

## **INTRODUCTION**

Case study research method is useful in understanding complex systems. It is particularly useful for complete, detailed, in-depth understanding of the case. Case study applies qualitative techniques instead of quantitative techniques. This is because it is difficult to study social problems and human behaviour with the help of quantitative techniques. Case study enables to understand the case beyond statistical conclusions. It enables to understand the case from the point of view of the case under study, or the respondent. Due to this and other benefits, case study method is adopted in numbers of disciplines and subjects. Disciplines and subjects which are extensively adopting case study method include sociology, management science, psychology, medical science etc. This research method is also frequently used in librarianship to study libraries, sections in libraries, users, and services. Therefore, researchers in librarianship should have adequate and proper knowledge of case study method.

## **WHAT IS CASE STUDY?**

According to Robert Yin a research studying a case is called case study (Yin, 2009). An institute, a section in an institute, or an individual can be a unit for case study. In case study the unit or the case is studied in its natural, real condition. In other words, in case study the case is studied where it is and as it is. For example, data about users will be collected by interviewing and observing students in the reading hall itself. In other words it means the environment is not controlled in case study as it is done in experimental studies. Due to this reason, the case study is also referred to as a 'study of uncontrolled elements'. Case study considers factual contexts of the case under study. Case study does not consider imaginary contexts. For example, a case study of a public library will consider the real contexts of users, booksellers, government, authors, social traditions, customs, etc. These elements have close, real relations, affiliation with the public library. A case study investigates the inter-relations between the main elements under study and its sub-components. For example, a case study researcher will study the inter-relations between a college library and its various sections. A case study also studies the inter-relations between the various sub-components. For example, inter-relations between acquisition, circulation, and reference section of a public library will be studied by a case study.

According to Leedy and Ormrod (2001) case study is a qualitative research. It collects and analyzes detailed data about an institution, an individual, a programme, or an event. Fidel (1984) believes that case study is studying a subject, concept, event as they are developed or happened or are happening. A case study researcher has no control over the case. He does not manipulate the case. He does not apply any interventions as is done in experimental research. A case study investigates about the various variables related with the case and their inter-relations. Subject for case study could be an individual or an institute or a section in an institute. Also an event or a system could be a subject for a case study.

In all societies there are always individuals as well as institutions that have immense contributions to various walks of life. Their contributions have profound impact. However, the society may not know much about such individuals and institutions. Case study is a process of collecting and analyzing data about such individuals and institutions so as to have complete information about them; so as to know them in all aspects. Case study is a research method useful to know in detail the structure, functions, efficiencies, weaknesses etc. of libraries. This research method is particularly useful for evaluating and improving services of a library under study. According to Marshall and Rossman (1999) in case study the researcher gets involved in the world of case, and so he is able to create a real picture of the case.

## **UNIT OF CASE STUDY**

A specific community, village, institute, family, or an individual can be a unit for case study. The 'case' selected for case study is known as unit of case study. In the context of libraries, the following elements can be units of case study:

1. A specific library (e.g. case study of ABC University Library)
2. A specific section of a library (e.g. case study of acquisition section of XYZ research library)
3. A specific service or a programme of a library (e.g. case study of digital reference service of ABC institute's library)
4. A specific classification scheme or a specific library software (e.g. case study of DDC or SOUL software)
5. A renowned teacher of library and information science

6. A renowned librarian
7. A leaders in library movement
8. A reading family
9. A specific user group (e.g. case study of women readers, children users, students of a specific class)

User study of a specific library is also a case study. In fact user study is a study of a group, yet it is case study, as these are users of a specific library. A user study investigates user group which is homogeneous in nature. Because of homogeneity, user study (a group study as against study of an individual) is considered as a unit for case study. According to Lisl Zach (2006) case study research method is adopted in librarianship to study groups of users, non-users, professionals (e.g. medical professionals, lawyers, managers, etc.), patients, etc. Busha and Harter (1980) have also expressed similar opinion to that of Zach. According to Busha and Harter case study is really useful to study library's impact on society and special users.

