Types of Research

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Exploratory research: Definition

Exploratory research is defined as a research used to investigate a problem which is not clearly defined. It is conducted to have a better understanding of the existing problem, but will not provide conclusive results. For such a research, a researcher starts with a general idea and uses this research as a medium to identify issues, that can be the focus for future research. An important aspect here is that the researcher should be willing to change his/her direction subject to the revelation of new data or insight. Such a research is usually carried out when the problem is at a preliminary stage. It is often referred to as grounded theory approach or interpretive research as it used to answer questions like what, why and how.

For example: Consider a scenario where a juice bar owner feels that increasing the variety of juices will enable increase in customers, however he is not sure and needs more information. The owner intends to carry out an exploratory research to find out and hence decides to do an exploratory research to find out if expanding their juices selection will enable him to get more customers of if there is a better idea.

Another example of exploratory research is a <u>podcast survey template</u> that can be used to collect feedback about the podcast consumption metrics both from existing listeners as well as other podcast listeners that are currently not subscribed to this channel. This helps the author of the podcast create curated content that will gain a larger audience.

Types and methodologies of Exploratory research

While it may sound a little difficult to research something that has very little information about it, there are several methods which can help a researcher figure out the best research design, <u>data collection methods</u> and choice of subjects. There are two ways in which research can be conducted namely primary and secondary.. Under these two types, there are multiple methods which can used by a researcher. The data gathered from these research can be <u>qualitative</u> or <u>quantitative</u>. Some of the most widely used <u>research designs</u> include the following:

Primary research methods

<u>Primary research</u> is information gathered directly from the subject. It can be through a group of people or even an individual. Such a research can be carried out directly by the researcher himself or can employ a third party to conduct it on their behalf. Primary research is specifically carried out to explore a certain problem which requires an in-depth study.

• **Surveys/polls**: <u>Surveys/polls</u> are used to gather information from a predefined group of respondents. It is one of the most important quantitative method. Various types of surveys or <u>polls</u> can be used to explore opinions, trends, etc. With the advancement in technology, surveys can now be sent online and can be very easy to access. For instance, use of a <u>survey app</u> through tablets, laptops or even mobile phones. This information is also available to the researcher in real time as well. Nowadays, most organisations offer short length surveys and rewards to respondents, in order to achieve <u>higher response rates</u>.

For example: A survey is sent to a given set of audience to understand their opinions about the size of mobile phones when they purchase one. Based on such information organisation can dig deeper into the topic and make business related decision.

• Interviews: While you may get a lot of information from public sources, but sometimes an in person <u>interview</u> can give in-depth information on the subject being studied. Such a research is a <u>qualitative research method</u>. An interview with a subject matter expert can give you meaningful insights that a generalized public source won't be able to provide. Interviews are carried out in person or on telephone which have open-ended questions to get meaningful information about the topic.

For example: An interview with an employee can give you more insights to find out the degree of job satisfaction, or an interview with a subject matter expert of quantum theory can give you in-depth information on that topic.

• **Focus groups:** Focus group is yet another widely used method in exploratory research. In such a method a group of people is chosen and are allowed to express their insights on the topic that is being studied. Although, it is important to make sure that while choosing the individuals in a focus group they should have a common background and have comparable experiences.

For example: A focus group helps a research identify the opinions of consumers if they were to buy a phone. Such a research can help the researcher understand what the consumer value while buying a phone. It may be screen size, brand value or even the dimensions. Based on which the organisation can understand what are consumer buying attitudes, consumer opinions, etc.

• **Observations:** Observation research can be <u>qualitative observation</u> or <u>quantitative observation</u>. Such a research is done to observe a person and draw the finding from their reaction to certain parameters. In such a research, there is no direct interaction with the subject.

For example: An FMCG company wants to know how it's consumer react to the new shape of their product. The researcher observes the customers first reaction and collects the data, which is then used to draw inferences from the collective information.

Secondary research methods

<u>Secondary research</u> is gathering information from previously published primary research. In such a research you gather information from sources likes case studies, magazines, newspapers, books, etc.

• Online research: In today's world, this is one of the fastest way to gather information on any topic. A lot of data is readily available on the internet and the researcher can download it whenever he needs it. An important aspect to be noted for such a research is the genuineness and authenticity of the source websites that the researcher is gathering the information from.

For example: A researcher needs to find out what is the percentage of people that prefer a specific brand phone. The researcher just enters the information he needs in a search engine and gets multiple links with related information and statistics.

