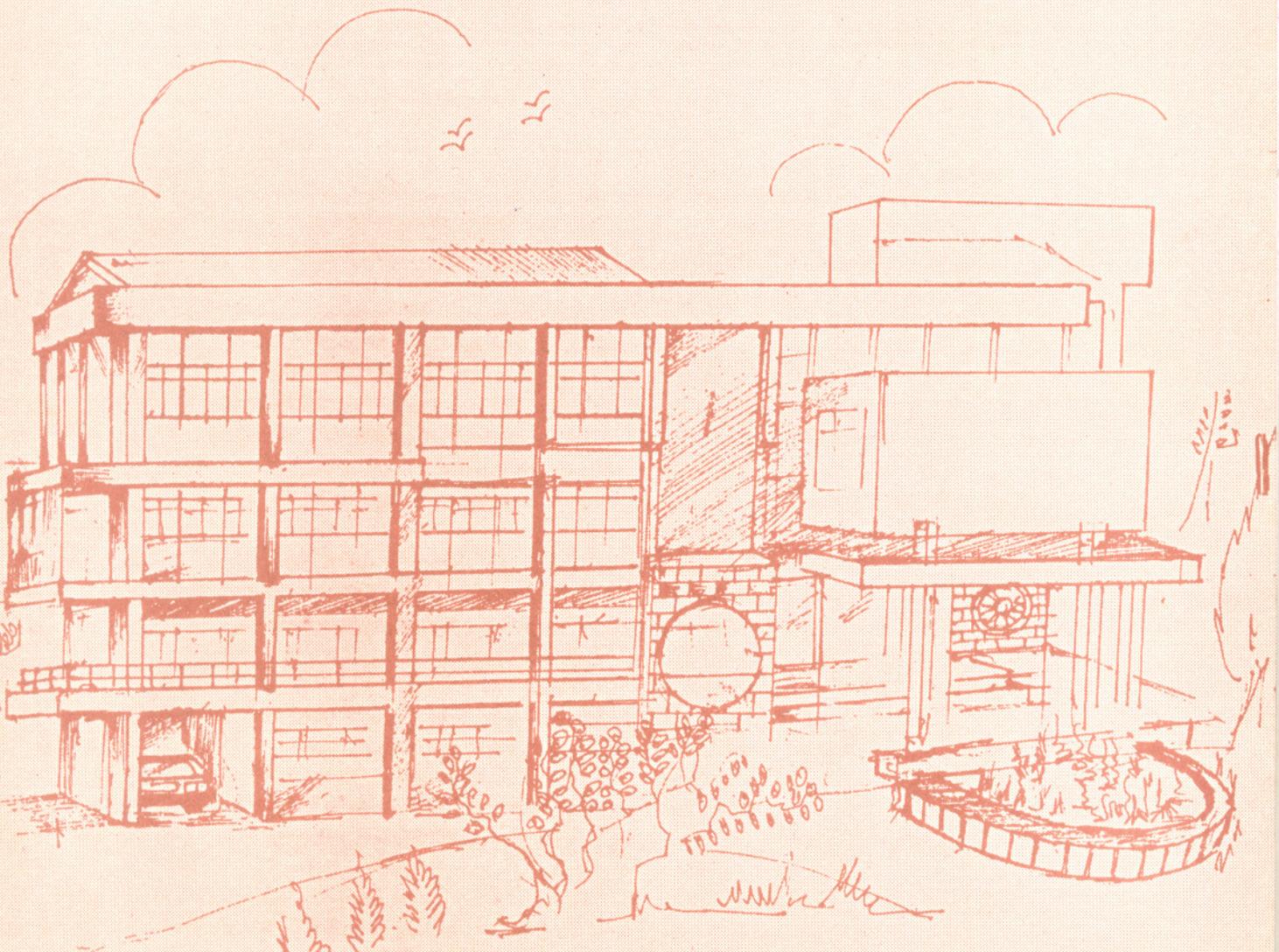




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**Referents in Management
Research – Towards Greater
Consciousness of Intent and
Process of Research**



Referents in Management Research – Towards Greater Consciousness of Intent and Process of Research

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Abstract

There is acute awareness now that proper management strategy making is neither based on algorithmic-type rational procedures nor based on gutsy level feelings of the manager. It now appears that Action Research has important lessons for management. Action Research-based strategy making would take into account the decision maker, the face-to-face others and third-person others. Research-based strategy making is required not only to make efficient and effective decisions but also to deftly deal with multiple stakeholders who are impacted by and have a say in the affairs of the organisation.

This paper first discusses the scientific antecedents of research. Next it draws the distinction between basic and applied research. The paper posits that there is an inherent tension between management practice and theory which leads to undue expectations of researchers contributing *directly* to actual practice. To lessen this, this paper suggests that practitioners and theoreticians understand the implications management research's antecedents. The scientific and positivist paradigm has equated the *process* of management research with that of natural science research. This is misleading. The theory – practice continuum, this paper argues, has three principal custodians – viz., the practitioner, the consultant and the researcher. Each of these has its separate referents. Viewed in this manner, we can see that the custodian of applied research is the consultant while that of pure research is the researcher.

Such a view has implications on matters such as breadth and depth of research, analytic induction and enumerative induction, mutuality of pure and applied research, expedient practice versus patient theory building, and finally the primacy of referents.

Having established the importance of referents on pure and applied management research, this paper explores how *new forms* of referents are being addressed in management research. This is done by describing recent studies in management that fall within the rubric of Action Research. Three types of action research are described. Type-I subsumes under it the referents discussed under pure and applied research. This paper shows how the other two types (Type-2 and Type-3) generate new referents that traditional pure versus applied continuum has generally ignored. Finally the paper shows how the idea of referents is linked to greater clarity of research intent and research process.

Referents in Management Research – Towards Greater Consciousness of Intent and Process of Research

Introduction

In the world of business research there is always a nagging suspicion that research may not be delivering what that it is supposed to deliver. The research process has become so specialised and narrow that the researcher only contributes to the written bulk that is read and cogitated over by fellow researchers without any real implication to positive social and economic change that academic community is supposed to promote. It is even seen in some quarters that research may even be antithetical to doing or getting things done. The argument is that undue thought orientation negates action orientation, or less severe, that research leaves out key action points out of its domain to deal with less-than-important ground issues (Cheit, 1991, Hambrick, 1994).

