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Prologue

The present chapter has been devoted to research methodology and tools of research adopted by the researcher for the treatment and analysis of the study under study. In the following pages, the researcher has discussed the practical aspects of research methodology used for the present study. It discusses all about methodology, techniques, research design and processing and analysis of data. The researcher has first of all developed upon the theoretical narration of research and various concepts related to research.

The following discussion reveals the philosophical and practical aspects of research methodology and tools of research adopted by the researcher:

3.1 Problem formulation.

The formidable problem before the researcher is the task of defining the research problem & the preparation of the design of
the research project, popularly known as the "research design". Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design. "A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure."*

- In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes and outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.

From what has been stated above, we can state the important features of a research design as under:

- It is a plan that specifies the sources and types of information relevant to the research problem.
- It is a strategy specifying which approach will be used for gathering and analysing the data.

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- It also includes the time and cost budgets since most studies are done under these two constraints.

In brief, research design must, at least, contain – (i) a clear statement of the research problem, (ii) procedures and techniques to be used for gathering information; (iii) the population to be studied; and (iv) methods to be used in processing and analysing data.

The researcher has studied marketing management in his PG studies and has been teaching marketing management, marketing research and international marketing to PG and UG students for long. During the course of teaching and learning, the researcher developed keen interest in the study of marketing strategies – their formulation and implementation.

As such, the present subject of research has been selected by the researcher. The organisations, selected for application part are giant IT companies in the private sector. Both of the organisations have been visited by the researcher several times. There are various executives and managers known to the researcher in these companies who have assured the researcher to provide him with suitable data and information for the treatment of the subject.
3.2 Objectives of the present study.

After the formulation of research problem, the onerous task before the researcher is to determine the objectives for which the study has been undertaken. Taking into consideration the objectives, the researcher decides upon the design of the research. It should be compatible with the objectives of the study. The researcher has formulated certain objectives in his mind to be achieved through this project.

The prime objective of the study is to evaluate the marketing strategies of Infosys Technologies Limited and CMC Limited along with their globalisation endeavours. Another equally important aim is to examine the competitive advantage of Infosys and CMC with their efforts to go full-fledged global with operations across countries. Some of the other objectives of the study are as follows:

- To study organizational, managerial and product aspects of Infosys and CMC Ltd., and to analyse the global marketing strategies of both these organisations and their competitive advantages along with their competitive advantage profile (CAP).
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- To evaluate and assess the market position and place of Infosys and CMC in the IT businesses in the country and with their endeavour to spread ‘IT culture’.
- To define the concept of marketing strategies and explain various types of marketing strategies like, PLC strategy, marketing segmentation strategy, pricing strategy, distribution and promotional strategy.
- To list some of the deficiencies and problems of both these organisations i.e., Infosys and CMC and to bring them to the notice of management of the organisations and to suggest ways and measures to improve marketing strategies of the companies and to improve their global operations.
- Lastly, to submit an analytical report after findings followed by suitable recommendations useful for the marketing people of Infosys and CMC Ltd.

3.3 Review of the current literature and allied work already done.

After the determination of the objectives, the researcher has to study vast literature available on the subject for conceptual clarity and reaching at new conclusions. There is ample of literature available on marketing management, marketing
strategies, marketing research and global marketing. There are quite good number of research journals on various aspects of marketing. There is no dearth of research studies on different aspects of marketing management. The researcher has taken advantage of current literature on the subject. The study of standard literature as given insight to the researcher into the subject.

Research is the process of systematic and in-depth study or search for any particular topic, subject or area of investigation, backed by the collection, compilation, presentation and interpretation of relevant details or data. It is careful search or inquiry into any subject or subject matter, which is an endeavour to discover or find out valuable facts which would be useful for further application or utilisation. Research may involve a scientific study or experimentation, and result in discovery or invention, which would aid either scientific development or decision-making. It may be concerned with general, abstract, or concrete subjects.

There cannot be any research which does not increase knowledge or improve scientific knowledge. A research that involves scientific analysis would result in the formulation of new theories, discovery of new ideas or techniques, modification of old
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concepts or knocking-off of an existing theory, concept or technique. It may developed hypothesis and test it. It may also establish relationships between variables and identify the ways and means for problem-solving.

