Research Design

Preview

Introduction

The quality of any research project will be enhanced by a good understanding of the research design. This will inform your thinking and lay the foundations for the design of a project. This topic will also introduce you to some key methodologies which you may want to use. The key areas we will cover in this topic are a systematic approach to research, elements of research design including the hypothesis, and the research paradigm.

This topic covers the initial stages of developing a research project. It stresses the importance of clear thinking and determining a direction at the outset.

A systematic approach to research

If we agree that research is not a single thing but a process, we can then begin to appreciate that research is an activity requiring a whole set of different actions. From the very beginning, when you identify a subject you wish to investigate, you will follow an organised and creative journey which will result in the presentation of your findings. Each step of the process has its own outcome and enables you to confidently move on to the next stage of the journey.

A research model is a way of proceeding through the research process. By breaking the process down into logical steps each action can be designed more effectively. This is an example of a logical step-by-step process:

1   *Define research objectives*. Decide very specifically the questions that need to be answered.

2   *Do preliminary research*. Collect any information that will help define the objectives more clearly, including existing statistics on the industry or the target constituency, already completed research studies, a general survey of the organization's competition, and an assessment of constituent attitudes that could be revealed through interviews or small group sessions (called focus groups); this preliminary fact-gathering phase could also include a management review or outside assessment of the organization.

3   *Design the formal research*. Develop the data-collection instruments (such as questionnaires or interview protocols), decide on how the target group will be sampled (randomly, by zip code, or by occupation), and choose the means of contact (mail, telephone, or in person).

4   *Do fieldwork*. Collect the data, making sure that the procedure is as free of bias as possible.

5   *Analyze the data*. Analyze, interpret, and report the results.

(Wolf 1990, p. 133)

Remember, though, that while this step-by-step model makes logical sense and textbook graphics often represent the research process as a set of clearly defined boxes, research is a

journey with all the accompanying trials and tribulations. Any process seldom moves in a strict linear progression; there is often the very real need to backtrack or revisit different elements. This may mean that you want to consider aspects of different stages simultaneously, although in your project it is advisable to do each stage as sufficiently as possible remembering that it is has not necessarily been totally 'completed'.

PRESCRIBED TEXT **Now read Hussey and Hussey (1997) 'The research process', sections 1.5–1.7, pp. 15–18. Take some time to analyse table 1.5 completely.**

It is not our purpose here to go through every stage in the research process; however, two important early steps include identifying the problem and assessing the availability of data.

One beneficial way of identifying a problem, championed recently, has suggested that projects might grow out of a researcher's intimate understanding of the issues to be studied. For instance, this might mean addressing a problem which currently exists in the workplace, where the researcher may already have considerable background knowledge, rather than just focusing on those interpretations reflected in the literature (Geursen & Ehrenreich 1998, p. 92). In some cases practical experience can inform your theoretical research, but not necessarily be the focus of your project.

Elements of research design

In this section we will look at ways of identifying the core of your inquiry.

Identifying the broad problem area

As noted above, the aim of your project might grow out of an intimate knowledge of a particular environment and this may be a great deal more useful than a study which reflects the range of opinion in the literature. This echoes the problem-solving focus of applied research, and suggests that in looking at a problem close to home, your understanding of the situation will provide a significant advantage.

It is not to suggest that you should not consider the experience of others as reflected in the literature, or for that matter focus on a whole new area, but rather it recognises that our ability to recognise problems is often based in specialist knowledge that has developed from an ongoing gathering of data relevant to our interests.

Take for instance the example of a museum curator who has been asked to write an article based on the collection she manages. Through her ongoing commitment to pure research (in this case, keeping up with publications and exhibitions in her area), she knows that no-one has yet addressed a particular issue of some significance. She feels that by writing this article she could address this issue using examples from the collection; thereby not only featuring objects from the museum, but also making her research more thought provoking and useful to others.

No matter how confident you may be, the hasty adoption of an idea may not turn out to address the real need at all. It is therefore often recommended that researchers go through what is sometimes called the funnelling process, situation analysis or desk research. These terms refer to the time spent on precisely identifying the problem. Often this involves seeking out previously published reports or surveying organisational documents and records. Your perception that the attendance at your theatre over the past year is down because of a new multiplex cinema complex around the corner may be a reasonable hypothesis, but when you

check the results of a survey conducted by your predecessor, it shows that one characteristic of the local theatre audience was that it seldom if ever went to the movies. From this you might conclude that while there may still have been some impact from the cinema, falling attendances may have resulted for other reasons.

Clearly, good management is important. In a fictional scenario Kotler and Kotler (1998) suggested that before the Atlas Museum considers raising ticket prices by 20 per cent for its forthcoming lecture series, it needs to know several things. It should:

• analyse ticket sales over the past two years to identify areas of strength and weakness;

• examine audience preferences and satisfaction levels for programs and prices;

• measure subscribers' preferences for different types of presenters and presentations;

• determine the current market's demographic and psychographic characteristics; and

• study competitive offerings and prices.