The research community is periodically warned of irrelevance within and without and is called upon to deal with practical issues that genuinely concern management practitioners (Myers, Massy & Greyser, 1980). While everyone agrees that there should be practical relevance, there is no agreement on how to do this. While some seek more experiential learning (Kolb, 1984), others seek contingent theories (Lawrence & Lorsche, 1967), or ask us to go back to even more vigorous theory building (Donaldson, 1996). There are also others who say that there has to be nothing short of a paradigm shift to make research more relevant (Gibbons et al, 1994)

This article first elaborates the distinction between conceptualising research in terms of Pure and Applied forms (Gay & Diehl, 1992). Pure and Applied Research, terms borrowed from the scientific lexicon, refer to two end of a linear continuum; “pure” is closer to an idea, and “applied”, closer to application. Definitionally, research that is closer to the practical level, viz., applied research, is considered more immediately useful for practitioners.

This article next points that such a linear view of business research (or more broadly social science research), borrowed straight out of the science vocabulary,

has created an unnecessary and unhealthy mismatch between theoretical and practical standpoints. This article explains why it would be more useful for business research to define Pure and Applied research in terms of *different* referents.

Digging deeper, the paper takes the view that restricting management research in traditional moulds of Pure and Applied is restrictive. Recent literature on action learning, ethnographic research, hermeneutic inquiry, grounded research etc. point towards a new kind of research marked by the demise of expertism, greater participativeness, consciousness of researcher hubris, potential benefits of researcher reflexiveness, and ultimately, transformation of consciousness of the researcher and the researched. These trends do and should apply to management research too. Ideals of multiple stakeholders (Freeman, 1999), civil corporations (Zadak, 2001), corporate social responsibility and corporate governance (World Bank, 2004), natural capitalism (Hawken et al), business organisations in the post-corporate world (Korten, 2000), learning organisations (Senge, 1994) and others point towards the manager incorporating social ideals in corporate strategies. These new responsibilities have to be reflected in management research too. These new incorporations can be described and better understood by expanding the set of referents to include not only the “objective” but also the “subjective”; not only the “ends” but also the “means”; not only the “existing” but also the “potential”. Taking off from the restricted idea of referents developed in the early part of this paper, the later part of the paper establishes the potential of “referents” vis-à-vis action research. Research, viewed through the lens of referents facilitates a new understanding of research potential.

Management Research Paradigm – Its Antecedents

Most of the research in business that usually comes off the academia resembles that of the social sciences, which has its antecedents in natural sciences. During the pre-industrial era, natural sciences were concerned with discovery of natural laws. Later, during the industrial and post-industrial periods, sciences were called upon to serve more practical concerns. The result has been the bifurcation of the erstwhile sciences into pure sciences and technology. This bifurcation has also

influenced their respective research streams; and hence the notions of pure and applied research.

The movement from an idea to an object useful to humans always passes through the intermediate phases of “pure research” to “applied research”. This has dominated all scientific developments (Rawat & Rao, 1995).

To illustrate the point, take the case of Thomas Alva Edison’ invention of electric bulb and its subsequent commercialisation. When the inventor spent time to figure out that electric energy could be converted to light energy it was a piece of pure research. He thought of conversion of one form of energy onto another form and so on. It took several more years to commercially create the electric bulb. Here in came the value of applied research whose purpose was to develop commercially viable materials and large-scale production processes.

As the positivist and scientific temper spread to the study of social entities, the methodology and lexicon common to natural sciences came to be increasingly borrowed by social sciences. Business management was, and continues to be, no exception. Ideas such as “scientific management” or “management science” came to represent the scientific temper.

But there is more to management than the scientific method. For example, ideas such as Strategy as pattern (Mintzberg & Quinn, 1996), or enactment (Weick, 1979) which, in essence, oppose the notion that objectivism (and thereby science) is the only epistemological tool available for understanding and influencing business management practices. More recently, aside from objectivism, there appeared many other epistemologies, theoretical perspectives and methodologies which social sciences have accepted (Crotty, 1998). These are equally valid for business management research too.

This bewildering plethora of approaches, complexity of knowledge generation and application, support from information technology, view of knowledge as a principal asset (Teece, 1998) have all together created the relatively new field of knowledge management. Within this milieu, conceptualisation of the referent in

Business Research as the linear idea-application continuum borrowed from the scientific tradition is hopelessly inadequate.

Three levels of Knowledge and their Referents

In Business, application of Knowledge is called upon at three levels. At the first level knowledge consists of the immediate, tactical level expertise. This is called upon to take quick on-the-spot decisions. This is best tested when a crisis occurs, or when a significant degree of “management by walking around” exists. Time available is limited and decisions are made under limited information and scarce, or inadequately mobilised resources. Time (as opposed to timing) is an important factor here. First level knowledge helps managers gain tactical and political advantage in their day-today activities. Here the referent is the *situation*. First level knowledge helps the possessor of requisite knowledge to adequately deal with or save the situation.

Second level knowledge is required for making pre-meditated moves. Plans are the common mechanisms by which pre-mediated moves are formalised and communicated. This kind of knowledge is required for managers to understand and relate to situations their organisations face. In trying to understand issues in a realistic and comprehensive manner, managers develop alternative scenarios of decisions and actions, conceptualise their pros and cons, and finally, select the best course of action. Strategic Planning is an activity that would call forth a high degree of second level knowledge. It is easy to see that the referent here is collective; the collective of activities, individuals, elements within the organisation, elements outside the organisation, and such other entities and their interactions that collectively make the organisations perform. This collective, in one word, is the organisation itself. This brings us to the point that the referent of the second level knowledge is the *organisation*.

The third level knowledge is the ability to act in the light of seeing the larger picture, the larger interconnections, and knowledge of meta-protocols that have application possibilities in disparate circumstances. This knowledge is self-

transcending and tacit (Nonaka & Takeuchi, 1995). Here knowledge has application possibilities within a wide time-space domain. Such knowledge seeks their authenticity from an ideal, identity, need to recreate or participate (Nonaka, 1991). In the potential for tacit knowledge to become explicit knowledge lie its true strength (Nonaka, 1991). Knowledge that is already explicit are truisms, or things that are known universally, and is part of the coded wisdom of the collective of individuals, whose reaffirmation becomes trivial.

