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STRATEGIES USED FOR THE INTRODUCTION AND DEVELOPMENT OF NEW PRODUCT

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In business and engineering, New Product Development (NPD) is the complete process of bringing a new product to market. New product development is described in the literature as the transformation of a market opportunity into a product available for sale [1] and it can be tangible (that is, something physical you can touch) or intangible (like a service, experience, or belief). A good understanding of customer needs and wants, the competitive environment and the nature of the market represent the top required factors for the success of a new product. Cost, time and quality are the main variables that drive the customer needs. Aimed at these three variables, companies develop continuous practices and strategies to better satisfy the customer requirements and increase their market share by a regulate development of new products. There are many uncertainties and challenges throughout the process which companies must face. The use of best practices and the elimination of barriers to communication are the main concerns for the management of NPD process.

Keywords: New Products Introduction, Stages of New Product Development

INTRODUCTION

Market research is the process of systematic gathering, recording and analyzing of data about customers, competitors and the market. Market research can help create a business plan, launch a new product or service, fine tune existing products and services, expand into new markets, etc. It can be used to determine which portion of the population will purchase the product/service, based on variables like age, gender, location and income level. It can be found out what market characteristics your target market has. With market research, companies can learn more about current and potential customers.

The purpose of market research is to help companies make better business decisions about the development and marketing of new products. Market research represents the voice of the consumer in a company.

A list of questions that can be answered through market research:

What is happening in the market? What are the trends? Who are the competitors?

How do consumers talk about the products in the market?

Which needs are important? Are the needs being met by current products?

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A simple example of what market research can do for a business is the following. At the company Chevrolet they brought several disciplines together in a cross-functional team to develop a concept for a completely new Corvette.

This team enabled the marketers to come up with an alternative concept, one that balanced 4 attributes: comfort and convenience, quality, styling, and performance. This was considered radical because comfort and convenience were not traditional Corvette values. However, market research demonstrated that consumers supported the alternative concept. As a result the new Corvette was a huge success in the market.

There are two types of Market research, Primary and Secondary.

With market research you can get some kind of confirmation that there is a market for your idea, and that a successful launch and growth are possible.

NEED FOR THE STUDY

- This particular topic is chosen because every organization requires Marketing Research to sustain in long run and provide good services.
- Marketing Research helps to modify or develop new product as per the market needs and preferences.
- The purpose of market research is to help companies make better business decisions about the development and marketing of new products. Market research represents the voice of the consumer in a company.
- BISLERI is the first company to launch mineral water and ruled the market for several decades as the time passed many other players have entered into this segment to sustain.
- The competition company has to modify new products or introduce new products and watch Product Life Cycle and develop products as per customer preferences.
- For introducing or modifying product, Research plays an important role for knowing the taste and preferences of the customer.
- The purpose of market research is to help companies make better business decisions about the development and marketing of new products. Market research represents the voice of the consumer in a company.

SCOPE OF THE STUDY

- The research work "A study of market research on New product development, is to know about market research regarding Bisleri International ltd.
- The scope of the study is limited. The study is a very minor contribution to the company as it is only restricted to the twin cities.
- The study would only be a drop in the ocean, Can help the distribution in this area.
- The study can be conducted on a national basic too with a large sample size and interviewing many numbers of respondents.

OBJECTIVES OF THE STUDY

- To know about the tastes and preferences of the consumers regarding mineral water.
- To find out the position of Bisleri.
- To know what changes consumers are expecting.
- To develop or modify product as per the tastes and preferences of the consumers.

To provide the company required information about new product development.

LIMATIONS OF THE STUDY

- The study was restricted to twin cities.
- The information given by the respondents may be biased.
- Suggestions given at the end of the report are based on the information collected, which may not be accurate due to the changing of the consumers.
- Due to time constraint more information could not be collected.
- Analysis could not be drawn for the entire questionnaire only specific questions have been analyzed and interpreted.

RESEARCH METHODOLOGY

- Applied research
- Exploratory research
- Descriptive pure research
- Research
- Diagnostic
- Evolution studies
- Action research
- Experimental research
- Survey study
- Historical
- Analytical study

TYPES OF RESEARCH

Among the different types of research I have used descriptive research.

DESCRIPTIVE RESEARCH

Descriptive study is a fact finding investigation with a adequate interpretation it focus on particular aspects of dimensions of problem study. In the study it is designed to gather descriptive information and provides sophisticated studies.

In my research using interviewing and questionnaire collects data.

