

Research in Computing

Chapter 1: The Role of Business Research

1.1 Introduction to Business Research

- To make an informed decision to address key issues faced by a competitive business we need information.
- Appropriate information is given to us by Research.
- Research can lead to
 - innovation** in the form of new products,
 - improvements** in existing goods and services,
 - or **enhancements** in employee relationships.

1.2 The Nature of Business Research

- Business research covers a wide range of phenomena.
- To make positive changes in any current scenario or circumstance, you need to ask the right questions, and answer them.
- All questions require information about how the environment, employees, customers, or the economy will respond to any new decision.
- Research is one of the principal tools for answering these practical questions.
- Even though researchers in different functional areas may investigate different phenomena, they are similar to one another because they share similar research methods.

- *Every business issue ultimately boils down to an information problem.*
- Can the right information be delivered?
- The ultimate goal of research is to supply accurate information that reduces the uncertainty in managerial decision making.
- *Relying on decision making without research is like betting.*
- Decisions are made without Research for various reasons, including cost considerations, insufficient time to conduct research, or management's belief that they know enough.
- Occasionally there are successes, but in the long run, intuition without research leads to losses.
- Business research helps decision makers shift from intuitive information gathering to systematic and objective investigation.

Business Research Defined

Business research is

the application of the scientific method
in searching for the truth about business phenomena.

These activities include

defining business opportunities and problems,
generating and evaluating alternative courses of action,
and monitoring employee and organizational performance.

- Business research is more than conducting surveys.
- This process includes
 - idea and theory development,
 - problem definition,
 - searching for and collecting information,
 - analysing data,
 - and communicating the findings and their implications.
- This definition suggests that business research information is not intuitive or haphazardly gathered.
- Literally, research (re-search) means “to search again.”

- The term connotes patient study and scientific investigation wherein the researcher takes another, more careful look at the data to discover all that is known about the subject.
- Ultimately, all findings are tied back to the underlying theory.
- The definition also emphasizes, through reference to the scientific method, that any information generated should be accurate and objective
- In other words, *research is not performed to support preconceived ideas but to test them.*
- The researcher must be personally detached and free of bias in attempting to find truth. If bias enters the research process, the value of the research is considerably reduced.

- Business research is designed to facilitate the managerial decision-making process for all aspects of the business: finance, marketing, human resources, and so on.
- Business research is an essential tool for management in virtually all problem-solving and decision-making activities.
- By providing the necessary information on which to base business decisions, research can decrease the risk of making a wrong decision in each area.
- However, it is important to note that *research is an aid to managerial decision making, never a substitute for it.*

Applied and Basic Business Research

- **Basic business research** (aka **Pure Research**) is conducted without a specific decision in mind, and it usually does not address the needs of a specific organization.
- It attempts to expand the limits of knowledge in general, and as such it is not aimed at solving a particular pragmatic problem.
- Basic research can be used to test the validity of a general business theory (one that applies to all businesses) or to learn more about a particular business phenomenon.
- For instance, *how can managers best encourage workers to dedicate themselves toward the organization's goals?*
- This basic research does not examine the problem from any single organization's perspective.
- Basic research often provides the foundation for later applied research

- Applied Research is conducted when a decision must be made about a specific real-life problem

- i. Should McDonalds add Italian pasta dinners to its menu?