Insights therefore provide validity to third level knowledge. But less obviously, validity also comes from the generality of its application in the time-space domain. The more general they are, the less context-specific they become. One may be tempted to construe this as third level knowledge's shortcoming. But no... that precisely is their strength! Third level knowledge is full of potentialities with deep meaning and wide application possibilities. Yes, the application requires wisdom for application and can only applied by the right person, nay, the right mind.

Third level knowledge is about ideas. The triumph of third level knowledge is the triumph of ideas. It is not difficult to see that the referent here is the *idea* itself.

A few more points about third level knowledge and ideas would be in order. When an idea is established as valid, it becomes a principle; for example, when a valid idea has moral implications it becomes a moral principle or when a valid idea has to do with the nature of the universe it becomes a scientific principle and so on. In the business world (and other social sciences), the universe of valid ideas, or principles, is too complex; perhaps far too complex with far too many caveats than their natural science counterparts. A mind that faces up to this complexity (Cook, 2000) with felicity is what strategic thinking is, something that management thinkers have been exhorting practitioners to develop.

Managers are called upon to exercise all three types of knowledge at different points. One feeds into another; another draws from the other. For example, Strategic thinking is not divorced from strategic planning; good strategic planning needs strategic thinking. In other words, we see that there is a coupling of third

and second level knowledge. Similarly, smart, quick, tactical moves are possible to a greater degree with a good grounding in strategic thinking. In other words, second level knowledge feeds the first level.

Practitioners are the ultimate knowledge beneficiaries, and the utility of any level of knowledge rests on its use to the practitioners. But the source of generation of the three levels may not lie with the practitioners alone. Who else should they share that responsibility? The answer is “That it depends upon the knowledge referent”. That is whether the referent is the “situation”, the “organisation” or the “idea.”

The three referents – and the corresponding levels of knowledge – seem to form a natural hierarchy. Take the case of three means of improvement Industrial Engineering (IE) seeks; work study, method study and motion study. The symmetry between these IE techniques and our three knowledge levels is striking. IE suggests that at the most elementary level, work has to be measured and improved upon. This is achieved through Works study. At the next level comes the study of methods, something that defines the work itself. This is known by the term “Method study.” It defines and refines the work that human beings perform in workplaces. At an even higher level is the “Motion study” which defines general principles of motion of human limbs and body and is concerned about meta-rules and principles that apply to all physical effort at workplaces.

Practitioner – Consultant - Researcher Triad

Corresponding to the three referents there are roughly three professional groups whose responsibility it is to generate the knowledge that the practitioner ultimately utilises and gains from. These are the practitioners themselves, consultants and researchers. These are archetypal role definitions and no institution or individual would strictly correspond to one and only one role definition. But it would be right to connect practitioners with the first referent, viz., situation, consultants with the next, viz., organisations and researchers with the third, viz., ideas. It must be noted that the Practitioner-Consultant-Researcher Triad as represented here is more conceptual than actual. For example, a management practitioner who works in the corporate development/planning

department of a (say) manufacturing organisation would be performing a consultant's archetypal role according to this definition. Similarly, the chief executive of a large corporation mulling of an entirely new way of adding value to the customer would be, for just those moments, taking on the role of a researcher etc. The researcher who chronicles instances of tactical moves by a practitioner would only be working at level one knowledge. However if he or she theorises upon tactical moves it would move into the realm of level three knowledge.

Applied and Pure Research

Now we are in a position to redefine what "applied" and "pure" research are in the context of business management. We can no longer think of them as two points on the linear thought-versus-action continuum. Applied research in business management is that research conducted with organisation (or a sub unit of the organisation such as a strategic business unit, a functional area or a division) as the referent, and pure research is one with idea as a referent.

Several implications follow in so defining applied and pure research in Business management.

- 1) The referent or "unit of analysis" in applied research for the most part is the entire organisation while for pure research it is an idea.
- 2) Applied research would deal with commercial issues such as a) whether the organisation should enter a new field or not, b) the means to enhance profits by cost cutting/ revenue enhancements etc.
- 3) By defining the organisation (or in some cases, a subunit of the organisation) as the referent, the consultant is forced to deal with a large number of diverse factors cutting across several functional and divisional areas. For example, a decision to introduce a new product within an existing product line will have implications on altering communication channels with the consumer, avoiding cannibalising of one's own existing brand, understanding cross subsidising of production costs, computing profitability measures in a new manner etc.
- 4) Pure research, the domain of researchers, cannot be directly applied to an organisation. By its very nature, knowledge that pure research produces is general. The higher the generality of a piece of research, the higher the domain of its applicability and its power. The power of its generality is at

the cost of accuracy, and hence, direct implementability. Remember Thorngate's postulate of commensurate complexity (see Weick, 1979) according to which it is impossible for a social theory to be simultaneously general, accurate and simple: three most desirable characteristics of good theory.

- 5) Utility of pure research in business management, though ultimately decided by its applicability and use to practitioners, is mediated by the task of interpretation by the consultants. In other words, pure research has to be assessed and tailored for specific application by the consultant. The consultant could be, say, an external consultant, an internal analyst, training department of a corporation, an academic-consultant and so on.
- 6) If the practitioner were too hasty to implement the results of pure research there would be communication loss and misjudgement. A certain "customisation" may be required for ideas from pure research to be profitably used in practice.