All of these are exciting projects and all are valid ways of approaching the problem. But as these authors warn: 'Hundreds of things can be researched in any given problem. Unless the problem is well defined, the cost of gathering information may well exceed the value of the findings' (Kotler & Kotler 1998, pp. 163–4).

Problem statement
Having identified a possible problem, there are a number of ways of articulating the focus of a research project. When it comes to writing up a research project this is sometimes called a *problem statement* (Evans 1995, pp. 62–3). In the beginning though, it is equally important and extremely useful to spend some time reshaping the problem as a question. For example:

Statement: The WWW is increasingly being used by arts organisations to promote their programs. This study investigates the Web as a bookings and reference tool for potential audiences.

Question: How are arts organisations using the Web to promote products and services to potential audiences?

Types of variables

A variable is anything that can take on differing or varying values. The values differ at various times for the same object or person, or the values can differ at the same time for different objects or persons.

(Sekaran 1992, p. 64)

The dependent variable is the variable of primary interest to the researcher. The researcher's goal is to explain or predict the variability in the dependent variable. In other words, it is the main variable that lends itself as a viable issue for investigation. Through analysis of the dependent variable (i.e. what variables influence it), it is possible to find answers or solutions to the problem at hand.

(Sekaran 1992, p. 65)

Those two points from Sekaran comprise the core of the knowledge you will need regarding variables.

The subject matter of this topic is not easy, and it is perhaps not a bad idea at this point to expand upon something mentioned earlier. In practical terms, the advantage to you of

studying research principles is twofold—to be able to do a research project of your own as effectively as possible, and to be able to fully understand other research projects that might relate to your work. It is, of course, not enough to *be* knowledgeable; one should also appear to be so. This is not to advocate any sort of conscious bluff, but rather to stress the extreme importance of understanding terminology, both proper usage and common usage. It would be a real misfortune, for example, if one were to understand one author's terminology but not another's and then to appear at a loss in a situation in which unfamiliar terminology leaves you hesitant, or unable to contribute.

It is with this in mind that terms like *situation analysis* and *desk research* have been noted earlier. Now add another term: moderating and intervening variables, as discussed in Sekaran (1992), are generally simply classed together as *extraneous variables*; that is, all elements other than the independent variable that can produce change in the dependent variable. A few common examples are changes that occur due to the passage of time, and variations that occur because of human error. (Properly speaking, extraneous variables relate to the concept of 'validity' in experimental research, but many situations occur in which it is patently more important to be understood than to be right, so it seems best to cover these usages here.)

A few more terms will be useful to know: the independent variable is often called the *experimental variable*, the *factor* or, quite commonly, the *treatment.*

The changes that can be seen in the dependent variable (due to the effect of the independent variable) are sometimes called the *criterion* or the *yield*. We speak of the yield of a marketing experiment being, for example, the change in ticket sales or the change in audience perceptions or attitudes to a certain production.

As Hussey and Hussey (1997) indicate, there are many methodological approaches to research. Statistical analysis is only one, but it is a useful tool. Topics 11 and 12 deal specifically with statistical analysis.

Preliminary data gathering

Gathering preliminary data is one way of refining your thoughts, or looking for symptoms, as a doctor often does. Secondary data contained in an organisation's reports and documents may help to sharpen your focus on the problem you have identified (or to open your eyes to other more profound problems). Often this is simply not done to an adequate extent because the researcher is anxious to get to the stage of gathering primary data; that is, data that has not been accumulated before. The problem in rushing through this stage is, of course, that one can end up expending a great deal of effort in discovering things that had, in fact, been discovered before, and were readily available, had the researcher only known.

Therefore, although the early stages of desk research and preliminary data gathering need not be complex, they may well save your organisation money. The following extract from Sharman's *Bums on Seats: How to Publicise Your Show* is a good example:

> The right play or musical at the right time can make a difference to your box office and to the financial health of a group. Seek your treasurer's advice. Get hold of a copy of his records for the last five years or so, and take a long hard look. Is there a seasonal pattern to your audience figures? Many groups find that they sell more tickets for a November production than for a May show. To provide a balance, November can be scheduled for productions that are heavy on costume and set, and May can take a low-budget show.

A musical society usually has a different set of financial parameters. The costs of hiring orchestra, sets and costumes are so high that often they find the group can support only one major production a year. Again, look at the best time to do it, then ask whether the group could do a second, less ambitious, show in the year, for example, a cabaret, a selection of songs from famous musicals, an Andrew Lloyd Webber evening, a programme of Noel Coward. This approach keeps the group active and motivated, keeps the society in front of the public, and, one hopes, may even make some money to support the next major undertaking.

If your group is in the habit of doing a show in December/January, then this is the ideal time to attract families. Go for a pantomime, or something similar that will play to a packed matinee of little ones—crisp packets and all—*Toad of Toad Hall* rather than *Waltz of the Toreadors*.