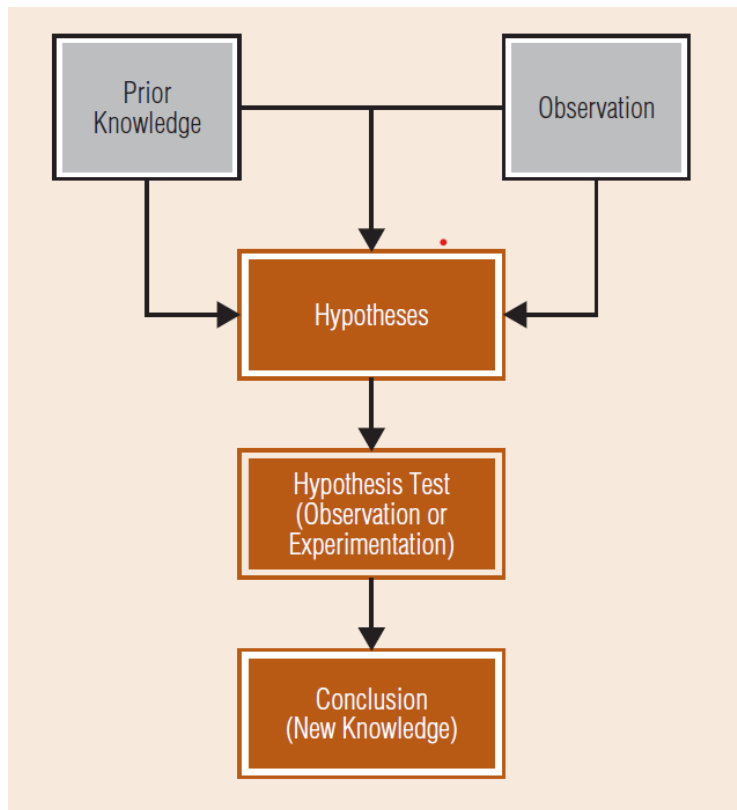
Business research said it should not.

- ii. Should Procter & Gamble add a high-priced home teeth bleaching kit to its product line?

Research showed Crest Whitestrips would sell well at a retail price of \$44.

The Scientific Method

- **The scientific method** is the way researchers go about using knowledge and evidence to reach objective conclusions about the real world.
- In the scientific method, there are multiple routes to developing ideas.



- When the ideas can be stated in researchable terms, we reach the hypothesis stage.
- The next step involves testing the hypothesis against empirical evidence (facts from observation or experimentation).
- The results either support a hypothesis or do not support a hypothesis
- From these results, new knowledge is generated.

- In **basic research**, testing these prior conceptions or hypotheses and then making inferences and conclusions about the phenomena leads to the establishment of general laws about the phenomena.
- Use of the scientific method in **applied research** ensures objectivity in gathering facts and testing creative ideas for alternative business strategies.

1.3 Managerial Value of Business Research

- The prime managerial value of business research is that it provides information that improves the decision-making process.
- The decision-making process associated with the development and implementation of a business strategy involves 4 interrelated stages:
 1. Identifying problems or opportunities
 2. Diagnosing and assessing problems or opportunities
 3. Selecting and implementing a course of action
 4. Evaluating the course of action
- Business research, by supplying managers with pertinent information, may play an important role by reducing managerial uncertainty in each of these stages.

Product-Oriented Firm

Prioritizes decision making that emphasizes the physical product design, trendiness or technical superiority

Research focuses on technicians and experts in the field.

Example

The fashion industry makes clothes in styles and sizes that few can adopt.

Production-Oriented Firm

Prioritizes efficiency and effectiveness of the production processes in making decisions

Research focuses on line employees, engineers, accountants, and other efficiency experts.

Example

U.S. auto industry's assembly-line process is intent on reducing costs of production as low as possible.

Marketing-Oriented Firm

Focuses on how the firm provides value to customers

Research focuses on customers.

Example

Well-known hotel chains are designed to address the needs of travelers, particularly business travelers.

STAGE 1: Identifying Problems or Opportunities

- Before any strategy can be developed, an organization must determine where it wants to go and how it will get there.
- Business research can help managers plan strategies by determining the nature of situations or by identifying the existence of problems or opportunities present in the organization.
- Business research may be used as a scanning activity to provide information about what is occurring within an organization or in its environment.
- The mere description of some social or economic activity may familiarize managers with organizational and environmental occurrences and help them understand a situation.
- Once business research indicates a problem or opportunity, managers may feel that the alternatives are clear enough to make a decision based on their experience or intuition.
- However, often they decide that more business research is needed to generate additional information for a better understanding of the situation.

