). The principal PSMs are Strategic Options Development & Analysis (SODA), Soft System Methodology (SSM), Strategic Choice Approach (SCA), Drama Theory etc to assist strategic decision-making. This field is now generally referred to as 'Soft OR' as they are distinguished by the different assumptions the approaches make regarding problem definition, the nature of organizations, the use of models and the emphasis placed on organizational and individual learning.

All of the above PSMs take a process-oriented approach to model complex problems and have been actually developed through action research. Soft OR enables consultants to identify what particular information and knowledge might be structured in order to manage complex problems. These types of modeling techniques incorporate human dimensions and support transparency in conflict situations and therefore promote a 'beneficial' climate of conflict and confrontation (Liebl, 2002). This management of conflict and confrontation is an important feature of Soft OR process.

Soft Systems Methodology (SSM)

The SSM, developed Peter Checkland (1981, 95, 99), is a qualitative technique that can be used for applying Systems Thinking to non-systemic situations. It is a way of dealing with problem situations in which there is a high social, political and human activity component (Fortune and Peters 1995), like dealing with the strategic issues of designing, improving and managing the physical service environment for organizations delivering high contact services like shopping malls and retail stores. This distinguishes SSM from other methodologies, which deal with HARD problems that are often more technology-oriented. SSM can approach the issues of Servicescapes holistically so it has the potential to provide better understanding of complexities and vulnerabilities.

SSM provides a coherent approach to group and individual thinking about context, complexity and ambiguities of such organizations having high level of human intervention (Checkland and Scholes, 1999). The stress is upon encouraging the involvement of system owners, actors and customers, collaborating with the analyst or consultant, in the process of situation improvement. Certainly, wider involvement is a crucial prerequisite for effective and sustainable improvement initiatives specially to achieve a broader perspective (Checkland & Holwell, 1998).

SSM operates by defining systems of purposeful activity (the root definition), building models of a number of relevant systems, and comparing these models to the real world action going on, in order to structure a debate focusing on the differences. That debate should lead the group of people involved in the process to see their way to possible changes and to motivate these people to carry out those changes.

There are basically seven stages in the SSM process, not necessarily followed in a linear fashion (Checkland 1981, 95):

Stages 1 and 2: Finding out- This stage entails entering the problem situation and identifying within it:

People- all those with an interest in the system or likely to be affected by changes to it

Culture- social roles, norms of behavior and values

Politics-commodities of power and how they are obtained, used, preserved and transmitted Checkland (1999) regards the ‘finding out’ about a problem situation through rich picture and analysis as critically important. A key feature of SSM is to keep the project vague and wide for as long as possible – neither jump to conclusions nor assume or ignore the current situation.

Stage 3: Developing root definitions- This intermediate stage, is called ‘systems thinking about the real world’, consist of ‘developing root definitions’ of associated purposeful activity systems. These are the sentences that describe the ideal system or sub system within it; the root definitions should specify CATWOE as following-

C: Customer/victim/beneficiaries of the system. **A:** Actors/ participants of the system. **T:** Transformation process. **W:** Weltanschauung i.e. worldview underlying the system. **O:** Owner of the system, having power to stop the system. **E:** Environmental constraints that cannot be altered and need to be considered.

The root definition and the CATWOE have at their centre the transformation process, SSM centers upon transforming processes - upon the conversion of some input to some output. As each category of participants - designers, managers, users, or other beneficiaries - may have different views of the organization's main goals or activities, many other transforming processes will be identified, and many other viewpoints will be elicited during an SSM investigation. Once these activities have been discussed and expressed, they can serve as the basis for formally expressed root definitions from which conceptual models of systems can be developed. By examining the most relevant of these, it is possible to develop an overall notion of a system in terms of some purposeful human activity. This process is accomplished by examining systems in terms of their owners, actors, beneficiaries, transformation processes, environments, and the world-views or Weltanschauung of those involved. The investigation may help determine which activities are essential to the organization, and which are superfluous. As well, since many perceptions are elicited, potential conflicts may be uncovered, or potential areas of commonality revealed.

Stage 4: Building conceptual models- At this stage a model which is actually a diagram (map) of activities with links (arrows) connecting them, according to logical dependencies (Eden & Ackermann, 2004) is developed from the root definition (Checkland, 1999). It should be focused more on the ‘softer’ aspect of the client’s requirement rather than ‘harder’ technical details (Howard, 1993).

Stage 5: Comparing- This stage is designed to provide structure and substance to an organized debate about improving the current situation .This stage involves comparing the models that have been developed with the real world situation.

Stage 6: Identifying changes- If the current system requires (why we did the analysis) - then we have to agree on desirable changes. So, this stage involves identifying changes that could be made to the real-world system, changes that appear, to those participating in the SSM process, as worth trying. These changes need to be systematically desirable and culturally feasible (Pidd, 2003).

Stage 7: Taking action- The outcome of the previous stage is that there is some agreement - permission to move. So, this stage involves putting into practice the most appropriate changes identified in the previous stage.