Research, being a fact-finding process, profoundly influences business decisions. The business manager is interested in choosing that course of action which is most effective in attaining the goals of the organisation. Research not only provides facts and figures in support of such business decisions, but also enables one to choose a measuring rod to judge the effectiveness of each decision. This may be the reason why executives and business professionals consider research and research findings a boon in their problem-saving process.

Research is an academic activity and as such the term should be used in a technical sense. According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organising and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. D. Slesinger and M. Stephenson in the Encyclopedia of Social Sciences define research as "the manipulation of things, concepts or symbols for the purpose of"
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generalising to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art". Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment.

In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalisation and the formulation of a theory is also research. As such the term 'research' refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analysing the facts and reaching certain conclusions either in the form of solutions towards the concerned problem or in certain generalisation for some theoretical formulation.

A review of the literature may indicate the utmost relevance of some of the previous studies and theories to the researcher. A review of some of these relevant studies may further clarify the problem, suggest measures to translate concept into concrete operations and help in making a contribution to a body of knowledge. As research is a social product and each piece of

* John W. Best & James V. Kahn: Research in Management, Prentice Hall, New Delhi, p.183.

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research is based on preceding ones and forms a basis for forthcoming ones, the probability of contribution of a particular research study increases with the establishment of its linkage with the existing body of knowledge.

There are various research studies on different aspects of marketing. For the conceptual and philosophical part of the study, the researcher reviewed books on marketing management by various celebrated authors like - Philip Kotler, the greatest marketing guru of the present century, William J. Stanton, Richard Buskirk, Peter F. Drucker and many others.

Certain Indian authors have also done laudable work on marketing management. Mention may be made of few - T.N. Chhabra, Ramaswamy and Namakumari, Ravi Shanker, R. Srinivasan, Shubhash Mehta, Ramash Kumar S., Sheth Parvatiyar, Shubhash C. Jain and Prof. S.M. Jha. There are many research journals on marketing management both Indian and foreign.

Professor R. Srinivasan (2002) has produced 'Case Studies in Marketing The Indian Context', published by Prentice Hall of India, New Delhi. These case studies proved of ponderous value to
the researcher in understanding the marketing strategies of certain Indian companies.

Professor V.S. Ramaswamy and S. Namakumari (2000) produced 'Marketing Management: Planning, Implementation and Control – Global Perspective & Indian Context', published by Macmillan India Limited, New Delhi. It was thoroughly studied by the researcher. The case studies of certain Indian companies was reviewed by the researcher.

Professor SM Jha (1998) wrote 'Services Marketing' published by Himalaya Publishing House, Mumbai. It covers various aspects of service marketing and strategies of service providing for organisations like – banks, insurance companies, educational institutes, communication services, transportation services and tourism marketing. Professor Ravi Shanker (2002) did commendable work on marketing in Indian perspective. The work was published from Excel Books, New Delhi. It covered almost all aspects of services marketing as well as marketing strategies of various Indian companies.
3.4 Methods of collection of primary and secondary data.

The present study, being a mixture of various research designs, makes use of both the primary as-well-as secondary data. Both primary and secondary data may be used for the purpose of analysis. The first-hand information bearing on any research, which has been collected by the researcher or his agent or assistant may be called primary data. These are original observations collected for the first time. Such data facilitate original investigations and observations, leading to useful and valuable results. The results, which are based on primary data, are bound to be empirical and of great utility value.

The primary data, collected and compiled without any bias, are more reliable and dependable, and are accurate and apt for specified investigations. Once the primary data have been put to use, the original character of these data disappears, and they become secondary. The data which are primary at one time point are, therefore, bound to become secondary at a later stage.
The secondary data, on the other hand, are based on second-hand information. The data which have already been collected, compiled and presented earlier by any agency may be used for the purpose of investigation. Such data may be called secondary data. Population census reports, national sample survey reports, economic and statistical reports of any professional association or trade organisation – these are examples of secondary data.

The researcher is of the opinion that data collection is the process of obtaining valuable and reliable information for purposes of research. As the secondary data consist of data from secondary sources, they may be obtained either personally or by post and may be presented and interpreted. The actual task of the researcher is, therefore, to collect the primary data, either by census survey or by sample survey. The latter is the most popular method of collecting primary data.