Keep a close eye on what other companies in your area are doing, both amateur and professional. There is a strange telepathic link between theatrical groups and sudden explosions of Agatha Christie or Oscar Wilde are more common than you might think! Five productions of *The Importance of Being Earnest* in a ten-mile radius within four weeks of each other will *all* lose out.

(Sharman 1992, p. 8)

The following advice from Tymson in *The Do-It Yourself Guide to Publicity, Special Events and Fundraising* is quite simple, yet remarkably complete for what it seeks to discover:

Before you embark on a public relations campaign, it is important to evaluate the current image of your organisation. This can be achieved by asking:

• What do people think of us?

• What would we like them to think?

• How do we get them to think well of us?

Don't assume you know all the answers. Conduct some research and find out what people really think of your organisation.

Talk to representatives from the groups of your 'publics' and ask them to assist you by giving an honest assessment of how they see your organisation. You can't improve your image if you don't know what it is!

(Tymson 1988, p. 13)

The hypothesis

A hypothesis is an educated guess. Arts managers and museum curators often use a form of hypothesis when they seek to determine whether a potential acquisition has any significance to a particular collection. For instance, a curator may begin by telling a patron that on the face of it the object they wish to donate is of no significance. The curator says: 'That's my hypothesis based on your description and my knowledge. So, if this is not the case, then please prove otherwise, and we'll gratefully accept your grandmother's apron'.

A hypothesis is therefore a proposition, a theoretical statement to account for the facts. 'Can we say this is true?' is the everyday question with which we generally greet a hypothesis. Strong research projects usually begin with a clear and simple hypothesis. They should not contain multiple possibilities that would make the task of testing them more difficult.

At the risk of oversimplifying the meaning of the hypothesis, which can certainly appear daunting, look at it this way: You are talking to a friend of yours whose play opened last night (and let us assume—just for the sake of this exercise, of course—that you are not an overly sympathetic person).

You: Well, you've got opening night out of the way now.

Friend: That's right. And I was just formulating a hypothesis. Namely this: I have written a great play.

Y: Most of the audience walked out after the first act.

F: It was probably too subtle for them.

Y: Haven't you read the papers? The critics hated it.

F: What do the critics know?

Y: I've spoken with the actors. They reckon they'll be lucky to get a week's work out of it.

F: Well, maybe it isn't a *great* play.

The hypothesis always gets the benefit of the doubt. It continues to be accepted until evidence to the contrary becomes statistically overwhelming. In the case above, if the hypothesis was true, it would be extremely unlikely that all those observed results could have occurred.

The research paradigm

The term *research paradigm* refers to the theoretical framework which underpins the research process. The framework provides a sound guiding structure and a range of acceptable tools that help the researcher to find an answer to the question they have posed, or address a hypothesis they have positted.

There are two fundamental research paradigms. Some types of research are *positivistic* and others are *phenomenological*. Professional researchers need to understand which type is the most suitable for a particular study. Your preliminary data collecting should provide a solid foundation for posing a hypothesis and determining the appropriate paradigm. (Without a logical base for developing a testable hypothesis, you will no doubt head off in the wrong direction.)

Positivistic methods of collecting data, like surveys, are assumed to offer positive proof and rely on data which is collected systematically and methodically. By applying statistical techniques to this data, it may then be possible to generalise from the findings.

On the other hand, *phenomenological* frameworks, such as case studies, seek data which is drawn from a particular site or context, often using the personal observations of the researcher and case-specific data. While generalising from these studies may be problematic, detailed case studies can provide wonderful insights from which useful conclusions (information) can be drawn.

These two paradigms usually lie at extreme ends of the research spectrum, but it is not unusual for researchers to use combinations in the same study. Clearly, in thinking about your project, it is necessary to decide what your framework will be, by considering the positive and negative attributes of different paradigms.

PRESCRIBED   **Read sections 3.1– 3.3.8 of Hussey and Hussey (1997) pp. 46–59 for detailed**
TEXT   **information on research paradigms. You should become familiar with the**

characteristics of each paradigm.

There are many research methodologies, or data-gathering tools, and, along with understanding the research process, it is useful to appreciate the strengths and weaknesses of each type. In your professional life you may need to quickly determine which tool is most appropriate for the solution of a particular problem. For instance, will the data derived from a case study or a survey offer the most useful way into tackling the problem?

Before you get started therefore you should become familiar with the range of acceptable research methodologies and familiar with how each methodology relates to a research paradigm. Together these factors make up a theoretical framework and provide a firm methodological structure.

Review

Summary

The research process is best considered as a systematic, linear series of steps that should be followed from the start of any research, from the initial identification of the problem to the generation and testing of hypotheses. The process includes, as discussed in this topic, preliminary data gathering and problem definition, followed by a determination of a theoretical framework.

Remember when designing your project, that it is not only worth considering which type of methodology will work best, but also the implications of other practical matters, such as your current location. For instance, although it may be very exciting, an Australia-wide survey of arts workers is unlikely to be logistically possible or achievable in the limited time available. It's surely best to conceive your project within the realm of possibility.

References

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