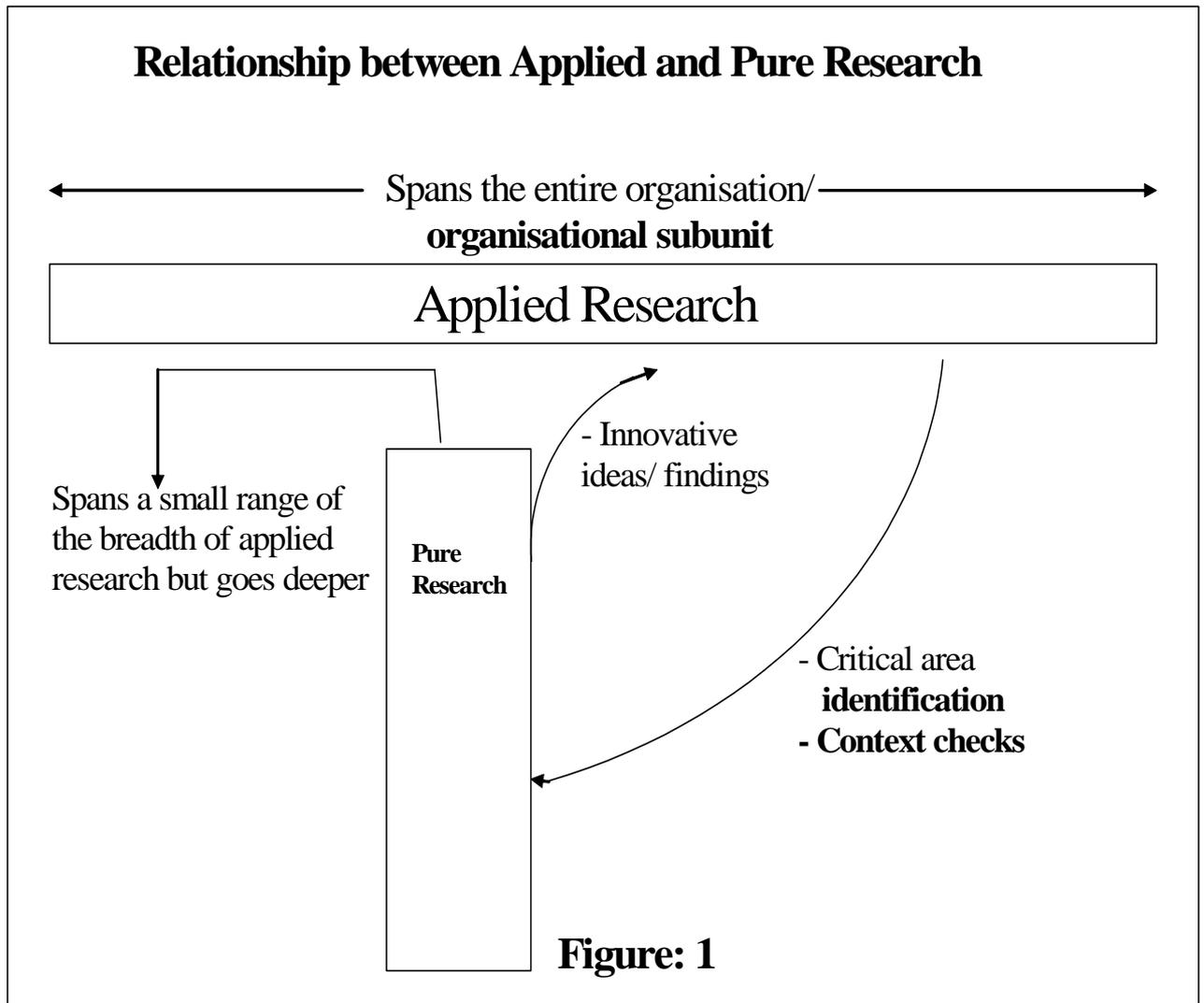
Breadth and Depth of Business Research

Applied and Pure research defined in terms of referents throw light on a number of vexatious issues such as applicability of statistics, and choice and development of research methodology. Those doing applied research have to deal with a far greater breadth of issues that apply to the entire organisation (or a sub-unit of it) than those who do pure research. Pure research on the other hand is likely to have a greater depth and wider application possibilities.

Znaniecki (1934) {see also Robinson (2000)} makes a distinction between *analytic and enumerative induction*. This distinction is useful to understanding the difference between pure and applied research. Pure research, with its emphasis on its own the research process (consisting broadly of research question, propositions, hypotheses and conclusions), criticality of sample selection, choice of measurable variables etc. promises statistical validity or conditions for valid *enumerative induction*.

Not so with applied research which has to deal with far greater numbers of disparate variables wherein complexity is compounded by fuzzy interactions. Here the unit of analysis is the complex of the organisation or their subsets/ supersets. Conclusions are based on valid *analytic induction*.

Notwithstanding these differences between pure and applied research, the two are related in a mutually reinforcing manner. One feeds into another as shown in the schema below. It can be seen that the breadth and depth are the two essential characteristics that differentiate the two.



Implications of Referents on Methodology in Business Research

The implications of the notion of referents introduced here to research design and research teaching is significant. Traditionally Research Methodology taught in the universities and management institutes presupposes that the referent requires depth of inquiry and, hence by definition, would be of narrow domain. In other words, it is assumed, for the most part, that the subject matter is *always* of “pure” nature.

First we discuss Pure Research. Figure 2 shows the various steps involved in a pure research process. This is based on what the researchers [for example, Kerlinger (1973)] see as the cascading phases of the research process.