So, the above seven stages SSM process can be summarized as according to the Figure 1.

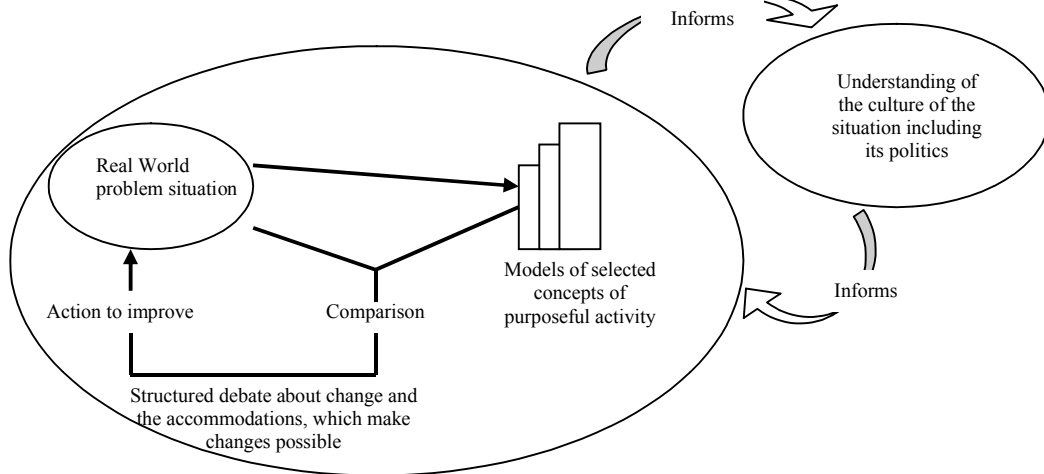


Figure 1: Representation of mature SSM

Strategic Choice Approach (SCA)

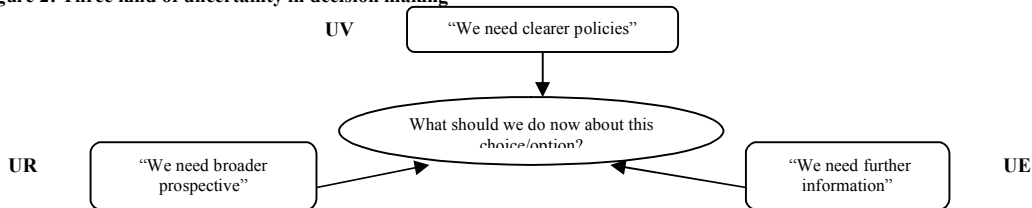
SCA, developed by Friend and Hickling (1997) deals with the interconnectedness of the decision problems in an explicit yet selective way. The most distinctive feature of this approach is that it helps people working together to make more confident progress towards decisions by focusing their attention on possible ways of managing uncertainty as to what they should do next (Rosenhead and Mingers, 2001). It combines a concern for complexities with an emphasis on real time decision making. It works on the philosophy of managing uncertainty in a strategic way. SCA identifies four modes of decision making activities:

- **Shaping-** considering the structure of the decision problems.
- **Designing-** considering possible courses of action.
- **Comparing-** comparing possible courses of action.
- **Choosing-** choosing the most appropriate course of action.

A key theme underlying SCA is identifying **uncertainty areas**, having broad categories as:

- **UE:** uncertainty about working environment can be reduced by technical response.
- **UV:** uncertainty about guiding values can be reduced by political response.
- **UR:** uncertainty about related decision fields can be reduced by exploring structural relationship (Figure 2).

Figure 2: Three kind of uncertainty in decision making



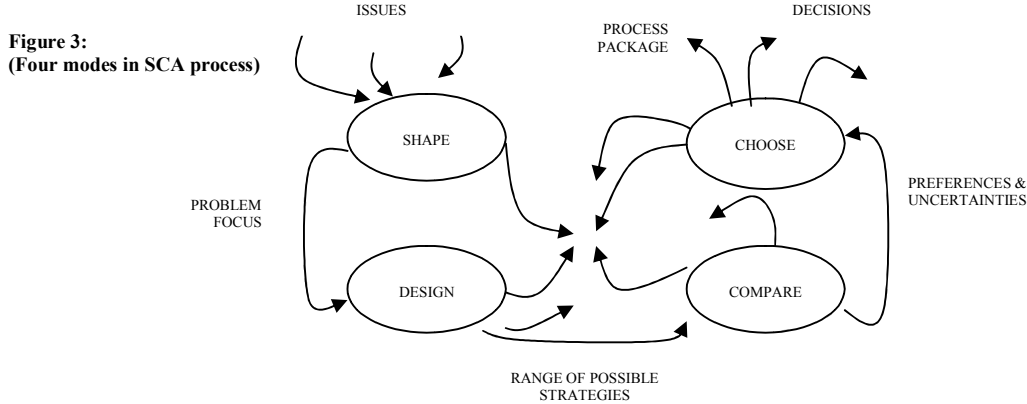
The shaping mode- When functioning in this mode, decision makers are addressing concerns about the structure of the set of decision problems that they now face. They may be debating in what ways choices should be formulated, and how far one decision should be seen linked to another.