STAGE 2: Diagnosing and Assessing Problems or Opportunities

- After an organization recognizes a problem or identifies a potential opportunity, business research can help clarify the situation.
- Managers need to gain insight about the underlying factors causing the situation.
- If there is a problem, they need to specify what happened and why.
- If an opportunity exists, they may need to explore, refine, and quantify the opportunity.
- If multiple opportunities exist, research may be conducted to set priorities.

STAGE 3: Selecting and Implementing a Course of Action

- After the alternative courses of action have been clearly identified, business research is often conducted to obtain specific information that will aid in evaluating the alternatives and in selecting the best course of action.
- Objective information generated by business research to forecast environmental occurrences may be the foundation for selecting a particular course of action.
- Even the best plan is likely to fail if it is not properly implemented.
- Business research may be conducted to indicate the specific tactics required to implement a course of action

STAGE 4: **Evaluating the Course of Action**

- After a course of action has been implemented, business research may serve as a tool to tell managers whether or not planned activities were properly executed and if they accomplished what they were expected to accomplish.
- In other words, managers may use evaluation research to provide feedback for evaluation and control of strategies and tactics.
- **Evaluation research** is the formal, objective measurement and appraisal of the extent a given activity, project, or program has achieved its objectives.
- In addition to measuring the extent to which completed programs achieved their objectives or whether continuing programs are presently performing as projected, evaluation research may provide information about the major factors influencing the observed performance levels.

- **Performance-monitoring research** is a specific type of evaluation research that regularly, perhaps routinely, provides feedback for the evaluation and control of recurring business activity.

1.4 When Is Business Research Needed?

The determination of the need for research centers on

- (1)time constraints,
- (2)the availability of data,
- (3)the nature of the decision to be made, and
- (4)the value of the research information in relation to costs.

Time Constraints		Availability of Data		Nature of the Decision		Benefits versus Costs	
Is sufficient time available before a decision will be made?	Yes →	Is it feasible to obtain the data?	Yes →	Is the decision of considerable strategic or tactical importance?	Yes →	Does the value of the research information exceed the cost of conducting research?	Yes →
No ↓		No ↓		No ↓		No ↓	
Do Not Conduct Business Research							
Conduct Business Research							

1.5 Business Research in the Twenty-First Century

- Business research, like all business activity, continues to change.
- Changes in communication technologies and the trend towards a global marketplace have played a large role in many of these changes.

Communication Technologies

- Virtually everyone is “connected” today and the way information is exchanged, stored, and gathered has been revolutionized completely
- The speed with which information can be exchanged has also increased tremendously.
- Internet connections are now wireless, so one doesn’t have to be tethered to a wall to access the World Wide Web.

- Our mobile phones and handheld data devices can be used not only to converse, but also as a means of communication that can even involve business research data.
- In many cases, technology also has made it possible to store or collect data for lower costs than in the past.
- Changes in computer technology have made for easier data collection and data analysis.
- Thus, there is less need for the time and expense associated with regular mail survey approaches.
- Furthermore, the computing power necessary to solve complicated statistical problems is now easily accessible.
- Today, even the most basic laptop computers can solve complicated statistical problems involving thousands of data points in practically a nanosecond

Global Business Research

- Like all business activities, business research has become increasingly global and firms operate with very few geographic boundaries.
- Some companies have extensive international research operations.
- Companies that conduct business in foreign countries must understand the nature of those particular markets and judge whether they require customized business strategies.
- Even companies that produce brands that are icons in their own country are now doing research internationally.
- The internationalization of research places greater demands on business researchers and heightens the need for research tools that allow us to **cross-validate** research results, meaning that the empirical findings from one culture also exist and behave similarly in another culture.

END OF CHAPTER 1