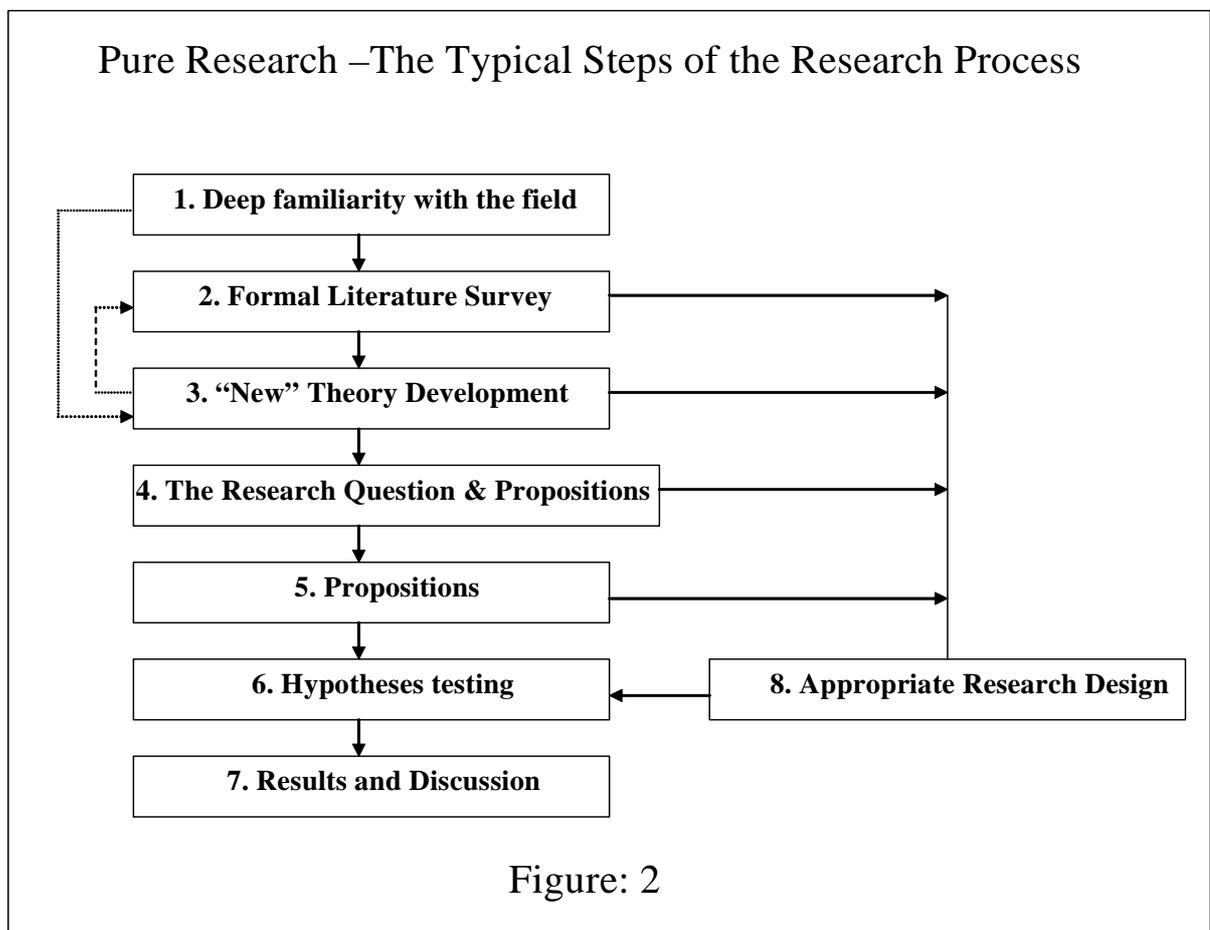
The first step in research methodology as it applies to pure research is deep scholarship in the area, represented by Box 1 in Fig. 1. Such scholarship produces not only a keen familiarity with the subject, but it also paves the way for a creative leap into some interesting and insightful interrelationship, as shown by the dotted arrow from Box 1 to Box 3. For most of social science research these interrelationships are in the form of cause-effect relationships (Ackoff, 1981).

The existing knowledge in a specified area is formalised through the literature survey. At the most elementary level this consists of chronicling and classifying previous research in the area. The literature survey, more importantly, consists “pattern recognition” of the collective intellectual comprehension of the field under study by scholars, or for short, meta-analysis. There are many examples, one being that of corporate diversification by Ramanujam and Varadarajan (1989).

The next step consists of theory building, or conceptual model building, wherein the researcher comes with a new theory or concept that is a genuine extension to the existing knowledge. The theory so developed is largely deductive and there is yet no proof that it is indeed empirically right or wrong. Therefore, empirical testing backs many research studies. Towards that end the step is the statement of the “Research Question”. This is a fundamental question from which comes certain key assertions, or propositions. While there would be just one research

question, the number of propositions could be as many as ten depending upon the research design.

Propositions lead to hypotheses. The assertions made by the hypothesis are directly testable. For statistical testing purposes, hypotheses are represented in terms of null and alternate hypotheses. Less often, propositions are directly tested. An example of the former would be Sankaran (1993) and for the latter, Lant & Mazias (1995). Statement of propositions and hypotheses are followed by statistical test, interpretation of the results and conclusions.



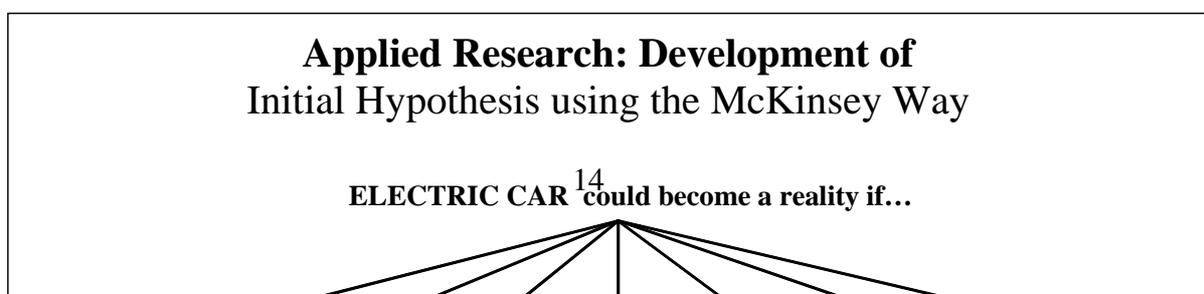
It will be in order to mention that broadly utility of pure research are twofold: first, the insight the theoretical model itself provides, and two, the empirical findings. The theoretical model allows for emergence of new variables that are interesting and useful, throws up new classification schemes and allows for hitherto unexplored interrelationships to be sought for. For example, in the diversification research alluded to earlier (Table 1), the theoretical model allows

reconceptualisation of M&As and gives a framework to examine synergy in M&As.

The benefit of pure research is also in terms of the empirical findings, which uncovers actual relationships. If there is strong empirical evidence towards new relationships, there is good scope that the finding may be more easily led towards practitioner benefit.

Now what about applied research? The methodology highlighted by Figure 2 is inadequate and inappropriate for applied business research; there are too many broad issues to be tackled and the narrowness (which, no doubt, offers precision) of pure research methodology would be a handicap. To tackle business situations we find that consulting firms have developed their own methodologies for applied research. While there is no one method, there is a good reason to say that that the McKinsey club the work of consultants general agreement amongst a simple yet powerful methodology that McKinsey Consultants use is the Initial Hypothesis, or IH method (Rasiel, 1999). This method has been extensively worked upon by a former consultant at McKinsey and developed into what is called the Pyramid Principle (Minto, 1995). The basic principle here is that all human thoughts, or less ambitiously, all analysis including those in problematic situations can be represented in a pyramidal fashion.