Census method is the systematic way of collecting data from the whole population or the universe. The term population refers to a set of data, not to the sources of the data, from the whole universe. It means that the largest set of data may be called the population, and not the set of persons. The measures of the characteristics of population are known as parameters, i.e., the mean of a population is a parameter. There may be a number of
possible sample results, as large as the population itself. The statistical inference may consist of three different distributions, viz., population, sample, and probability and sampling. The researcher has resorted to various methods of collection of data from Infosys and CMC Limited like – interviews of the officials, people at work, face to face discussions and opinion surveys.

However, there are certain occasions when direct personal observation is not possible; and when the whims and fancies of the observer may affect the accuracy of the result. In such cases, it would be better for the researcher to be satisfied with either the indirect oral examination method or the schedules and questionnaires method. Persons who are supposed to have a correct knowledge of the actual situation, or people may be tapped and the relevant information collected, which is called indirect oral investigation. This method may not be very fruitful on many occasions, for, at least on some occasions, the informants are highly biased. The schedules and questionnaires method is, however, one of the most commonly used methods for the collection of data.

Sample survey is also a technique of collecting information pertaining to the research problem. It was also resorted to by the researcher for obtaining first hand information. A sample is a
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small specimen or a separated part of the whole population, representing its general qualities, as far as possible. It is a smaller set of values selected from the population, reflecting its characteristics. The sampling technique is a procedure for the selection of a sample from the given population. The term sampling refers to the investigation of a part of the whole population or universe, while sampling distribution of all the possible sample results of the whole population distribution; and a sample is a representative of the whole population.

3.5 Formulation of research design and determination of tools of research.

The research design is the blue print of the study. The researcher chose various designs for the treatment of the subject. The present research study is a combination of library research, exploratory research, empirical research, and analytical designs. Research design stands for advance planning of the methods to be adopted for collecting the relevant data and the techniques to be used in their analysis, keeping in view the objective of the research and the availability of staff, time and money. Preparation of the research design should be done with great care.

as any error in it may upset the entire project. Research design, in fact, has a great bearing on the reliability of the results arrived at and as such constitutes the firm foundation of the entire edifice of the research work.

The researcher made extensive use of discussion style and holding face to face interviews to acquire most reliable information from the officials of the Infosys and CMC Ltd. The questionnaires and interviews are devised to obtain information about an individual’s behaviours (especially, past and private), his perceptions, beliefs, feelings, motivations and anticipations or future plans. In these methods, the utmost stress is laid on his verbal reports for information about the stimuli or experience to which he has been exposed. Of course, the researcher may not accept such reports at face value. He may interpret them in the context of other knowledge about the individual or in terms of some behavioural science theory. Attempts may also be made to infer certain aspects of his behaviour which has not at all been reported by him.

The term questionnaire refers to a device for securing answers to questions by using a form which the respondent fills in himself. Thus, an individual, who has filled in a job application, tends to have an experience of answering a questionnaire. The
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term "schedule" relates to a set of questions which are asked and filled in by an interviewer in a face-to-face situation with another individual. In both cases, the wording of the questions is the same for all respondents. The term "interview guide" refers to a list of points or topics which an interviewer is required to cover during the interview. The "interview guide" provides enough latitude to the interviewer can ask the questions. Notwithstanding this divergence, these three research methods involve a set of questions which are related to the research problem.

An "interview" is basically a process of social interaction. It refers to a face-to-face interpersonal role situation in which one individual (the interviewer) asks another individual (the respondent) questions designed to obtain answers relevant to the research problem. Thus, in work situations, an advocate may interview his client to represent or defend him and a physician may base his diagnosis upon the medical interview as well as the examinations. Likewise, the journalist, the personnel officer, the social worker and all other persons may depend substantially upon them as interviewers as well as upon those other skills unique to their professions.*

The researcher administered a set of questionnaire containing about 30 questions on various aspects of marketing strategy, marketing research and marketing information system. The questionnaire was administered to a sample size of about 150 marketing executives and managers at different levels of decision making. The responses given by them for analysed and recommendations emerging thereto have been given in the end of the study in the final reporting part of the study.

3.6 Limitations and hypotheses and their testing.

In the present study, the researcher had to face several problems in the collection of information from the officials of the companies. There was also limitation of time and resources. However, the researcher made due care for presenting information with high degree of accuracy. Hypothesis is usually considered as the principal instrument in research. Its main function is to suggest new experiments and observations. In fact, many experiments are carried out with the deliberate object of testing hypothesis. Decision-makers often face situations wherein they are interested in testing hypotheses on the basis of available information and then take decisions on the basis of such testing.
Ordinarily, when one talks about hypothesis, one simply means a mere assumption or some supposition to be proved or disproved. But for a researcher hypothesis is a formal question that he intends to resolve. Thus, a hypothesis may be defined as a proposition or a set of propositions set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light of established facts. Quite often a research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variables to some dependent variable.