The designing mode- Here, the decision makers are addressing concerns about what courses of action are feasible in their current view of problem shape. They may be debating whether they have enough options before them, or whether there are design constraints of either a technical or policy nature that might restrict the scope for combining options.

The comparing mode- Here, the decision maker is addressing concern about the ways in which the implications of different courses should be compared. It is in this mode that uncertainties of the three types come into sharpest focus (Figure3).

The choosing mode- In this mode, the focus for the decision makers is how to agree on commitment to actions over time. It is in this mode that the dimension of time becomes critical, and strategies for managing uncertainty through time must be explored.

Figure 3 depicts a process in which opportunities exist to switch from working in any one of the four modes to work in any of the others for a while, with feedback loops it allows for possible recursion to earlier stages in a more fluid and adaptive way (Hickling, 1997).



Role of Soft OR in Strategic Intervention in Servicescape Development

Here, we have applied selective mixing of two Soft OR methodologies SSM and SCA for enhancing Servicescapes as a facilitator because this mixing can enhance and enrich the process of strategic decision making in these types of complex problems. Rather than using one Soft OR approach from start to finish, the practitioner may use a component of methodology that best emphasizes the particular aspect of the problem in that given situation because while each methodology has something to offer to one of the identified challenges, it will equally prove inadequate on others (Lane, 1994). Ormerod (1995), Matthews and Bennett (1996) also demonstrated the value of this multi-methodology approach in complex problems. It is the high level of complexity and human element associated with this problem that recommended the possibility of linking Soft OR techniques to assist decision making. Bennett (1996) categorizes three forms of linkages: *Comparison*, *enrichment* and *integration*. *Comparison*, questions how the approaches are theoretically or practically similar? Whether they are complementary or incompatible? *Enrichment* involves using theoretical or practical aspects of one method to improve another without producing a new approach. In *integration*, a new approach is developed as a consequence of linking principles of existing approaches. The approach we are using for Servicescape development and management was one of *enrichment* and the rationale for this is described in Figure 4.

Root definition and *CATWOE* from SSM provides all the base components to complete the understanding and definition of business (Servicescape) model. *Uncertainty Space* and *Commitment Package* tools from SCA are especially useful for handling risk and uncertainty inherent in it. With respect to dealing with conflicts situations in the business model both SSM and SCA may be equally useful (Figure 4). So, this illustrates Bennett’s assertion (1996) of mixing methodologies.

Figure 4: Rationale for selective mixing of Soft OR methodologies

	Defining the business model	Handling risk/uncertainty	Dealing with conflict	Challenging mental model
SCA	○	●	○	○
SSM	●	○	○	●
○ Low/None	○ Medium	● High/Large		

Generally, a company can take two main approaches for strategy formulation and strategy implementation: *top-down change* or *bottom-up change*. With *top-down change*, top management analyzes how to alter strategy and structure, recommends a course of action, and then moves quickly to restructure and implement change to achieve the desired change. The emphasis is on the speed of response and the management of problems as they occur. *Top-down approach* may be better for setting objectives that may ensure that the financial and strategic performance targets established for business units, divisions, functional departments, and operating units are directly connected to the achievement of overall objectives. *Bottom-up change* is much more gradual. Top management consults with managers at all levels in the organization. Then, over time, it develops a detailed plan for change, with timetable of events and stages that the company will go through. The emphasis in the *bottom-up change* is on participation and on keeping people informed about the situation, so that uncertainty is minimized. The advantage of *bottom-up change* is that it removes some of the obstacles to change by including them in the strategy plan, through consultation at all levels to reveal potential problems that may be difficult to resolve if they emerge later. The disadvantage with this approach is its slowness and difficulty to overcome organizational inertia. The soft O.R. approaches suggested here is essentially the *bottom-up change* because here also the emphasis is on participation of possibly all the players and stakeholders. By selectively mixing these methodologies (SSM and SCA) the drawbacks of bottom-up approach can be taken care off up to a satisfactory level. Here our objective is not to provide a new methodology, but rather to provide an alternative way in which an OR practitioner can selectively apply different components of methodologies and by mixing methods enriching the process of development and management of the Servicescape.