Perhaps the best way to present Pyramid Principle would be to show its application used in a real life situation. Let us take the case of a consulting assignment wherein the client asked the consultant to evaluate the scope for introducing an electric car in the market. Figure 3 shows the IH Statement in terms of the following diagram.



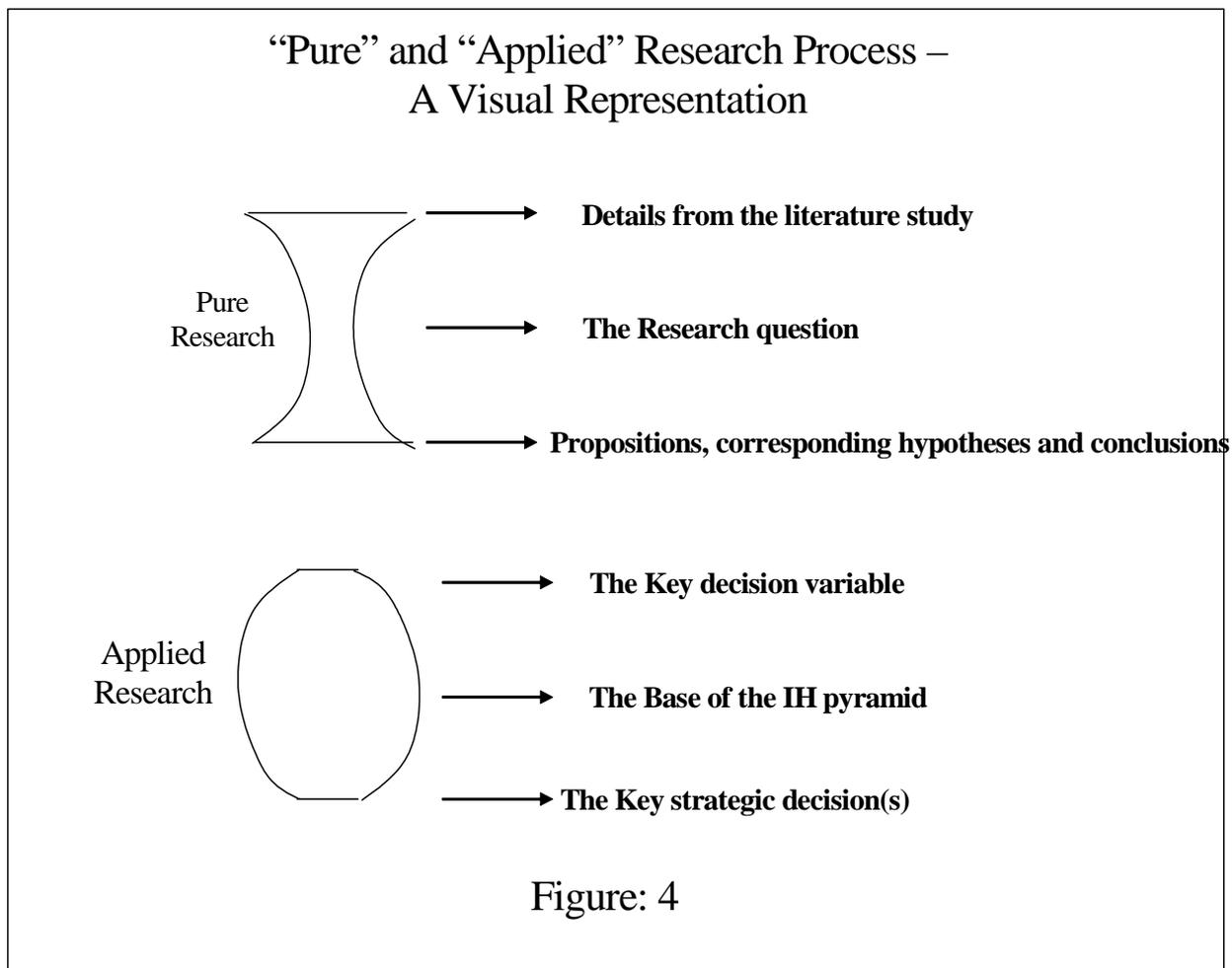
The IH for this research follows the generic pyramidal structure which is suitable for the type of question this research is supposed to answer; viz., whether the management should make an investment or not. It may be noted that the pyramidal structure is ideally suited to answer yes/ no questions where the cost of failure after having taken a “yes” decision is heavy. This generic structure has a series of statements at the base of the pyramid (please refer Figure 3) which are connected to each other through the proposition “and”, “and” and so on. Hence the IH here is “The product can be profitably introduced in the market if conditions “a” is true, “b” is true, “c” is true and so on.” All the conditions need to be true to make the investment worthwhile. The basic pyramidal perspective suggests that it can also be used where the connecting proposition is “or”, “or/and” etc. (Rasiel, 1999).

Despite the great simplicity of the statement above this methodology creates an extremely tight logical framework that is mutually exclusive, collectively exhaustive (or MECE for short in McKinsey parlance). The framework is also

flexible in terms spreading the pyramidal base further down to more detailed inquiry.

In the car project alluded to earlier, the IH lead to the detailed information requirements that are shown in Annexure 1. It can be seen that the pyramidal conceptualisation of the problem and the data needs that follow automatically ensured a very tightly woven argument for either introducing or not introducing the car in the market under consideration.

It appears that the difference between “pure” and “applied” business research can be visualised respectively in terms of the shapes of an hourglass and drum.



In the case of former the researcher starts with a plethora of research ideas already available in the literature. The conceptualisation of the “research question”

funnels the ideas to a focal point and helps clarity of focus. Again there is a loosening of the range when the researcher develops the propositions and the hypotheses.

The case of applied research is exactly opposite. The researcher starts with a narrow question such as “How do I increase profits?” or “Should I introduce the new product?” This is the question the apex of the pyramid, referred to earlier, represents. As the apex generates the base of the pyramid there is an expansion. This again shirks to a few key findings, recommendations and decisions such as “Increase profits through realising higher economies of scale” or “achieve cost rationalisation” or “enter the market” etc.