Characteristics of hypothesis: Hypothesis must possess the following characteristics:

- Hypothesis should be clear and precise. If the hypothesis is not clear and precise, the inferences drawn on its basis cannot be taken as reliable.
- Hypothesis should be capable of being tested. In a swamp of un-testable hypotheses, many a time the research programmes have bogged down. Some prior study may be done by researcher in order to make hypothesis a testable one. A hypothesis is testable if other deduction can be made
from it which, in turn, can be confirmed or disproved by observation”.

✦ Hypothesis should state relationship between variables, if it happens to be a relational hypothesis.

✦ Hypothesis should be limited in scope and must be specific. A researcher must remember that narrower hypotheses are generally more testable and he should develop such hypotheses.

✦ Hypothesis should be stated as far as possible in most simple terms so that the same is easily understandable by all concerned. But one must remember that simplicity of hypothesis has nothing to do with its significance.

✦ Hypothesis should be amenable to testing within a reasonable time. One should not use even an excellent hypothesis, if the same cannot be tested in reasonable time for one cannot spend a life-time collecting data to test it.

✦ Hypothesis must explain the facts that gave rise to the need for explanation. This means that by using the hypothesis plus other known and accepted generalisations, one should be able to deduce the original problem condition. Thus hypothesis must actually explain what it claims to explain; it should have empirical reference.
Whatever data and information, the researcher could avail of were systematically and methodically observed and analysed. He also made use of certain statistical devices like – tables, diagrams, graphs and such other techniques. These techniques helped in the proper presentation of information.

The researcher had certain assumptions about the organisations under study prior to the selection of the research problem. These assumptions were positive about the organisations. One of the important hypotheses is that the efficiency of CMC limited has gone up after its privatisation but the work load on the employees in general has increased. Infosys Technologies has succeeded in all fronts but is lagging behind its prime competitor Wipro. The third hypothesis is about changing scenario of information technology and thereby continuous revision in the marketing strategies of the corporations especially, the IT companies.

Side by side, the IT companies have to face global competition as well as global challenges with the entry of MNCs in the IT world. Only those Indian companies are withstanding acute competition which have strengthened their marketing strategies and technology.
3.7 Final report writing.

The researcher has submitted his final report at the end of this study with suitable and conducive recommendations worth observing for Infosys and CMC Limited. It is most proper to examine the research report here since research is one of the main topics of discussion in this thesis. A research study culminates in report writing, which is a tool for communicating the various aspects of the study, viz., the problem or topic investigated, the method employed to investigate, its objectives scope and limitation, etc.

However, before writing the report, proper report planning is essential. Report planning should take into account such details as defining the problem, the purpose of the report, tracking the material collected, identifying the utility of the report, and so on. The ability to write effective reports is one of the most useful skills a researcher can acquire.

A step-by-step presentation does not follow any hard and fast rule; it simply presents the material blow-by-blow. It is a way of presenting the events or steps in an operation frequently following one another in point of time. But the steps need not necessarily come to a conclusion or an end. A step-by-step
analysis is essential PERT/CPM is well known, which systematically operates on a step-by-step basis. Sometimes, this pattern is well suited to progress reports which cover only a short period of time.

The time-sequence pattern of report writing is almost like that of the step-by-step presentation; but it lays greater emphasis on the time element. It is an easy way of writing a report by merely following the pattern the research material itself offers in a sequence of the time of events. They foster a nation that such a pattern is the best way of presenting all the background information to those who never like the report to be summarised or condensed. In all types of reports, it is better to follow some systematic steps in preparation and writing. Even though a hard and fast rule cannot be insisted upon, some generalisations may be made on the steps to be followed in report writing.

The researcher has analysed the facts and data in the end of the study. He has also made his observations on the basis of his findings. The researcher has given certain suggestions for the adoption of relationship marketing in qualitative or quantitative statements. Infosys and CMC are doing their best to develop relationship marketing and public relations with there internal as well as external customers. As such, the recommendations given
by the researcher in the end of the study are quite useful for the marketing people of both the organisations i.e., Infosys and CMC Ltd.