## CASE STUDY AND SURVEY

There is a basic difference between case study and survey. Survey studies samples (not the entire population). Survey is broad study of the given sample. As against, this case study investigates about a single unit or a small group. Case study is a detail study of the given case. Therefore, case study is also known as micro study. Another difference between survey and case study is that of the tools used for data collection. In survey mostly the data is collected through questionnaire. In case study, mostly the data is collected by using multiple data collection techniques and tools. Yet another difference between the two research methods is that survey is quantitative method whereas case study is qualitative method of research.

## CHARACTERISTICS OF CASE STUDY

1. **Qualitative research method:** The case study researcher collects qualitative data through observation, interview, and various types of documents. He analyzes such qualitative data by applying qualitative techniques. Therefore, case study is recognized as qualitative research method.

- 2. Study of single unit:** Case study mostly investigates a single case. However, more than one cases could be studied under multiple case study method. The number of cases studied under multiple case studies is very small. This number could be about 10 cases. As the case study investigates single or very few cases it studies given case/s in detail. Detail study helps in understanding the nature and complexity of the given case.
- 3. Study of case in its real, natural condition:** The case study researcher studies the case in its real, natural condition. No controlled environment is created and no treatment is applied in case study. In fact, controlled environment and application of treatment are the features of experimental method.
- 4. Detail, contextual analysis is possible:** Case study is a study of a single unit or few cases and therefore it is always a very detailed study. Being a study of a single unit, the case study researcher can consider every micro aspect of the given case. Being a study of single case the case study researcher can analyze every context of the case.
- 5. Useful to understand a complex problem:** Case study studies a single unit. It is a detail study of the case. This enables in-depth and systematic understanding of the given case. The case study researcher uses many tools to collect required data. Thus the case study researcher has tools as well as time to understand complexity of the given case.
- 6. Direct contact with the case:** Case study investigates the case in longer time-span than the survey research. For studying the case in detail and for covering longer time-span, the researcher himself gets involved in the activities of the case being studied. He even conducts in-depth interviews of the individuals associated with the case. He collects data from the archives related with the case. The case study researcher also collects data by observing the case. Thus a case study researcher gets in direct contact with the case so as to observe the case, to conduct interviews, and to collect data from the information sources. All this helps the case study researcher in obtaining reliable data.
- 7. Uses more than one data collection tools:** Use of multiple data collection tools is a special feature of case study. Imagine that a researcher is conducting a case study of a college library. For such a case study the researcher can collect data by using more than one data collection techniques and tools. For example,

he may collect data through librarian's interview. Data for this case study may also be collected through observation (e.g. the process of digital reference service may be observed). Data required for this case study could also be collected from various documents / archives. The documents used could be accession register, circulation record, correspondence with users and library suppliers, record of reference service, etc. Use of multiple sources for data collection enables cross verification of data. Through cross verification one can ensure reliability of data. Research based on reliable data provides reliable results. In the research terminology this system of using more than one data collection tools in a single research is known as 'Triangulation'.

### **When the case study research method is useful?**

Usually the case study research method is useful in the following conditions:

1. When it is not possible to study the case outside its natural condition
2. When it is not possible to isolate the different variables related with the case
3. When it is not possible to measure variables in quantitative parameters (For example, user's satisfaction)

### **OBJECTIVES OF CASE STUDY**

1. **To study a single case in detail:** To study a single case covering its every aspect is the main objective of case study. As against this the survey method aims to study larger population. Therefore, survey cannot aim to study in detail. Since the case study studies a single case, it is possible to study the case in detail.
2. **To describe:** Case study describes the problem and the way it was solved. In other words a case study is conducted to describe the given case.
3. **To know the causal factors:** Case study intends to know the causes responsible for the efficiency or inefficiency of the case. Of course this is a post-facto assessment of the case under study. A case study evaluates the case so as to know why a particular situation emerged. A case study however, does not apply treatment so as to know its effect, as is done in the experimental research.

