Chapter 3

Research Process

Many applied research studies in social sciences involve a sequence of research process. Broadly the same starts with a research proposal followed by planning, sampling design, literature review, data gathering, analysis and interpretation. In the research process, formulation of a problem – its origin, statement, exploration and requirement followed by a solution constitute the critical components of great importance.

The research process in the present study emerged due to a specific problem in relation to performance appraisal and bringing in objectivity in the same. For eg., if a bank faces a slow growth rate in deposits, falls in efficiency due to loan sanctioning compared to the other banks and receives frequent complaints from the customers, the said bank may have to resort for clues for exploring and searching published data / information such as the financial statements and operating statistics of the other banks’ annual reports, end-of-year division reports and customer survey. From the results of these exploratory activities, the bank may understand as to why its choice of operations is not as efficient or progressive as compared to those of its counterparts even though its cost exceeds the permissible limits. Hence, the management should find out the ways and means to make the bank more competitive, and solve its problems by translating the same in a research query. If these aspects can be measured, the same would help the management to improve. The researcher constitutes an integral part of bank’s decision making hierarchy. He/ she can assist management with the course of action to be taken to overcome the problem.
A research proposal, thus, states the objectives of the study involving the issues to be resolved through proper research. A research process, in turn, ensures answers to the specific questions and provides information indispensible to make a decision.

Outline of Research Process

In the present exercise, a specific research process was followed (Exhibit 3.1).

Exhibit 3.1

Research Process

Secondary Data Collection
- Library Search
- Internet

Case Studies
- MNC
- PSU
- Family Managed Business
- Public Ltd. Co.

Industries
- FMCG
- Pharmaceutical
- Service
- Information Technology
- Chemicals
- Engineering
- Banking and Finance
- Consulting

Primary Data Collection

Preparing Questionnaire

Pilot Survey

Refining Instrument

Methods Used for Data collection

Questionnaire / Observation / Interviews

Tools Used

Telephone / Mails / Interview

Analysis of Data

Findings

Model Development

Comparison of Cases

Case Finalisation
The three major components include primary and secondary data collection, besides the case studies of companies.

**Research Proposal**

The research proposal is a methodological way to incorporate decisions made during early phases of study and includes research question, hierarchy and exploration. A proposal was then prepared based on which the entire study was streamlined (Exhibit 3.2).

**Exhibit 3.2**

**Preliminary Steps Considered for Proposed Research**

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Research Problem Proposed

Scope of Research and Proposal

Budget Cost of Study

Decision Without Research

V > C

V = Value

C = Cost

Rejected

Approved

Execute Research Design
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This ensured that the study concurred on various issues such as planning step by step research process, method of investigation, duration of study, budget, proposed techniques that would be adopted for information analysis, presentation of thesis and other responsibilities and obligations.

**Research Proposal: Broad Aspects**

The proposal includes an objective statement of research in question and description of research methodology. A research proposal relates as to how objectivity can be brought in the appraisal process. For this, a feasibility study was undertaken to determine each of the following:

1. Companies to be approached.
2. Availability of employees for interviews.
3. Management's take on the appraisal process.
4. Overall cost and time required.

**Designing Overall Study**

Research design generally corresponds to a blue print for fulfilling the objectives and answering the research questions. Selecting a design turned out to be complicated due to availability of various methods, techniques, procedures, protocols and sampling plans. For example, when a survey was planned, the question arose whether it to be administered by mail, telephone, internet or personal interview? Should all relevant data be collected at a time or at regular intervals? What type of sampling would be relevant for the study? How the wordings in the questionnaire be framed? Many such questions cropped in as the questions represented the decisions to be made when one of the methods was to be chosen.
Sampling Design

The planning of sampling design was also undertaken to identify the target population and select a sample to estimate the parameters of that population. Ground reality led to determine in advance the number of employees to be interviewed, magnitude of records to be inspected and the number of events to be studied. When the sampling study was undertaken, the aim was to estimate population parameters realistically. Since the sample helps to study the parameters of population, its selection became crucial.

Case Study Approach

The study was based on live case studies covering diverse industries. In all, ten companies were decided for the said purpose. However, six were freezeed and surveyed in detail owing to the consent of management. The HR heads, senior managers and employees at various levels were interviewed to get thorough information related to appraisal and the concerned issues. The respondents were given a structured questionnaire which was filled in by interviewing them personally or on telephone.