If we consider various traditional strategic management tools vis-à-vis different stages of the two Soft O.R. techniques used here in the Servicescape planning and management, we can summarize the comparison/similarity areas and the applicability rationale as (Figure 5 & 6):

Figure 5: Comparison/Similarity of Strategic Management Tools with SSM & SCA

Soft System Methodology Stages	Finding Out	Developing Root Definition & Building Conceptual Model	Comparing Conceptual Model with the Real World	Identifying Changes & Commitment Package
Strategic Choice Approach Stages	Shaping	Designing	Comparing	Choosing
SWOT Analysis [Weihrich(1982)]		Understanding the firms internal environment	Evaluating risks & uncertainty associated with the internal environment	
PEST Analysis [Porter(1980,85)]		Understanding the firms external environment	Evaluating risks & uncertainty associated with the external environment	
Porter’s Generic Strategies [Porter(1980,85)]		Focus the business model	Determine whether focus creates a viable opportunity	
Porter’s Five Forces Model [Porter(1980,85)]		Identify market consequences of, and impact on, business concept	Determine whether market can be managed to create a more favorable scenario	
Critical Success Factors/ Scenario Modeling [Rockart,Hofman(1992)]		Identify factors required for success	Quantify & understand impact of options	Determine likelihood of factors required for success

[Gondal (2004)]

Figure 6: Applicability of Strategic Management tools

	Defining the business model	Handling risk/uncertainty	Dealing with conflict	Challenging mental model
SWOT Analysis	○	○	○	○
PEST Analysis	○	○	○	○
Porter's Generic Strategies	○	○	○	○
Porter's Five Forces Model	○	○	○	○
Critical Success Factors/ Scenario Modeling	○	○	●	○

○ Low/None ○ Medium ● High/Large

So, we can say that Soft O.R. techniques say Soft System Methodology and Strategic Choice Approach and the well known traditional strategic management tools are complementary rather than in conflict, having a number of components common among them and their applicability is also at par with each other. They are designed to offer support to the group of decision-makers (management team) by providing them with an efficient and structured way of identifying and evaluating options. Soft O.R. techniques are just alternative approaches towards decision-making incorporating subjectivity along with the 'hard' optimization tools of operations research. Here the focus is also on the people rather than on process alone. They are tools to enhance participation in decision-making, organizing debate towards a common and acceptable goal (s), approaching consensus and finally extracting commitment towards the actions. They are used primarily to promote integration of knowledge and transparency in the process, to build trust and understanding between different groups, therefore, enhancing the quality of decision-making.

These types of problems like designing, improving and managing Servicescape are essentially unique on their own because of elements of multi-perceptivity, intangibility and dynamism associated with the Servicescape so they require inventive/creative solutions and group efforts. The tools and techniques used here to enrich decision-making process were chosen with the audience and the circumstances in mind i.e. they are basically situation specific and they may not be generalized so they may be or may not be used again.

Research Limitations and Criticism

Soft OR methodologies are valuable in terms of supporting problem structuring and finding alternatives in different stages of problem solving process. It is however also clear that this process is not always straight forward. Not being ready to think differently and lack of research work in India on application of Soft OR tools in marketing settings are major barriers. Quantification of qualitative features and high level of intangibility involved in services and physical service environment are other limitations.

Radical critics say that SSM and SCA assume that all members of the enterprise have a choice, in fact an equal choice. The idea that managers and workers can openly discuss their problems and needs is fanciful i.e. both the approaches ignores issues of power. Further, critics claim, these approaches impose values of openness and 'niceness', which are more suitable to middle class academics than to managers or workers. These criticisms do indicate that Soft OR approaches have a fairly simple understanding of problem and society.

Participatory Action Research Study of Servicescape using Soft Operations Research

We have applied selective mixing of two Soft OR methodologies SSM and SCA for designing, improving and managing service environment of shopping malls/retail stores. As discussed above SSM is the main methodology used because it is very well capable of understanding and defining the Servicescape model incorporating most of the diverse viewpoints, perceptions, expectations, requirements related to the service environment model. 'Finding out' stage of SSM incorporates all the ingredients of 'shaping' mode of SCA. 'Developing root definition' and 'building conceptual model' stages of SSM are very similar to 'designing' mode of SCA. Main objective of using SCA is that it is probably the best Soft OR techniques that identifies the uncertainties associated with each stage of the process.

As a qualitative OR tool, SSM is designed to analyze and model complex system that integrates technology with human and organizational system. The synergistic relationship of SSM with its focus on human system, consensus building and comparison is very suitable for intangible concept like service environment. SSM looks at a human system like service environment, which is defined as a collection of activities in which people are purposefully engaged and there is some relationship between these activities.

Strategic service environment planning is a comprehensive and ongoing management process aimed at formulating and implementing an effective comprehensive plan for accomplishing management goal of increased level of customer satisfaction and repatronage. This planning should be on the premise that an analysis of internal and external factors must be conducted. Firm's external environment must include not only market (Competitors and customers) conditions but also environmental management issues. These environmental issues require the understanding of multiple and ever-changing threats and opportunities resulting from regulatory, social, local and technological factors. Internally, the need, requirement and priorities of managers and employees and other stakeholders are changing with time.