SOURCE OF DATA

The source of data may be classified into: A) Primary source; B) Secondary source.

Primary Source

For my study I used primary source of data. Primary source are original sources from which I directly collected the data.

Primary data are first hand information collected through various methods such interviewing, mailing, etc.

Methods of Primary Data Collection

There are various methods of data collection. A method is different from a tool .While a method refers to the way or mode of gathering data, a tool is an instrument used for the method.

A) Observation

B) Interviewing

C) Mail survey.

D) Experimentation

E) Simulation

F) Projective technique.

In my survey I used the methods of interviewing and mailing, interviewing is the face -to-face conversation between the investigator and the respondent.

Mailing is used to collect data by getting questionnaires completed by respondents.

Tools for Data Collection

In my survey I used interview scheduled. The various methods involve the use of appropriate recording forms. The various instruments of data collections are

- Observationnaire
- Interview guide
- Interview schedule
- Mailed questionnaire
- Rating scale
- Check list
- Opinionative
- Document schedule / data sheet
- Schedule for institutions
- Inventories

In my survey I used interview schedule and mailed questionnaire.

INTERVIEW SCHEDULE AND MAILED QUESTIONNAIRE

I used interview schedule and mailed questionnaire as a tool for data collection while a schedule used for interviewing, questionnaire is used for mailing.

I have complete list of questions on which information is elicited from the respondents.

Interviewing

The interview may be classified into

- Structure or directive interview
- Unstructured interview or non Directive
- Focused interview
- Clinical interview
- Depth interview

Structured Or Directive Interview

From the above types of interview I used structure, directive interview. This is an interview with a detail standardize schedule. The same questions are put all the respondents and in the same order. Each question is asking the same way in each interview, promoting measurements reliability.

QUESTIONNAIRE

They may be classified into closed questions and opened questions in my questionnaire 1 used closed questions; in closed question methods I used two choices and multiple choice questions. I used few open-ended questions.

Element Selection Technique

In this basis the samples may be either unrestricted or restricted. When each sample element is drawn individually from the population at large than the sample. So drawn is known as “unrestricted sample” where as all other forms of sampling are covered under the term “restricted sampling”.

Non-Probability Sampling

In my study I used non -probability sampling. In this type of sampling items for the sample are selected deliberately by me. Purposively choose the particular units of the consulting a sample on the basis that the small mass. That they so selected out huge once will be typical for representative of the whole .

The primary methods of non-probability sampling are :

1) Convenience sampling
2) Purposive or Judgment sampling
3) Quota sampling
4) Accident sampling
5) Show ball sampling

Convenience Sampling

When a sample is done according to its one's own convenience with out any systematic method, it is known as convenience sampling. Though this method is unscientific, some times none other than convenience sampling is possible.

Sample Design

- Sample Element
- Sample unit
- Sample frame work
- Sample Size
- Sample Extent

Sample Element

It means the person to whom you are going to conduct the interview or the person whom going to may for study. In a marketing research for durable product retailer will be sampling element.

Sample Unit

It is the difference among the retailers. For example they may be categories selling of retailers .

Sample Frame Work

The list of the address from the retailers, it means the name of the retailer , the residential address of the retailer and the telephone numbers obtained from the seller.

Sample Size

It means the number of persons going to interview the study.

Sample Extent

It is the area research to be conducted.

LITERATURE REVIEW

Market research is the process of systematic gathering, recording and analyzing of data about customers, competitors and the market. Market research can help create a business plan, launch a new product or service, fine tune existing products and services, expand into new markets, etc. It can be used to determine which portion of the population will purchase the product/service, based on variables like age, gender, location and income level. It can be found out what market characteristics your target market has. With market research, companies can learn more about current and potential customers.

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values. However, market research demonstrated that consumers supported the alternative concept. As a result the new Corvette was a huge success in the market. There are two types of Market research, Primary and Secondary.

Market Research for Business Planning

Market research is discovering what people want, need, or believe. It can also involve discovering how they act. Once that research is complete it can be used to determine how to market your specific product. Whenever possible, try to reduce risks at the earliest possible stage. For example you could carry out market research early on and not wait until you are almost ready to enter the market. If early market research reveals that your business idea has real potential, you can use this information in planning the build-up of your business.

For starting up a business there are a few things should be found out through market research in order to know if your business is feasible. These are things like:

Market Information

Market information is making known the prices of the different commodities in the market, the supply and the demand. Information about the markets can be obtained in several different varieties and formats. The most basic form of market information is the best quotation and last sale data, including the number of shares, with respect to a particular security at a given time.