Reasons for choice of approach

- Understand the methods, tools and techniques used across industries regarding appraisal.
- Understand what exactly goes within the company in terms of employee appraisal and how it is done? What are the practical difficulties that the companies face while appraising the employees?
- Comprehend actual situation, commonly involving a decision, challenge, opportunity, problem or issue faced by the employees at all the levels.
➤ Understand the complex issues and real life situation in order to examine in-depth nature of appraisal.
➤ To be as close as possible to reality.
➤ Find out whether the appraisal methods and techniques indeed could be capable of solving practical problems.
➤ Understand the scope for improving the methods, techniques and tools, besides discovering the best practices available for use.
➤ Identify the rule that defines which methods and techniques may be appropriate in given situation.
➤ Frame the questions like how, what, when and where.

The following companies responded and agreed to be part of the research project for undertaking cases studies

- ABC Services (IT) (Name changed)
- Asian Paints, Ltd.
- Hindalco Industries, Ltd.
- Johnson and Johnson, Ltd.
- Mahanagar Telephone Nigam, Ltd.
- Siemens, Ltd.

**Designing Instrument (Questionnaire)**

The vital ingredient of a questionnaire is the measurement questions. These are those ones that record observations on each subject of study. The measurement questions, in turn, have been divided in two types of questions, namely the predesigned pretested questions and the custom designed questions. The former were formulated and tested by the past researchers and
could be adapted to partly support the project on hand (Exhibit 3.3). However for the purpose of the present study, a questionnaire was custom made for deeper understanding of the investigative questions. The custom designed questions were refined during testing of the data collection.

**Exhibit 3.3**

*Instrument Suggested for Sample Study*

The next step pertained to the investigative question which involved the several levels of questioning thereby enabling to develop satisfactory measurement questions. These were so framed as to evoke interest as well as
motivate the participants to answer. Putting the more interesting topical target questions at the beginning evoked curiosity in the participants.

In this context, availability of the techniques was a determining factor as to how research could be undertaken or whether the given study should be taken up to its logical end. It was subsequently found that the employees who were good in some techniques dominated decisions concerning what was to be studied – that is related to the investigative and measurement questions and how the research design should be framed. Those questions, technical in nature, turned out to be the ones for which the observations and data could be collected and were likely to give necessary clues.

The instrument design for any research process varies from one study to another. The first part in the present study, thus, focuses on general questions required to be resolved. The second part includes the investigative or specific questions. These were framed in such a way as to extract as much information as possible to provide sufficient details and coverage of the research question. Sequencing of the questions was a vital step. The participants were induced to provide needed information and necessary inputs for resolving the question. Post this, a strategy for the next stage of the survey was formulated.

The following step was adopted to evolve a strategy for the survey after getting down to the particulars of instrument design. As the questionnaire designed depended on output desired, the following strategic concerns dominated thinking.

- Type of scale to be used in the survey for desired analysis.
- Communication approach to be adopted.
- Deciding questionnaire frame.
- Constructing and refining the instrument.

Fortunately, research work that was carried out got the advantage of technological developments of last three decades. These include software, hardware and internet infrastructure which enabled to build the questionnaire that saved time in data analysis.

✓ **Type of scale used in the survey for desired analysis**

It was necessary to plan the analysis before developing the measurement questions. The nominal, ordinal, interval and rating scales were used to explain the characteristics of each type.

✓ **Communication approach adopted**

The focus of communication was on understanding a survey by personal interview, telephone, mail and internet. The choice of the method to be used as well as the place of interaction with the participant was also decided. In personal interviewing and internet surveying, it was possible to use graphics and other questioning tools far more easily than if questioning was done by mail or phone. The different delivery mechanisms resulted in different introductions, instructions, instrument layout and conclusions.

✓ **Designing questionnaire frame**

It was crucial to know if the questions were to be structured, unstructured or a combination of both, besides selecting between open and close ended questions. Whether questioning was to be disguised or undisguised? If the former, what would be the extent?
Another aspect was whether the purpose of study was to be disguised – that is to conceal the true purpose of the question and to be specific to shield the study’s objectives.

✓ Constructing and refining the instrument

The next step of instrument design pertained to the selection of questions, after completion of the investigative questions, and to decide about a data collection process to be used. Designing the instrument required considerable attention to details, and also to address the numerous issues. The questions were developed considering subject content, appropriate wording of each question and the response strategy – producing a different level of data as needed for the preliminary analysis. These relate to instrument design given in flow chart (Exhibit 3.4).