1st Phase-Empirical Research: In this phase, investigators were asked to do a preliminary survey of shopping malls situated in Lucknow. A detailed survey of customers was carried out to know and measure the level of satisfaction with the current service environment of the shopping malls, expectations from them and relative importance of different macro-dimensions and micro-aspects of these dimensions. The survey (for both 'hard' & 'soft data') was in the form of a structured questionnaire and direct observations and the information was collected from about 500 customers using quota sampling so to make the sample representative of the diverse views. Quota was constructed on various socio-economic demographic-profiles. This stage, labeled as 'client analysis', seeks to achieve an understanding of the social-aesthetical aspect of clients in term of culture, values, style, behavior, priorities, requirement and expectations etc. Simultaneously, the survey of all the other actors and stakeholders like managers, floor managers, employees etc. was also carried out in form of focus groups and semi-structured interviews using repertory grid procedure techniques. A considerable amount of information was gathered from them, a part of the information is used for the stage labeled as 'strategic analysis' which seeks to identify how business and decision activities are organized by drawing corporate goals, objectives, strategies and procedures vis-à-vis service environment, different types of stakeholders and their perspectives, assumptions, concerns and difficulties; the second part is meant for the stage termed as 'facility analysis' which is more technical in nature and focuses on built facilities. It should be kept in mind that both SSM and SCA are implemented as a participative process (application of action research) where the facilitator (modeler) works with the problem stakeholders. The purpose of this analysis phase is simply to get some idea, though it may be unstructured, so that a range of possible and hopefully relevant choices can be made.

2nd Phase-Empirical Research: Detailed discussions were being carried out with different actors and stakeholders like managers both at policy-making level and at operational levels, employees and finally customers. Their total number was 25; comprising of managers, floor managers, employees and some selected customers belonging to different socio-economic background. The purpose of this ‘problem expressing’ stage is to depict (through ‘rich picture’) the structure and process of the service environment, incorporating the multi-perspective complexity of the real situation. The relation between structure and process should illustrate the problem, tasks, and elements of the environment in a way, which is easy to understand. Participants were subdivided into sub-groups of sizes 4 to 6, so as to allow comparable data between the sub-groups to be collected and being in a small group, each participant is more likely to be able to make a more positive contribution. Each group was asked to examine the core purpose, activities and information needs of functions involved in a shopping mall. The process used was Oval Mapping Technique (OMT), because it would be a better option for surfacing and structuring thinking and it would involve more people. Here the two consultants (modelers) worked both as ‘process facilitator’ as well as ‘content facilitator’.

Rich Picture and Cluster Maps: In this phase, a ‘rich picture’ has been drawn to depict the problem-situation by summarizing the findings of the above phase for in-depth analysis of the problem situation. Here a ‘rich picture’ (Figure 5) has been drawn showing how they perceive the problem situation. After the detailed discussion with different groups, these groups were asked to formulate ‘root definition,’ and to ‘draw’ causal maps (*cognitive maps*) that would delineate the service environment situation according to the theme developed in discussions and represented. Here at least 12 sheets of flipchart papers were attached to the wall of the discussion room so that participants might be able to see the ‘big picture’ i.e. all of the contributions at once.

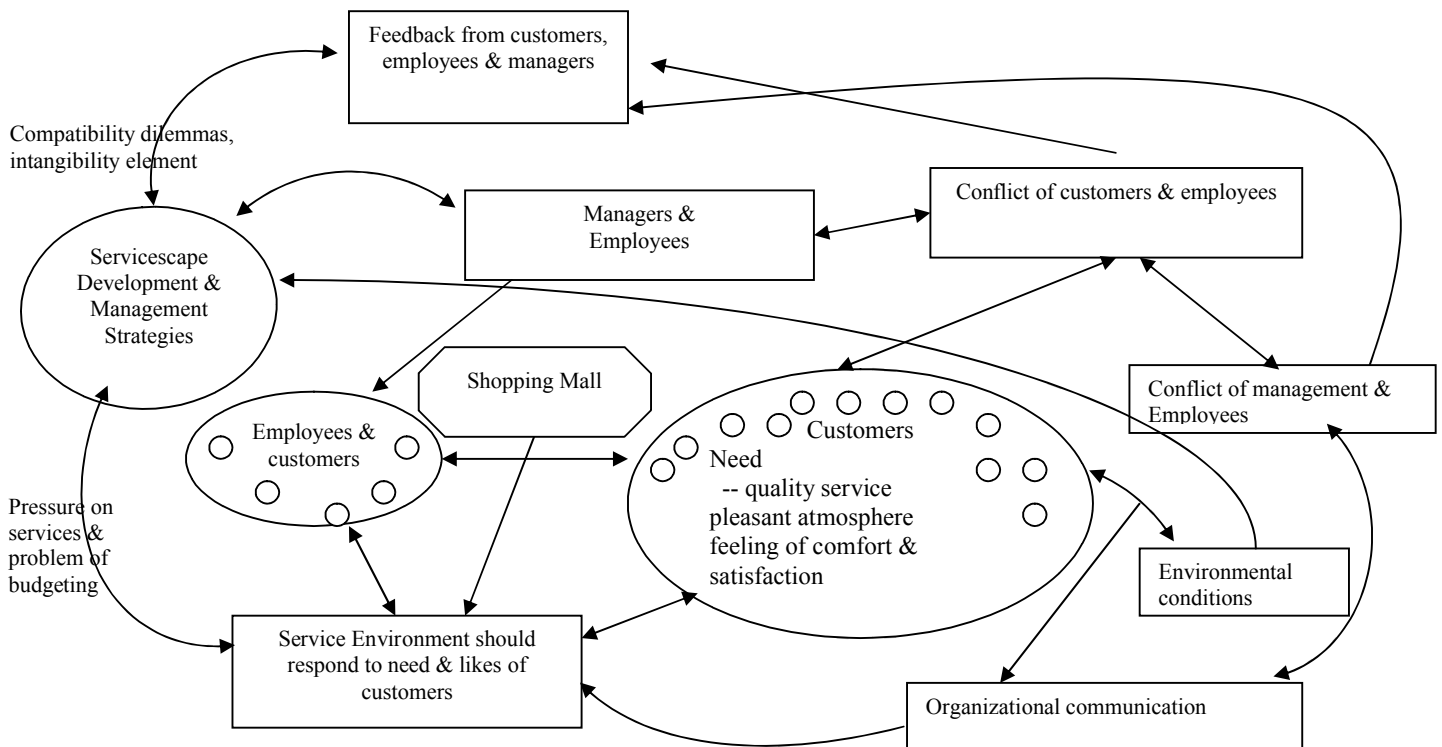
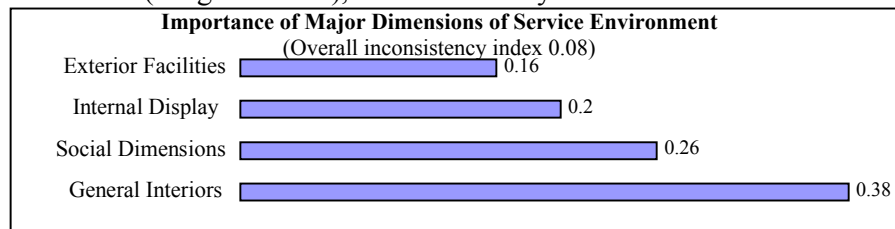