• Literature research: Literature research is one of the most inexpensive method used for discovering a hypothesis. There is tremendous amount of information available in libraries, online sources, or even commercial databases. Sources can include newspapers, magazines, books from library, documents from government agencies, specific topic related articles, literature, Annual reports, published statistics from research organisations and so on.

However, a few things have to be kept in mind while researching from these sources. Government agencies have authentic information but sometimes may come with a nominal cost. Also, research from educational institutions is generally overlooked, but in fact educational institutions carry out more number of research than any other entities.

Furthermore, commercial sources provide information on major topics like political agendas, demographics, financial information, market trends and information, etc.

For example: A company has low sales. It can be easily explored from available statistics and market literature if the problem is market related or organisation related or if the topic being studied is regarding financial situation of the country, then research data can be accessed through government documents or commercial sources.

• Case study research: Case study research can help a researcher with finding more information through carefully analyzing existing cases which have gone through a similar problem. Such analysis are very important and critical especially in today's business world. The researcher just needs to make sure he analyses the case carefully in regards to all the <u>variables</u> present in the previous case against his own case. It is very commonly used by business organisations or social sciences sector or even in the health sector.

For example: A particular orthopedic surgeon has the highest success rate for performing knee surgeries. A lot of other hospitals or doctors have taken up this case to understand and benchmark the method in which this surgeon does the procedure to increase their success rate.

Exploratory research: Steps to conduct a research

- **Identify the problem**: A researcher identifies the subject of research and the problem is addressed by carrying out multiple methods to answer the questions.
- **Create the hypothesis**: When the researcher has found out that there are no prior studies and the problem is not precisely resolved, the researcher will create a hypothesis based on the questions obtained while identifying the problem.
- **Further research**: Once the data has been obtained, the researcher will continue his study through descriptive investigation. Qualitative methods are used to further study the subject in detail and find out if the information is true or not.

Characteristics of Exploratory research

- They are not structured studies
- It is usually low cost, interactive and open ended.
- It will enable a researcher answer questions like what is the problem? What is the purpose of the study? And what topics could be studied?
- To carry out exploratory research, generally there is no prior research done or the existing ones do not answer the problem precisely enough.
- It is a time consuming research and it needs patience and has risks associated with it.
- The researcher will have to go through all the information available for the particular study he is doing.
- There are no set of rules to carry out the research per se, as they are flexible, broad and scattered.
- The research needs to have importance or value. If the problem is not important in the industry the research carried out is ineffective.
- The research should also have a few theories which can support its findings as that will make it easier for the researcher to assess it and move ahead in his study
- Such a research usually produces qualitative data, however in certain cases quantitative data can be generalized for a larger sample through use of surveys and experiments.

Advantages of Exploratory research

- The researcher has a lot of flexibility and can adapt to changes as the research progresses.
- It is usually low cost.
- It helps lay the foundation of a research, which can lead to further research.
- It enables the researcher understand at an early stage, if the topic is worth investing the time and resources and if it is worth pursuing.

 It can assist other researchers to find out possible causes for the problem, which can be further studied in detail to find out, which of them is the most likely cause for the problem.

Disadvantages of Exploratory research

- Even though it can point you in the right direction towards what is the answer, it is usually inconclusive.
- The main disadvantage of exploratory research is that they provide qualitative data. Interpretation of such information can be judgmental and biased.
- Most of the times, exploratory research involves a smaller <u>sample</u>, hence the results cannot be accurately interpreted for a generalized population.
- Many a times, if the data is being collected through secondary research, then there is a chance of that data being old and is not updated.

Importance of Exploratory research

Exploratory research is carried out when a topic needs to be understood in depth, especially if it hasn't been done before. The goal of such a research is to explore the problem and around it and not actually derive a conclusion from it. Such kind of research will enable a researcher to set a strong foundation for exploring his ideas, choosing the right research design and finding variables that actually are important for the analysis. Most importantly, such a research can help organisations or researchers save up a lot of time and resources, as it will enable the researcher to know if it worth pursuing.

Descriptive Research: Definition

Descriptive research is defined as a <u>research method</u> that describes the characteristics of the population or phenomenon that is being studied. This methodology focuses more on the "what" of the research subject rather than the "why" of the research subject.

In other words, descriptive research primarily focuses on describing the nature of a <u>demographic segment</u>, without focusing on "why" a certain phenomenon occurs. In other words, it "describes" the subject of the research, without covering "why" it happens.