Exhibit 3.4
Flow Chart Depicting Instrument Design
Questionnaire Content

Questionnaire content was dictated by the investigative options available for guiding the study. From these questions, the target and classification questions were finalised. While designing the instrument, four issues emerged. These include whether (a) the questions met the objective of the study, (b) proper coverage was given, (c) the participants understood the instrument and (d) targeted population was willing to reply. If sensitive information was to be obtained from the participants, the question was put in such a way so that the respondents could answer the question without reservation.

The wording in the questionnaire was very important as the respondents lacked shared vocabulary. If the questions were long and complex, they were made simple to enable the respondents to understand the same.

The instrument went through many revisions before it satisfied the following criteria:

- Shared vocabulary
- Single meaning
- Correct wording
- No misleading assumptions
- Adequate alternatives presented within the question, if one alternative among the many was to be chosen.

Strategy for Fair Response

The main strategy for fair response was a mix of structured and unstructured questions with specified options. In free responses, the participants expressed themselves extensively. Closed responses were categorised as the
dichotomous, multiple rating and ranking response strategies. Certain factors arose that affected the decision whether to use the open or close ended questions depending on the participants' level of understanding the topic, communication ability, clarity of objectives and motivation to share or part with information. The types of questions used in the study were

- Free response questions
- Dichotomous questions
- Multiple-choice questions
- Rating questions
- Ranking questions

**Free Response Questions**

The free response questions imply asking the participants to write the answers in their own language and as per their perception.

**Dichotomous Questions**

Dichotomous questions offer opposite responses, but this is not always the case. If a particular response is quite unlikely, it is ideal to adopt middle ground as one of the two choices. For example, when a participant was asked whether a specific method of appraisal was good or poor, it was unlikely to get a choice as there were only two options with limited perspective.

**Multiple - Choice Questions**

Multiple choice questions were efficient, but these created analytical problems. Better alternatives such as poor, average, fair, good and excellent were given to a question. If the respondent did not agree with the alternatives
in a dichotomous question, he/ she could convert the question to a multiple-choice or rating question by writing his/her desired alternative.

In the process, four problems arose. The first problem surfaced when one or more responses were not anticipated or visualised. Hence, exploration prior to drafting the measured questions helped a lot. The second problem was related to the list of choices which might not have been exhaustive. This occurred when the desired response was a combination of two or more of the listed alternatives. But the question did not include this response. Multiple choice questions were found appropriate when there were more than two options such as preference, agreement and gradation. The participant was required to make a single choice. The third problem was related to the list of choices, when it was not exhaustive. If all the possible options were given, choosing any one of them from the list of alternatives could be a difficult task. The problem could be overcome by adding the category ‘others’ (please specify) as a safe guard to provide the participant with an acceptable alternative for rest of the options.

The fourth problem arose when the participant divided the question in several questions. It was necessary to find out whether such a question was a double ended one so that it would be ideal to make separate questions to extract additional information from the respondents. Inspite of the problems, multiple choice questions do present a fair picture close to reality.

Rating Questions

The rating questions generate ordinal data. They were carefully crafted to obtain interval data. In the rating questions, participants were asked to position each factor on a comparative scale. For example, the respondents were asked
whether the appraisal system justified their salary increments. The answer may be 'strongly agree', 'somewhat agree' or 'not agree'.

**Ranking Questions**

If the relative order of alternatives is important, the ranking question is ideal. In rank ordering of the factors, 'one' would indicate the most encouraging factor, 'two' the next most encouraging factor so on so forth. Even in the personal interview, the order in which the factors are motivational is not a guarantee of influence. Ranking as a response solves this problem.

The question number six under general questions of the questionnaire is one such type of ranking question. Eleven factors were identified and the respondents were requested to rank them with 'one' for the most appropriate option and 'eleven' for the least.

A concern surfaced with ranking options. For example, if a person is asked to rank 10 brands of a soap displayed on a shelf of a mall, one may not be in a position to rank them unless he/she is familiar with the brand or must have used it or is having knowledge of various brands from the external sources. It is always better to have the participants rank only those brands with which they are familiar. Consequently, the ranking questions might approximately follow a checklist question that identifies the object of familiarity. Hence, care was taken to know whether the participants were aware and could understand and interpret the meaning of all 'eleven' factors in the instrument.

**Question Sequence**

This is important part while deciding the questionnaire because of the need to
relate each question to the others. To this end, many guidelines to implement the principle of sequence decisions were found in various research studies.

The questioning process began with simple items and then moved on to the complex ones and from general to specifics. The challenging or taxing questions were put later in the questionnaire.