Idea of Referents in Action Research

We posited that the positivist direct take-off (from science to social science) has had a restrictive influence. To overcome the problem we posited that social sciences should now consider moving from the scientific blueprint-prototype-product continuum to one that is sensitive to changes in the referents while conceptualising pure vs. applied shifts.

But the task is not far from complete with such a makeover. There are new developments that Management Research has to incorporate in research. These include new aspirations such as meeting multiple stakeholder interests (Freeman, 1999).

Let us for a moment go back (rather ironically!) to science and technology writings. In an influential publication on development of knowledge in the scientific field, Gibbons et al (1994) argue that there is a certain demise of pure research.

The development of science has now reached a stage where many scientists have lost interest in the search for first principles. They believe that the natural world is too complex an entity to fall under a unitary description that is both comprehensive and useful, in the sense of being able to guide further research. In field such as genetic engineering and biotechnology, information theory and information technology, artificial intelligence, microelectronics, advanced materials, researchers do not concern themselves

with the basic principles of the world but with specified ordered structures within it (Barnes, 1985) [Pages 23-24 from Gibbons et al (1994)]

Usefulness of the scientific research goes beyond individual products and services. It has usefulness in contributing towards incorporation of social aspirations in business decisions. For instance, Management with its rooting in the marketing paradigm (Jeminson, 1981) has to be conscious of this. Gibbons et al go on...

Thus communication between the research fraternity and society increasingly takes the form of diffusion processes that carry scientific and industrial knowledge into society ... [Page 38]

Given such a scenario, they call for a new consciousness in knowledge generation (what they call Mode-II) that is at reflexive, trans-disciplinary and heterogenous. Action Research, which is a root derivative of the scientific method [(McKernan, 1991, Masters 1995)] goes even further and incorporates three different types of inquiry. These, according to McKernan, are

Type 1: The scientific-technical view of problem solving

Type 2: Practical-deliberative action research; and

Type 3: Critical-emancipatory action research

Type 1: Here the role of the researcher is to intervene in enhancing a condition or solving a problem faced by the practitioner. The researcher goes in with a pre-specified theoretical framework or an idea. The practitioner identifies the problem and suggests a specific intervention which is implemented either by the practitioner or by the practitioner-researcher jointly. This type of research is firmly rooted in the positivist paradigm.

Type 2: In Practical-deliberative action research the researcher enters into a conversation with the community to identify the problems, their underlying causes and generate solutions. This is marked by dialogue, mutuality and high level of communication between the researcher and the researched as well as within the community being researched. The discussion is marked by interpretive clarifications that the researcher seeks as the research progresses.

Type 3: In critical-emancipatory action research the research process promotes enhancement in consciousness that creates action to achieve a desired state of being. It may also positively have an impact on the collective consciousness of the people being researched.

Referents and the three Types of Action Research

Conceptualisation of Action Research allows us to expand the referent set to new realms beyond “ideas” and “organisations.” Given the demands being made of business organisations in the new world order it is imperative for researchers in management or incorporate new referents while deciding what research can do and how it can be done. The following Table shows an expanded set of referents.

Table: 1

Action Research Level	Type of Research in Management	Referents in Management Research
1	Pure	“Objective” idea
	Applied	“Objective” organisation (including subset or superset of it)
2	Participative	Relationship between or among individuals or groups or organisations
3	Consciousness Enhancing	Self with an individual identity or Collective Self with a social identity

We are now ready to define the intent and process of management research with different referents.

Referents in Management Research	Likely intent	Likely underlying process
“Objective” idea	Usefulness of an idea, novelty, generalisability, simplicity	Deep deductive thinking coupled with keen inductive observation
“Objective” organisation	Enhancement of effectiveness of the organisation, sub-sets or super-sets	Play advisory role, consultant approach to enhancing well-defined output specs.
Relationship between or among individuals or groups or	Enhancement of relationship, communication, furtherance of networking interdependencies, mutuality,	Co-think and co-evolve ideas and solutions

organisations	balancing transparency with respect for privacy	
Self with an individual identity or Collective Self with a social identity	Transformation of the consciousness of the researcher and researched. Critical intent of own (researcher) practice with social consciousness	Self-transcending behaviour, seeking awareness of self and others

Concluding Remarks

While taking the research ideas from Natural Science, Social science (and more pointedly Management Theory) has to understand that its referents are not symmetrical to those of the former. When we have this understanding, we will begin to look at pure and applied research in Management in a different light. This creates a healthy marriage of theory with practice (researcher and consultant roles) in creative and productive ways.

We should not stop there. More recent developments on Action Research (coupled with the idea of referents) have important lessons for management research. The idea of Type-2 and Type-3 Action Research has important lessons for facing new challenges in management research.

References

- Ackoff, R. 1981. *Creating the Corporate Future*. New York: John Wiley.
- Cheit, E. F. 1991. The shaping of business management thought. In D. Easton & C. S. Schelling (Eds.), *Divided knowledge: Across disciplines, across cultures*: 195-218. Newbury Park, CA: Sage.
- Cook, R. 2000. *Managing Complexity*. London: The Economist Books.
- Crotty, M. 1998. *The Foundations of social research: Meaning and perspective in the research process*. London: Sage Publications.
- Donaldson, L. 1996. *Positivist Organisation Theory*. London: Sage Publications
- Freeman, 1999. E.R. Stakeholder Theory of the Modern Corporation. In "Ethical Issues in Business: A Philosophical Approach" Ed. Thomas Donaldson and Patricia Werhane. Page: 247-257, Prentice Hall: New York.
- Gay, L. R. & Diehl, P.L. 1992. *Research Methods in Business and Management*. New York, Macmillan.
- Gibbons, M, Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., Trow, M., 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: Sage Publications.