For example, an apparel brand that wants to understand the fashion purchasing trends among New York buyers will conduct a <u>demographic survey</u> of this region, gather <u>population data</u> and then conduct descriptive research on this demographic segment. The research will then uncover details on "what is the purchasing pattern of New York buyers", but not cover any investigative details on "why" the patterns exits. Because for the apparel brand trying to break into this market, understanding the nature of their market is the objective of the study.

Characteristics of Descriptive Research

The term descriptive research then, refers to <u>research questions</u>, <u>design of the research</u> and <u>data analysis</u> that would be conducted on that topic. It is called an observational research method because none of the variables that are part of the research study are influenced in any capacity.

Some distinctive characteristics of descriptive research are:

- 1. **Quantitative research:** Descriptive research is a <u>quantitative research</u> method that attempts to collect quantifiable information to be used for statistical analysis of the population sample. It is an popular <u>market research</u> tool that allows to collect and describe the nature of the demographic segment.
- 2. **Uncontrolled variables:** In descriptive research, none of the variables are influenced in any way. This uses observational methods to conduct the research. Hence, the nature of the variables or their behavior is not in the hands of the researcher.
- 3. **Cross-sectional studies:** Descriptive research is generally a <u>cross-sectional study</u> where different sections belonging to the same group are studied.
- 4. **Basis for further research:** The data collected and analyzed from descriptive research can then be further researched using different research techniques. The data also can help point towards the types of research methods are to be used for the subsequent research.

Applications of Descriptive Research with Examples

Descriptive research can be used in multiple ways and for multiple reasons. Before getting into any kind of survey though, the survey goals and <u>survey design</u> is very important. Despite following these steps though, there is no way to know if the research outcome will be met. To understand the end objective of research goals, below are some ways organizations currently use descriptive research today:

- **Define respondent characteristics:** The aim of using <u>close-ended questions</u> is to draw concrete conclusions about the respondents. This could be the need to derive patterns, traits and behaviors of the respondents. It could also be to understand from a respondent, their attitude or opinion about the phenomenon in question. For example, understanding from millenials the hours per week they spend on browsing the internet. All this information helps the organization conducting the research make informed business decisions.
- **Measure data trends:** Data trends can be measured over time with statistical capabilities provided by descriptive research. Consider if an apparel company conducts research between different demographics like age groups from 24-35 and 36-45 on a new range launch of autumn wear. If one of those groups doesn't take too well to the new launch, this provides an insight into what clothes are like and what are not and the ones that are not, are dropped.
- Conduct comparisons: Organizations also use descriptive research to understand how different groups respond to a certain product or service. For example, an apparel brand creates a survey asking general questions that measure the brands image. The same survey also asks demographic questions like age, income, gender, geographical location etc. This consumer research helps the organization understand what aspects of the brand appeal to the population and what aspects do not. It also helps in making product or

- marketing fixes or in some cases even create a new product line just to cater to a high growth potential, group.
- Validate existing conditions: Descriptive research is widely used to help ascertain the prevailing conditions and underlying patterns of the research object. Due to the non invasive method of research and the use of <u>quantitative observation</u> and some aspects of <u>qualitative observation</u>, each variable is observed and an in-depth analysis can be concluded. It is also used to validate any existing conditions that maybe prevalent in a population.
- Conduct research at different times: To ascertain if there are any similarities or differences, the research can be conducted at different periods of times. This also allows any number of variables to be evaluated. For the purpose of verification, studies on prevailing conditions can also be repeated to draw trends.

Descriptive Research Methods

There are 3 distinctive methods to conduct descriptive research. They are:

Observational Method

The observational method is the most effective method to conduct descriptive research and both quantitative observation and qualitative observation are used in this research method.

Quantitative observation is the objective collection of data which is primarily focused on numbers and values — it suggests "associated to, of or depicted in terms of a quantity". Results of quantitative observation are derived using statistical and numerical analysis methods. It implies observation of any entity that can be associated with a numeric value such as age, shape, weight, volume, scale etc. For example, the researcher can track if current customers will refer the brand by using a simple Net Promoter Score question.

Qualitative observation doesn't involve measurements or numbers but instead just monitoring characteristics. In this case the researcher observes the respondents from a distance. Since the respondents are in a comfortable environment, the characteristics observed are natural and effective. In descriptive research, the researcher can chose to be either a complete observer, an observer as a participant, a participant as an observer or a complete participant. For example, in a supermarket, a researcher can from afar monitor and track the selection and purchasing trends of the customers. This offers a deeper insight into the purchasing experience of the customer.