Figure 7: Rich Picture

This mapping was done by working with the concerned group to reach agreements about how to deal with strategic issues. Individual cognitive maps were merged into single map (*cluster*

maps), by the consultant working with them, where similar concepts were merged into clusters; concepts were discussed and negotiated in case of divergence and difference of views and fine tune balance of concepts was tried. At this stage, the group was not much concerned with solving the problem; rather the emphasis was on to explore the problem and to understand the process.

Workshop: Merged overview cognitive maps and individual cluster maps served as a focus for discussion at participative ‘workshops’ involving analysis of its content and structure and identification of any ‘emerging themes’ and ‘core concepts’. Participants invited to the ‘workshop’ were drawn from a wide cross-section of stakeholders, their total number being 12-14. In this way the workshop would provide participants with plenty of time and ensure that different perspectives could be fully expressed. Then a number of discussion- rounds of key goals, inter-related problems, key options and assumptions were organized so as to achieve understanding, agreement and finally commitment for the service environment-management issue. Again all the results of different discussion rounds were displayed on the flipchart sheets attached to the wall of the room. The responses are analyzed by qualitative analysis tool, analytic hierarchy process (AHP), designed for situations in which ideas, feeling and emotions are to be quantified and decision alternatives based on them are prioritized. With respect to prioritization the major dimensions of service-environment, AHP (Using Expert-Choice Software), told us that general interiors is the most important dimension (weight of 38%), and followed by social-dimension with 26%.

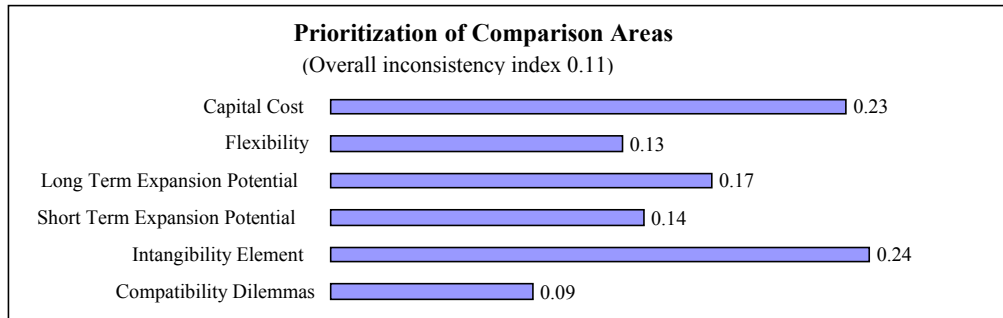


3rd Phase-Empirical Research: In the next phase namely ‘building conceptual model’, conceptual model of the problem situation was developed. It is simply an attempt to understand the activities needed to bring about necessary changes, and to conceptually construct a Servicescape that represents stakeholders’ perspectives. A model was developed directly from ‘root definition’ using action statements describing activities. The idea was to better demonstrate and understand activities needed in transformation process, and to debate the different perspectives held about activities and their linkages and finally to develop a shared understanding of these perspectives. At this stage, a monitoring and control sub-system has also been constituted which would monitor: *Effectiveness* of the proposed system i.e. is this ‘the right thing’ to do, *Efficacy* of the system i.e. does it work, *Efficiency* of the system i.e. does it use minimum resources necessary.