- 4. **To bring improvements:** Case study finds the reasons of inefficiency or the weaknesses and based on these findings it suggests means to improve the situation/service etc.
- 5. **To formulate theories:** According to Glaser and Strauss (1967) valid and verifiable theories can be formulated with the help of objective observations *in case studies*. Fidel (1984) too believes that detail study and theorization are the two important objectives of case study.
- 6. **Generalization:** A case study investigates about an individual, an institute, an event, a service, etc. Thus in case study a single case is studied. Question is raised whether generalization based on the study of a single case is valid generalization. Generalization is having research results applicable to larger population. It is believed that generalization is possible through case study as there are always similar cases. In other words similarity could be noticed amongst the various cases of a category. For example, there is always some similarity amongst the specific types of libraries, specific types of library personnel, library processes, etc. Basic characteristics of similar cases could be common; could be similar. Therefore, it is possible to generalize by studying and comparing the similar cases. Further, multiple case study (i.e. studying more than one cases at a time) definitely enable generalization. Particularly, application of inductive reasoning to case study does enable generalization. Robert Yin, (an expert on case study) however, thinks otherwise. He believes that generalization is not the basic objective of case study (Yin, 2003).

- 7. **To explain complex relations between various variables:** Any case studied always has many facets or variables. The different variables could be affecting and or getting affected by the other variable/s. A case study researcher investigates and explains relations between different variables. It also explains effect of different variables on each other.
- 8. **To find unique features:** Every case has some unique features. Case study intends to find unique features of the given case. Identification of the unique features of the case helps in better understanding of the case. The unique feature identified could be useful in propagating the service, organization, etc.

## TECHNIQUES AND TOOLS USEFUL FOR CASE STUDY

Use of multiple data collection sources/techniques/tools is an important feature of case study. The following paragraphs describe the various sources/techniques/tools along with their subcategories and examples. Each of these sources/techniques/tools has its own merits and demerits (Yin, 2009).

1. **Documents:** We as LIS students and professionals are well familiar with the various types of documents.
  - (a) Correspondence, e-mails with users and library suppliers and vendors
  - (b) Diaries of users and librarians
  - (c) Meeting records such as circulars, agendas, minutes of meetings
  - (d) Official documents such as proposals, reports, annual reports, etc.
  - (e) Calendars brought out by schools, colleges, etc.
2. **Archives and other governments:** Archives are documents produced by government bodies. These include-
  - (a) Government statistical booklets
  - (b) Census reports
  - (c) Records of services rendered (e.g. circulation record, record of reference service) institutional archives (e.g. library budget documents), etc.
3. **Interviews:** Data can be collected through following types of interviews:
  - (a) Depth interviews
  - (b) Focus group interviews
4. **Non-participant observation:** This is also known as direct observation. Through non-participant observation the researcher can observe various behaviours of the case. For example, a case study researcher studying a case of user behaviour may observe-
  - (a) User's behaviour in the reading room,
  - (b) User's behaviour at the bookshelves
  - (c) User's behaviour at the OPAC search
5. **Participant observation:** In participatory observation, the researcher himself participates in the activities of the case study respondents and observes the participants. For example, a case

- study researcher may participate in the following activities and observe the behaviour:
- (a) A researcher can participate as a reader in the reading room and observe users in the reading room
  - (b) A researcher may participate in the OPAC search as a searcher to observe and record his behaviour
  - (c) A researcher may participate in the reference enquiry as a reference enquirer to observe and collect data

- 6. **Physical objects:** It is possible to collect data by observing physical objects in the libraries. These objects may include:
  - (a) Technologies such as computers, scanners, photocopying machines, etc.
  - (b) Library furniture such as tables, chairs, reading desks, book racks, etc.

## TYPES OF CASE STUDY

Various experts have suggested various types of case studies. For example, Burns (2000) has suggested the following six types of case studies:

- 1. Historical case study
  - 2. Observational case study
  - 3. Oral history case study
  - 4. Situational case study
  - 5. Clinical case study
  - 6. Multi-stage case study
1. **Historical case study:** Historical case study takes review of development of an institute, a system, a service, a programme, etc. For example, development of a public library can be stressed with the help of historical case study. Similarly, development of classification scheme can also be studied with the help of historical case study. Historical case study can be conducted by using various types of documents and through oral history and observation.
2. **Observational case study:** In observational case study data is collected through detailed, objective observation of the specific event, process, user groups etc. The concerned case is described by analyzing the observation data.
3. **Oral history case study:** Very special, noteworthy events always take place in the world as well as around us. For example,

establishment of a library study circle, starting a new journal, creation of new position in an organization (e.g. creation of the position of a chief knowledge officer), etc. Adequate written information about such events may not be available. However, there could be some individuals who have, experienced, participated, and witnessed such events. Data about such past events can be collected by interviewing individuals who have witnessed the event. Such data help to describe the given event and rationality behind the event. This process of collecting data about a specific past event by interviewing the individual/s who have witnessed the event is known as oral history case study. It is called oral history case study because the individual orally narrates the event. In oral history case study detail data about the specific event is collected through deep interviews. For example, data could be collected orally from a retired university librarian about his experiences, decisions, noteworthy events in his professional life. Such data could be analyzed to describe his management style.

4. **Situational case study:** Situational case study studies a specific situation, or event, or incident. This particularly studies the responses and reactions of variables related to the situation. For example, libraries affected by flood, or earthquake could be studied in the situational case study. The situation can be analyzed with the help of reactions, and responses of library staff, social institutions, government authorities, affected users and other individuals, etc.
5. **Clinical case study:** Clinical case study is a study of critical case, problematic case. Clinical case study could be conducted to know the difficulties faced by the affected cases. For example difficulties faced by users of special libraries such as hospital libraries (patients), prison libraries (prisoners), etc. could be studied as clinical study and solutions could be suggested based on the given case study. In library research clinical case study could be conducted as bibliotherapy studies.
6. **Multistage case study:** Multistage case study is conducted to support or refute a specific conclusion of earlier study. For example, a first case study concluded that the particular public library was closed due to inactive Executive Board. Then the second case study can be conducted to know the other possible reasons for the closer of the given public library.

In addition to the above six types of case study suggested by Burns, Robert Yin (2009) has suggested three more type of case study. They are:

7. **Exploratory case study:** Exploratory case study is conducted to know the feasibility of a particular phenomenon. For example, an exploratory case study could be conducted to know whether students use more than one methods of reading (e.g. rapid reading, slow reading, etc.), if so which method they use more frequently, which method is more suitable to the given student group etc. could be investigated through exploratory case study.
8. **Descriptive case study:** This type of case study describes the given case in detail. Such case study could be in narrative form.
9. **Explanatory case study:** A study which explains the reasons, causes responsible for the particular situation is known as explanatory case study. For example, a particular college library received substantial grants from the UGC in past ten years. However, the collection of this college library is not satisfactory. It is not properly developed. The case study explaining the reasons for this situation is called explanatory case study.

### **Single and multiple case studies**

In addition to the above types of case studies there are two more types of case study. These are known as single and multiple case studies. As their name suggest the single case study studies a single case. Single case study is useful to study a complex, rare, unique, and representative case. The multiple case study studies multiple cases i.e. more than one cases. In multiple case study data is collected from more than one cases. As a result it is possible to generalize through such a case study. Through generalization, theorization is possible.

According to Zach (2006) multiple case studies uses replication strategy. Replication strategy is like conducting repeated experiments. In replication strategy, replication is applied at two stages. The first is known as literal replication and the second is known as theoretical replication. Literal replication selects cases which will give similar results. In the theoretical replication, cases are selected which will help to support or refute features identified at the beginning of the case study. As per the principle of replication strategy, it is possible to formulate a theory if results of all or

majority of cases are same.

There are no specific rules about the number of cases to be studied under multiple case studies. However, according to Robert Yin (1994) it is sufficient to study six to ten cases to support hypotheses formulated in the given multiple case study. The principle of representative sampling applicable in survey is not applicable in multiple case study. Therefore, the criteria of sample size too are not applicable in the multiple case studies. In multiple case studies when the researcher stops finding new features, the used sample is considered adequate.