Case Study Method

Case studies involve in-depth research and study of individuals or groups. Case studies lead to a hypothesis and widen a further scope of studying a phenomenon. However, case studies should not be used to determine cause and effect as they don't have the capacity to make accurate predictions because there could be a bias on the part of the researcher. The other reason why case studies are not an accurate way of conducting descriptive research is because there could be an atypical respondent in the research and describing them leads to poor generalizations and move away from external validity.

• Survey Research

In <u>survey research</u>, respondents answer through <u>surveys</u> or questionnaires, or <u>polls</u>. They are a popular market research tool to collect feedback from respondents. In order for a survey to gather good quality data, it should have good survey questions, which should be a balanced mix of <u>open-ended questions</u> and <u>close ended-questions</u>. The survey method can be conducting online or offline which is makes it the go-to option for descriptive research where the <u>sample size</u> is very large.

Learn more: Survey Questions: Survey Examples and Sample Survey Questions

Examples of Descriptive Research

Some examples of descriptive research are:

- 2. Another example of where descriptive research can be used is if a school district that wishes to evaluate teachers attitudes about using technology in the classroom. By conducting surveys and observing their comfortableness using technology through observational methods, the researcher can gauge what the can help understand if a full-fledged implementation can face an issues. This also helps in understanding if the students are impacted in any way with this change.

Some other problems and/or research questions that can lead to descriptive research are:

- Market researchers that want to observe habits of consumers.
- A company that wants to evaluate the morale of its staff.
- A school district that wants to understand if students will access online lessons rather than textbooks.
- An organization to understand if its wellness programs increase the overall health of the employees

Advantages of Descriptive Research

Some of the major advantages of descriptive research are:

• **Data collection:** Descriptive research can be conducted by using specific methods like observational method, case study method and survey method. Between these 3, all major

- methods of <u>data collection</u> are covered which provides a lot of information. This can be used for future research or even developing hypothesis of your research object.
- **Varied:** Since the data collected is both <u>qualitative</u> and <u>quantitative</u>, it gives a holistic understanding of a research topic. This causes data that was not planned to be collected gets tracked and the data is varied, diverse and thorough.
- **Natural environment:** Descriptive research allows for the research to be conducted in the natural environment of the respondent and this ensures that high-quality and honest data is collected.
- **Quick to conduct and cheap:** As the sample size is generally large in descriptive research, the data collection is quick to conduct and is cheap.
- Forms basis for decision-making: As the data collected in descriptive research represents a larger population and is robust, it is easy to make decisions on the basis of the statistical analysis of that data.

Disadvantages of Descriptive Research

Some of the major disadvantages of descriptive research are:

- **Confidentiality:** Respondents aren't always truthful if questions are too personal or they feel that they are being "watched". This may negate the validity of the data.
- **Halo effect:** If the research observer has a potential bias towards the <u>research</u> topic or some respondents in the research, the observations then maybe considered as invalid or untrue.
- **Sample isn't representative:** Due to the randomness of the sample, it is very tough to validate that the sample is an accurate representation of the whole population.
- No scope to learn cause: Since descriptive research only focuses on the "what" of an objective or phenomenon, it does not delve into the "why or how" and that is a limitation in learning specific causes.

Explanatory Research

Explanatory Research is conducted in order to help us find the problem that was not studied before in-depth. **Explanatory research** is not used to give us some conclusive evidence but helps us in understanding the problem more efficiently. When conducting the research, the researcher should be able to adapt himself/herself to the new data and the new insight.

It does not aim to provide final and conclusive answers to the research questions but allows the researcher to explore the research with a varying level of depths. "Also it has been noticed that "exploratory research is the examination, which shapes the foundation for different inquiries about, it is the building obstruct for alternate looks into.", it is the building block for the other researchers.

It can even help in deciding the exploration configuration, testing philosophy and information gathering strategy". Research allows the researcher to tackle such problems where no or less research has been done.

Purpose of Explanatory Research

1. Increasing Understanding:

The *purpose of explanatory research* is to increase the understanding of a researcher on a certain subject. It does not provide conclusive results because of the lack of its statistical strength, but it makes the researcher determine how and why things happen.

2. The flexibility of Sources:

Secondary sources, such as published literature or data, are commonly used in the explanatory type of research. Care ought to be taken to choose a scope of fair-minded sources to give a wide and balanced comprehension of the subject.