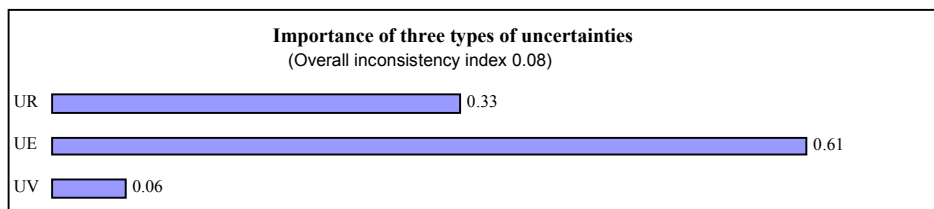
4th Phase-Empirical Research: The next phase consists of ‘comparing conceptual model with the real world’; it incorporates all the elements of ‘comparing’ mode of SCA. The comparison reveals the differences between the models and the present reality by reflecting on the attitudinal, intangibility, cultural and organizational barriers that need to be overcome for the betterment. The systematic way of comparing *models* developed with the real world situation was by ordered questions like: Does this happen in the real situation? How? By what criteria is it judged? Is it a subject of concern in the current situation? Etc. At this stage all the participants of the different workshops were invited and a number of discussion rounds were performed by the two consultants. For comparison purpose both qualitative as well as quantitative tools were used.

The broad comparison areas vis-à-vis Servicescape development and management are compatibility dilemmas, intangibility element associated with service, expansion potential (short-term), expansion potential (long-term), flexibility (different types of customers) and

capital cost involved (both fixed and variable). AHP prioritized these comparison areas, thus indicating that intangibility element and capital costs are major concerns.



This stage was basically designed to provide structure and substance to an organized debate about improving the current situation. The process used was *interviews & workshops*. The conceptual models were presented to a large group of ‘stakeholders’, numbering in between 15 to 18 and compared with the original model and their responses and uncertainties were noted down. AHP was used to find out relative importance of 3 types of uncertainties, here decision-group perceived UE to be most important. To reduce UE, *technical response* was used in form of research investigations, surveys, and detailed estimation of costs or analytical analysis, ranging from informal conversation to elaborate mathematical modeling (using different optimization tools). To reduce UR, *structural relationship* with other sectors/areas was explored by adopting broader planning perspective, negotiating/collaborating with other decision makers.



5th Phase-Empirical Research: In the next phase ‘*desirable and feasible changes*’ were identified. They were the proposed changes in structure, in procedures and in attitudes. The conceptual model was revised through a process of iterations, always with the intention and focus to make it practically realizable. Thereafter a ‘*commitment package*’ (*choosing mode*), guided by preferred feasible decision scheme was decided upon. It consists of:

- Decision taken now.
- Exploration to reduce levels of uncertainty, estimates of resources needed and timescales.
- Decisions deferred until later.

The decisions and strategies emerged as the result of the empirical research study can’t be divulged because of the confidentiality promised to the management of the shopping mall.

We have constructed the ‘*root definitions*’ and mnemonic ‘*CATWOE*’ as under-

Root definitions: A shopping mall is a marketplace amalgamating both tangible as well as intangible products and services. Servicescape can be used as a facilitator by providing an appropriate ambience to improve the overall shopping experience of the customers in particular and visitors in general hence ensuring repatronage of the shopping mall. At the same time it can also ensure greater employee productivity by providing them a sense of comfort, belonging and overall satisfaction.

CATWOE Analysis on the Root definitions:

C: Shoppers, visitors, employees, shop owners

A: Mall owner, shop owners, mall staff

T: Unsatisfied customers → Satisfied customer

Ordinary shopping experience → Exciting shopping experience

Low level of repatronage → High level of repatronage

Demotivated employees → Motivated employees

Difficulties in administration → Ease of administration

W: Rational & optimum actions for the improvement in the overall shopping experience

O: Mall owners, retail-store owner

E: Prevalent work culture & value system, facility-layout limitation, unruly behavior.

Conceptual Model: Figure 8.