It was possible that the questions at beginning (early questions) would contribute valuable data to the major objective of the study as motivational barrier was overcome. No personal classified information was asked at the start of the survey which could otherwise have dampened the respondents' interest and motivation. Also appraisal being a sensitive subject, utmost confidentiality was maintained. All these aspects were taken in consideration while framing the questionnaire.

Instrument Drafting and Refining

Drafting and refining was the first multistep process. The second step was for arranging the measurement question sequence to a) identify the gaps in the target questions by topic, b) establish a logical sequence of the question groups and also the questions within the groups and c) develop transition between the question groups.

The third step required to prepare and insert instructions for the interviewer or participant, if any. The fourth step was to create and insert conclusions including a survey disposition statement. The fifth and last step was to pretest the specific questions and the instrument as a whole.
Besides fine tuning, the questionnaire was also examined to enhance the authenticity of the project – like some research questions which could be subdivided in specific second and third levels questions and testing the hypothesis by appropriate tests.

Pilot Survey

Undertaking a pilot survey was necessary to detect weaknesses in design of the instrument and to get proxy data for selection of a probability sample. All the sources such as mail, observation and interview were used to administer and test the questionnaire. The size of the sample for the pilot survey was fixed at 15 participants. The respondents were selected randomly. Many variations in pilot testing were observed, some of which were restricted to data collection. The questionnaire was pretested from HR heads wherein they were requested not only to reply the instrument, but also to evaluate and suggest improvement wherever possible. This approach of getting suggestions from the respondents prevented offensive questions and wrong wording of the questions unintelligible to the target group. A revised instrument using the respondents’ language helped to refine some questions and procedures. After the pilot survey, the questionnaire was finalised.

Screening of Participants

The idea behind screening the participants was to instill motivation so that they participated and provided desired information. For all types of survey communication (personal interview, phone and e-mail), introduction contained one or more screen questions or filter questions, so as to identify or determine respondent’s knowledge necessary for participation in the study. A phone
interaction was necessary to introduce the study and give a fair chance to the participant to introduce himself/herself to help to establish rapport with him/her.

**Data Collection**

The following methods were used for data collection

1) Secondary data collection

   The secondary data was collected from the libraries and internet.

2) Primary data collection

   Data collection ranged from a simple observation at one location to a large survey of companies at the sites in different regions/parts of Mumbai, Pune and Ahmedabad. Data was collected through the questionnaire and observational forms. Data thus collected, were characterized by their abstractness, verifiability, elusiveness and closeness to the research problem. Generally, abstraction data are metaphorical than real. For example, macroeconomic variable like GDP cannot be observed directly; while its effects may be recorded. Data was processed. When sensory experiences consistently provided the same result; data was reliable because it could be verified. Opinions, preferences and attitude of the respondents were also taken into account. It was observed that contents, at times, varied from one opinion to another with passage of time.

Primary data was sought for its closeness to the truth with limited errors or control over them. As against this, secondary data does have at least one level interpretation instead between the event and its recording. Data was edited to ensure consistency across respondents and to minimise errors in
the event of inappropriate responses. Edited data was then tabulated in a form so that the analysis would be easier. Further, alphanumeric codes were used to reduce the responses to more manageable system for storage and processing the data.

**Data Analysis and Interpretation**

Data collected was numbered and coded to strengthen analysis. Its analysis involved reducing accumulated data to a meaningful size, developing summary of the two way tables representing association between the variables and applying statistical techniques. Various scaling techniques were used for analysis of the responses. This helped to devise various functions as well as to explore relationship among the variables.

The statistical techniques those were used include

- Chi-Square Test
- Standard Deviation
- Correlation Technique

In retrospect, evolving a research process and framing the questionnaire proved to be the most cumbersome exercise, though ultimately helped to overcome built-in inertia in the subject such as performance appraisal.
Annexure 3.1

Questionnaire

A) GENERAL QUESTIONS

1) How often performance appraisal carried out in your company?
   a) Quarterly  b) Half yearly  c) Yearly

2) Is the appraisal process undertaken
   a) Departmentwise  b) Companywise  c) Any other

3) The evaluation of your appraisal is conveyed to you in
   a) One month  b) Three months  
   c) Six months  d) More than six months

4) Are you satisfied with the present appraisal system with respect to
   the questions listed below?