3. Better Conclusions:

Exp-Research can be very advantageous in directing subsequent research approaches. A great understanding of the subject allows the researcher to hone subsequent research questions and can greatly increase the usefulness of a study's conclusions. This exploration is likewise exceptionally valuable in deciding the best way to deal with accomplish a specialist's goal.

Explanatory Research Challenges

1. Bias information:

Exp-Research generates such types of information and interpretations which could sometimes lead to banal information.

2. Useless samples:

Exp-Research studies make use of modest number samples which could not be for a targeted/specific type of audience.

Explanatory Research Types

Some of the popular methods of explanatory research design include literature searches, depth interviews, focus groups, and case analysis.

- Literature Research
- In-depth study of every single problem
- Focus Group Research
- Case Analysis Research

1. Literature search:

A literature search is one of the fastest and least expensive means to discover hypothesis and provide information about the subject we're studying. There is an enormous amount of information available on the internet, libraries. The literature search may include magazines, newspapers, trade literature, and academic literature.

<u>Literature research example:</u> Expect an issue is "The reason is item deals lower?" This can without much of a stretch be assessed with the guide of distributed information which ought to specify "whether the issue is an "industry issue" or a "firm issue".

2. Depth interview:

The literature search is a good start but it would be much preferred to talk to a person who is well informed about the specific subject that you're studying. These people can be professionals or persons outside the organization.

<u>Depth interviews are widely used to tap information and the experience of the individuals with the information related to the specific subject we're studying. Anyone with information related to the problem is a strong candidate for the depth interview.</u>

Depth Interview Example: A youngsters' book distributor got valuable data in regards to a business decay by talking with administrators and teachers. And who uncovered that expanding quantities of individuals were utilizing library offices and conceivably purchasing fewer books for their kids.

3. Focus groups:

Another method used is the gathering of the people who have a common objective and has information about the specific problem at hand. The focus group can have 8-12 members. While selecting the members, it should be kept in mind that the individuals have information about the problem.

4. Case Analysis:

Researchers can understand and tackle the problem more efficiently by dealing with the carefully selected cases or cases of the phenomenon. Analysis of the case of the organization which has gone through the same case will help in dealing with the problem more efficiently.

Case Analysis Example: L.L.Bean is perceived for its excellent request satisfaction. Not with standing amid the bustling Christmas season, the company, for the most part, fills more than 99 % of its requests accurately. Hence, different organizations have tried to enhance their own particular request satisfaction by bench-marking L.L.Bean.

Why we need Explanatory Research?

The Explanatory Research allows the researcher to provide deep insight into a specific subject, which gives birth to more subjects and provides more opportunities for the researchers to study new things and questions new things.

The deep study of subjects creates a cycle and, the critical thinking/study of the subject creates more questions and those questions lead to more ways for the researchers to study more things related to that subject.

Explanatory Research in Modern Society

Exploratory researchers are normally led when an issue is not obviously characterized. It permits the agent to familiarize himself with the issue or idea to be examined, and conceivably create theories (the meaning of theory) to be tried. By and large, this research is completed by the utilization of center gatherings or little gathering dialog's, which is every now and again used in looking into the market.

Explanatory Research can be immensely valuable for social research. They are vital when an agent is breaking new ground and they ordinarily convey new data about a point for research. They've likewise been a hot-spot for the grounded hypothesis.

Exploratory research studies have three main purposes:

- To fulfill the researcher's curiosity and need for greater understanding.
- Testing the livability of beginning a more top to bottom review.
- To build up the techniques to be utilized as a part of any after research ventures.

Explanatory Research and Descriptive Research

- Descriptive research, being quantitative in nature, is not efficient to open-ended questions, this type of research can answer these questions more efficiently.
- research is more flexible as compared to that of descriptive research.
- The descriptive research uses tools like mean, average, median and frequency. On the other hand, Explanatory research allows the researcher to use the tools which are more qualitative in nature.
- The amount of information that the researcher has in mind, determines which type of research he/she should use to get better results. With only vague ideas in mind, it would be good for the researcher to go to exp. research. On the other hand, information like quantitative data allows the researcher to go for descriptive research which leads to unearthing specific relationships.
- Explanatory research needs to be conducted first, and then use that collection of information which is required for descriptive research.

Conclusion

The explanatory research is such a type of research that is a pillar of the other type of researchers. Before initiating work for your next research, one should always conduct

explanatory research first, because without it the research would be incomplete and it wouldn't be as efficient. Explanatory research works to give your survey and research design a better focus and significantly limits any unintended bias information.