Conclusions

The Servicescape provides a visual metaphor for an organization's total offering. It can also act as a facilitator by either adding or hindering the abilities of employees and customers in performing their activities. Repatronage of the service provider is assumed to be dependent on consumers' level of satisfaction with the service rendered; which in turn is primarily dependent on consumer perception of quality of service rendered. Consumer perception of quality will be governed not only by tangible product offering but also by ambience created by the Servicescape in terms of internal facilities, display & décor of promotional material and various exterior facilities. All these put together ensure provision of a holistically enjoyable and satisfying experience for the customers and visitors. Through better creation and management of service-environment, shopping malls and retail stores may be able to contribute towards achieving both external strategic marketing goals and strategic internal organizational goals. To secure strategic advantage from the Servicescape, cross functional co-operation in decision making is of paramount importance. Soft OR techniques enable managers and others stakeholders to take account of the interrelationship between organizational contexts, activities, processes and structures, and therefore can add substantial value for policy makers and managers concerned with the improvement by enabling them to break away from narrow reductionism. They may be helpful in greater understanding of the situation approaching consensus and emotional & cognitive commitment to action and finally facilitate the group moving towards a common and agreeable solution. The desired solution will be more satisfying and committed one so it can be implementable and sustainable because it is a view of problems solving that focuses on the point at which people feel confident to take action that they believe to be appropriate. So, success of Soft Operations Research techniques can't be measured by the optimality of the actions in terms of content alone, but rather also by the energy & commitment generated for delivering the agreements.

References

- Baker, J.; Berry L.& Parasuraman, A.(1988). The Marketing Impact of Branch Facility Design. *Journal of Retail Banking*, 10(2): 33-42.
- Bennett, P.G. (1996). *Mixing Methods. Combining Conflict Analysis, SODA & Strategic Choice*. In Eden & Radford, *Tackling Strategic Problems*.
- Bennett P.G. & Matthews, L.M. (1996). The Art of Course Planning: Soft O.R. in Action, *Journal of Operational Research Society* 67.
- Berman B. & Evans J.R. (2001). *Retail Management-A Strategic Approach*, 8th ed. Prentice-Hall: 604.
- Bitner, M.J. (1992). Service Environment: The Impact of Physical Surroundings on Customers and Employees. *Journal of Marketing* 56: 57-71.
- Checkland, P. (1981). *System Thinking: System Practice*. Wiley, Chichester.
- Checkland, P. (1995). Soft System Methodology and its relevance to the development of information systems. *Information System Provision: the contribution of Soft System Methodology*, Stowell (ed.). McGraw-Hill, London.
- Checkland, P. (1999). Soft System Methodology: A thirty-year retrospective. *System Research and Behavioral Science* 17: A1-A66 and S11-S58.
- Checkland, P. & Holwell, S. (1998). *Information, Systems and Information Systems: Making Sense of the Field*. Wiley, Chichester.
- Checkland, P. & Scholes (1999). *Soft System Methodology in Action*. John Wiley & Sons, New York.
- Eden, C. & Ackermann, F. (2004). Cognitive Mapping views for Policy Analysis in the Public Sector. *European Journal of Operational Research* 152: 615-630.
- Expert Choice Software. Produced by Exper Choice Inc. 4922 Ellsworth Avenue, Pittsburgh.
- Fortune, J. & Peters, G. (1995). *Learning from failures: The System Approach*. Wiley, Chichester.
- Friend, J.K. & Hickling, A. (1997). *Planning under Pressure:The Strategic Choice Approach*, 2nd ed. Butterworth-Heinemann, Oxford.
- Gondal, S. (2004). Internet and Technology New Venture Development using Soft OR. *European Journal of Operational Research* 152: 571-585.
- Hickling, A. (2001). *Gambling with Frozen Fire? Rational Analysis for a Problematic World Revisited*, ed. Rosenhead, J. & Mingers, J. Wiley, Chichester.
- Howard, N. (1993). The Role of Emotions in Multi-Organizational Decision-Making. *Journal of the Operational Research Society* 44(6): 613-623.
- Lane, D.C. (1994). With a little help from our friends: How System Dynamics and Soft O.R. can learn from each other. *System Dynamics Review* 10(2-3): 101-134.
- Liebl, F. (2002). The Anatomy of Complex Societal Problems and its Implications for OR. *Journal of the Operational Research Society* 53:161-184.
- Ormerod, R. (1995). Putting Soft OR methods: Information Systems Strategy Development at Sainsbury. *Journal of Operations Research* 46: 277-293
- Pidd, M. (2003). *Tools for Thinking. Modeling in Management Science*. John Wiley, Chichester.
- Porter, M.E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The Free Press, New York.
- Porter, M.E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press, New York.
- Rosenhead, J. & Mingers, J. (2001). *Rational Analysis for a Problematic World Revisited*. Wiley, Chichester.

- Rockart, J.F. & Hofman, J. (1992). System Delivery: Evolving New Strategies. Sloan Management Review 33(4): 21-31.
- Saaty, T.L. (1990). The Analytic Hierarchy Process. McGraw-Hill, RWS Publications, Pittsburgh,PA.
- Saaty, T.L. (2001). Decision Making with Dependence and Feedback the Analytic Network Process, 2nd ed. RWS Publications, Pittsburgh, PA.
- Turley, L.W. & Milliman, R. E. (2000). Atmospheric Effects on Shopping Behavior: A Review of the Experimental Literature. Journal of Business Research 49:193-211.
- Wehrich, H. (1982). The TOWS matrix: A Tool for Situational Analysis. Long Range Planning 15 (2): 54-66.