   Rank them on a 5 point scale with
   Extremely Satisfied = 5, Satisfied =4, Partially Satisfied = 3,
   Extremely Dissatisfied = 2, Not Satisfied = 1
   a) No. and type of objective parameters  □
   b) No. and type of subjective parameters  □
   c) Transparency in the system  □
   d) Impartiality of the assessor  □
   e) Time taken for the appraisal  □
   f) Results shared with you  □
   g) Action taken on results  □

5) How objectivity has been brought in the appraisal process?
   a) Quantification
   b) Transparency
   c) Consensus on choice of parameters and weightages assigned to them
   d) Time bound completion
6) Rank the following in order of preference and expectation

‘1’ for the most appropriate and important and ‘11’ for the least

- Better pay package
- Job satisfaction
- Interpersonal relationship
- Career growth
- Matching of culture
- Objectivity in performance appraisal
- Perks and incentives
- Work environment
- Quality of work culture
- Encouragement for creativity
- Training for employees

7) Is selection of the questions in the performance appraisal form justified?
   a) Yes   b) No

8) Are the questions duly explained?
   a) Yes   b) No

9) Are the managers trained enough with performance appraisal techniques?
   a) Yes   b) No

10) Is the appraisal process exhaustive?
    a) Yes   b) No

11) Are you given companywide feedback?
    a) Yes   b) No

12) Do you think that organisational monitoring of the appraisal process is adequate?
    a) Yes   b) No
13) Does your performance appraisal system change according to the market conditions/business situation?
   a) Yes  b) No

14) Name the market conditions in which your appraisal varies.
   a) Competition
   b) Seasonality
   c) Recession in the economy
   d) Product obsolescence
   e) Any other reason please specify

15) Quantification of performance appraisal parameters works best in
   a) Perfect market conditions  b) Imperfect market conditions
   c) Both of the above  d) Independent of market conditions

B) SPECIFIC QUESTIONS

1) What percentage of your present appraisal parameters are quantitative?
   a) Nil  b) Up to 20%  c) between 21% and 40%
   d) between 41 and 60%  e) More than 60%

2) Why quantification of these parameters high/low?
   a) Job description is reasonably quantitative  b) Job is a support (or staff) activity
   c) Job is a core (or line) activity

3) How much is present quantification of these parameters done at three different levels of appraisal?
   A) At individual level
      a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

   B) At departmental level
      a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High
C) At organisational level
   a) Nil b) Very Low c) Low d) Average e) High f) Very High

4) What is further scope of quantification of these parameters at three levels?
   A) At individual level
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
   B) At departmental level
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
   C) At organisational level
      a) Nil b) Very Low c) Low d) Average e) High f) Very High

5) How should quantification be attempted?
   a) In terms of unit of measurement b) In terms of value of business
c) In numbers d) Any other

6) How much is ‘possible quantification’ of the appraisal parameters at various levels of responsibility and authority?
   A) Robotic employees (workers and supervisors)
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
   B) Knowledge employees (junior officers and managers)
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
   C) Decision making employees (officers and senior managers)
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
   D) Entrepreneurial employees (Top managers)
      a) Nil b) Very Low c) Low d) Average e) High f) Very High
7) What should be the role of the following employees in quantifying your appraisal parameters?

A) Departmental Head
   a) Facilitator  b) User  c) Analyst

B) HR Manager
   a) Facilitator  b) User  c) Analyst

C) Finance Manager
   a) Facilitator  b) User  c) Analyst

D) Immediate Supervisor
   a) Facilitator  b) User  c) Analyst

E) Consultant
   a) Facilitator  b) User  c) Analyst

8) Describe the scope for quantification of the performance appraisal parameters in functional areas

A) Marketing
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

B) Market promotion
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

C) Market research
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

D) Market development
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High
E) Product development
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

F) Collection of customer outstandings
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

G) After sales service
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

H) Educating the customers
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

I) State magnitude of remuneration for you and your colleagues based on the quantitative parameters
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

J) Procurement
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

K) Production
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

L) HR & IR
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

M) General Administration
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

N) Finance & Accounts
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

O) R & D
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High
P) General Manager / CEO / MD
   a) Nil  b) Very Low  c) Low  d) Average  e) High  f) Very High

9) If the scope for quantification is low, what are the reasons?
   a) No Need
   b) No Appraisal
   c) Based on seniors close supervision
   d) Conversion from qualitative to quantitative appraisal
      parameters due to legal restrictions

10) What is relationship between the benchmarks and appraisal parameters?
    a) Cause - Consequence
    b) Just a synonym
    c) No relation
    d) Based on overall industry norms