- Hambrick, D. C. 1994. What if the academy actually mattered? *Academy of Management Review*, 19: 11-16.
- Hawken, P., Lovins, P., & Lovins, L. H., 1999. *Natural Capitalism: Creating the Next Industrial Revolution*, Earthscan, London.
- Jemison, D.B. (1981). The Importance of an Integrative Approach to Strategic Management Research. *Academy of Management Review*, 6(4), 601-608.
- Kerlinger, F. N. 1973. *Foundations of Behavioural Research*. New York: Holt, Rinehart and Winston Inc.
- Kolb, D. 1984. *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Korten, M. 2000. *The post-corporate world: Life after capitalism*; West Hatford, CT, USA, The Kumarian Press.
- Lant, T. K. & Mezias, S. J. 1995. An Organisational Model of Convergence and Reorientation. In M.D. Cohen D. & L. S. Sproull (Eds.), *Organisational Learning*. London: Sage Publishing Company.
- Lawrence, P. R. & Lorsch, J.W. 1967. *Organisation and environment: Managing differentiation and integration*. Boston: Harvard Business School
- McKernan, J., 1991. *Curriculum Action Research: A Handbook of Methods and Resources for Reflective Practitioner*. London: Kogan Page.
- Masters, J, 1995, "The History of Action Research" in Hughes (ed.) *Action Research Electronic Reader*, The University of Sydney, on-line <http://www.behs.cchs.usyd.edu.au/arow/Reader/rmasters.htm>
- Mintzberg, H. & Quinn, J. B. 1996. *Strategy process: Concepts and Contexts*. New Jersey: Prentice Hall.
- Minto, B. 1995, *The Pyramid Principle*. FT Pitman, London.
- Myers, J. G., Massy, W. F., & Greyser, S. A. 1980. *Marketing research and knowledge development*. Englewood Cliffs, NJ: Prentice-Hall.
- Nonaka, "The Knowledge Creating Company," *Harvard Business Review* 69, 96-104 (November-December 1991).
- Nonaka, I & Takeuchi, H. 1995. *The Knowledge Creating Company*. Oxford : Oxford University Press.
- Ramanujam, P & Varadarajan, V. 1989. Research on corporate diversification. *Strategic Management Journal*, 10:523-551.
- Rasiel, E. M., 1999. *The McKinsey way*. McGraw-Hill, New York.
- Rawat, A & Rao, A. S. 1995. *Management of Corporate R&D and Innovation*. New Delhi: Global Business Press.
- Robinson, W.S. 2000. The Logical Structure of Analytic Induction. In R. Gomm, M. Hammersley & P. Foster (Eds.), *Case Study Method*. London: Sage Publishing Company.

Sankaran, K. 1993. Development of alternative rationale for Mergers and Acquisitions and empirical analysis of post merger performance differences. Kent, OH: Ph.D. Dissertation, Kent State University.

Senge, P. 1994, *The Fifth Discipline: The Art and Practice of the Learning Organisation*, Currency Doubleday, New York.

Teece, D. J. 1998. Capturing value from knowledge assets: The new economy, markets for know-how, and intangible assets. *California Management Review*, 40(3): 55–79.

Weick, K, 1979. *The social psychology of organising*. Random House, New York.

World Bank, 2004. See <http://www.worldbank.org/wbi/corpgov/csr/>

Zadek, S, 2001. *The Civil Corporation: The Economy of Corporate Citizenship*, Earthscan. London.

Znaniecki, F. 1934. *The Method of Sociology*. New York. Farrar & Rinehart.

Annexure: 1
Development of the Research Question, Proposition and Hypothesis
for Applied research in Corporate Strategy

<p>I. Is Price Economics Attractive</p> <p>1.1, Fixed Cost 1.2, Running Cost 1.3, Cost of Repairs 1.3.1, Preventive 1.3.2, Breakdown 1.4, Likely resale value (Durability and life) 1.4.1, Loss due to wear and tear 1.4.2, Loss with internal combustion engine vs. loss with electric engines. 1.5, Financing Schemes 1.5.1, Ease of Availability 1.5.2, Cost of financing</p> <p>II. Is the Product Attractive vis-à-vis existing and likely products in the market</p> <p>2.1, Convenience 2.1.1, Driver Comfort 2.1.1.1, Speed 2.1.1.2, Acceleration 2.1.1.3, Feel 2.1.2, Riding Comfort for non-drivers 2.2.3, Breakdown repairs 2.2.3.1, Frequency 2.2.3.2, Availability of w/shops 2.2.4, Ease of preventive repairs 2.2.4.1, Frequency 2.2.4.2, Availability of w/ shops 2.2, Carrying Capacity 2.2.1 Adequacy 2.2.2 Performance at higher weights 2.3, Parking 2.3.1 Ease of maneuverability 2.3.2, Space required 2.4, What will this Electric car replace? 2.4.1 Benchmarking Against other competing vehicles 2.5, Other Electric Cars? 2.5.1 Which are the other electric cars that are likely to hit the market 2.5.2 How they fare vis-à-vis factors 2.1 to 2.4</p> <p>III. Does iInfrastructure for refueling exist?</p> <p>3.1, Infrastructure availability 3.2, Control over facility (price and service maintenance, availability of electricity) 3.3, Business Network Model</p>	<p>IV. Is Image right?</p> <p>4.1, Will image come in the way of acceptance of the small electric cars 4.2, if yes, How can this be changed? Strategies for promotion/ segment</p> <p>V. Is there a sufficient market?</p> <p>5.1, Geographical area of the Market 5.2, Customer definition 5.2.1, New Market (where, as such no vehicles are going to be replaced (eco-tourism?) 5.2.2, Replacement of existing vehicles (Cars, Auto, Box Autos, Two wheelers) 5.3, Size of Market 5.3.1, Total Gross Market 5.3.2, Potential Market 5.3.3, Achievable Target</p> <p>VI. Are there agencies which may have interest (+ve and –ve) which would come in the way of feasibility</p> <p>6.1, Motor Vehicle Department 6.2, Insurance Department 6.3, Automobile Clubs 6.4, Major Car manufacturers 6.5, Major Oil Companies 6.6, Electricity Suppliers 6.7, Motor safety Councils 6.8, Local bodies that will be affected: Police, Corporation 6.9, Pollution Control Organisations 6.10, NGOs 6.11 International Organisations 6.12 Standards Organisations (ISO, BIS)</p> <p>VII Sufficient no. of vehicles can be produced and made available at the price/ quality specified</p> <p>7.1 Technical and financial feasibility</p>
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