## STEPS IN CASE STUDY

- 1. Problem identification:** Every research begins with problem identification. Case study too begins with problem identification. At this stage of case study the researcher selects proper case for his research.
- 2. Data collection:** At this stage the researcher selects the method to be used for data collection for the case study. Researcher collects data about the case as per his pre-determined method. Data about the selected case may be collected at this stage through observation, interview, open-ended questionnaire, documents, archives, etc. In case study data is collected with the help of more than one source so as to ensure reliability of the data.
- 3. Analysis and interpretation:** The data collected at the earlier stage is classified at this stage. The classified data is then analyzed with the help of tables and other methods. Analyzed data is interpreted. For interpretation, the researcher takes help of theories, prior research, qualitative and quantitative features of the case, etc. In addition to this other techniques like pattern matching; causation, etc. are also used for interpreting the collected data. Through causation the researcher explains how and why the incident happened.
- 4. Theorization and generalization:** Like other research, case study also theorizes with the help of inferences. It verifies the validity of the theory with the help of logic and prior theories. In other words it proves the validity of the theory with the argumentation. Based on analysis and interpretation the case study researcher can reach to generalization. Generalization is

possible, particularly with the help of multiple case studies. Thus, generalization is possible in case study in spite of small sample size.

5. **Report writing:** The report of case study research is different from reports of other research in one respect i.e. it reports maximum data in respondent's own words. Reporting respondent's reactions and responses in his own words is a special feature of case study report. With the help of direct reactions reported in case study report a reader of the report can reach to the world of the given 'case' easily and understand the case in the right perspective.

## DIFFICULTIES IN CASE STUDY

According to Fidel (1984) following difficulties are experienced by the case study researcher.

1. **Difficulties in establishing contact with the potential respondent:** The cases selected for case study (an individual or an institute) are unique cases. Therefore the researcher usually faces a number of difficulties in establishing contact with and getting access to such special cases. Many a times the unit selected as case may not be in a position to spare time for the case study researcher.
2. **Difficulties arising due to influence on the respondent:** The influence of case study researcher on the respondent cannot be ruled out. Due to such an influence, the respondent's behaviour may change and as a result the case study researcher may not be in a position to get objective data.
3. **Difficulties arising due to the biasness of the respondent:** Some time the respondent deliberately avoids giving objective, real data. Rather he may give, misguiding data, biased opinions. Results based on such data may not be reliable, dependable.
4. **Observer's biasness:** Some time there could be biasness on the part of the observer or data collector, or researcher. Such biasness could adversely affect the data, analysis, interpretation as well as conclusion, generalization and finally theorization. To overcome this problem, the case study researcher should use more than one data collection tools, and should collect accurate data from selected sources.

## CONCLUSION

Research could be extensive or detail. Survey enables to conduct extensive study; whereas, case study enables to conduct detail study. Particularly, case study is very useful in having complete understanding of the given case. Library researchers should conduct more and more case studies so as to have complete understanding of their libraries, users, programmes, and activities.

## REFERENCES

1. Burns, R. B. (2000). *Introduction to research methods*. London, Sage.
2. Busha, C. H. and Harter, S. P. (1980). *Research methods in librarianship: Techniques and interpretations*. San Diego, CA: Academic Press.
3. Fidel, R. (1984). The case study method: A case study. *Library & Information Science Research*, 6 (3), 273–288.
4. Glaser, B., and Strauss, A. (1967). *The discovery of grounded theory: Strategies of qualitative research*. London: Wiedenfeld and Nicholson.
5. Leedy, P. D. and Ormrod, J. E. (2001). *Practical research planning and design*. 7<sup>th</sup> ed. Upper Saddle River, NJ, Merrill Prentice Hall.
6. Marshall, C. and Rossman, G. B. (1999). *Designing qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
7. Yin, R. K. (1994). *Case study research*. Beverly Hill, California, Sage.
8. Yin, R. K. (2003). *Case study research: design and methods* (3<sup>rd</sup> ed.). Thousand Oak, Sage.
9. Yin, R. K. (2009). *Case study research: design and methods* (4<sup>th</sup> ed.). Thousand Oak, Sage.
10. Zach, Lisl (2006). Using a multiple-case studies design to investigate the information-seeking behavior of art administrators. *Library Trends*, 55 (1), 4–21.