Examples of market information questions are:

1. Who are the customers?
2. Where are they located and how can they be contacted?
3. What quantity and quality do they want?
4. What is the best time to sell?
5. What is the long-term or historical price data over a number of years?
6. What is the expected production in the country?
7. Is there more demand for one product or another? etc.

Market Segmentation

Market segmentation is the division of the market or population into subgroups with similar motivations. Widely used bases for segmenting include geographic differences, personality differences, demographic differences, use of product differences, and psychographic differences.

Market Trends

The upward or downward movements of a market, during a period of time.

The market size is more difficult to estimate if you are starting with something completely new. In this case, you will have to derive the figures from the number of potential customers or customer segments.

But besides information about the target market you also need information about your competitor, your customers, products etc. A few techniques are:

- Customer analysis
- Competitor analysis
- Risk analysis
- Product research
- Advertising research

In the last chapter you can read how to perform

market research, with interviews and questionnaires, but there is already a lot of information available. Market research firms and industry experts publish much of their information on websites, and in trade and business magazines.

Reference sites index these magazines, many offer the texts online and if not the libraries stock them. Trade associations publish many listings and statistics on their websites as well as in hard copy publications. So, there is already a lot of information available.

Perform Market Research

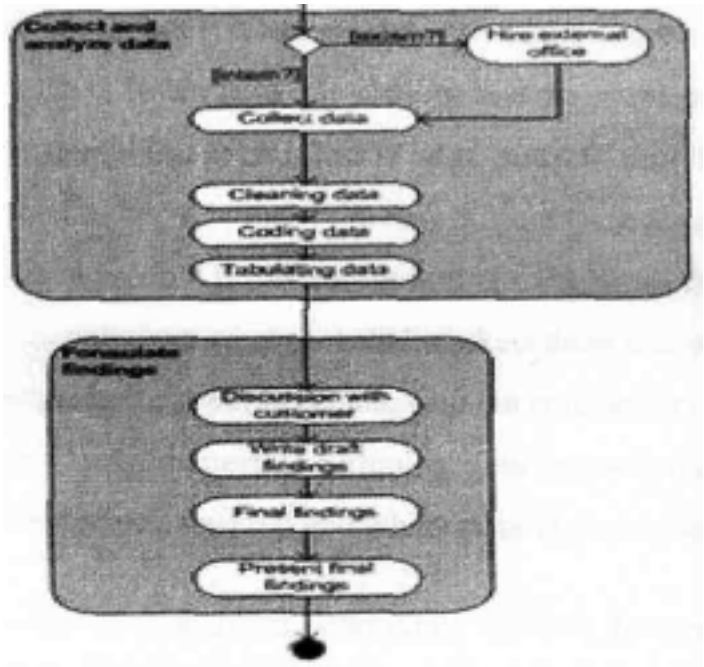
This chapter introduces the steps involved in the market research process. It also provides you with a brief preview of each of the steps necessary to conduct a market research effort. As you can see in Figure 1, the market research process has 4 basic steps. These steps include:

1. Defining the research problem
2. Establishing the research design
3. Collecting and analysing data
4. Formulate findings

Figure 1 is the meta-process model of market research. The model shows every activity that must be performed. And every activity has a few sequential activities. Every sequential activity is connected with an arrow which implies that these activities need to be carried out in a pre-defined order.

Before these 4 steps are discussed it is important to make a few comments about these steps. First although the list does strongly imply an orderly step-by-step process, it is rare that a research project follows these steps in the exact order that they are presented in the figure.

Figure 1: Meta-process Model for Market Research



Market research is more of an interactive process whereby a researcher, by discovering something in a rvenstep, may move backward in the process and begin again at another step Finding some new information while collecting data, may cause the researcher to establish different research objectives. In the following the different market research steps are described

Defining the Research Problem

The step defining the research problem exists of two main steps: (1) formulating the problem and (2) establishing research objectives.

Defining the problem is the single most important step in the market research process. A clear statement of the problem is a key to a good research. A firm may spend hundreds or thousands of dollars doing market research, but if it has not correctly identified the problem, those dollars are wasted. In our case it is obvious that the problem here is setting up a business.

But even if this is clear, you still need to know what exactly you need to know to make the new business a success and what specific related to the product is difficult to find out. Problems that may be encountered are: it is unknown what potential markets there are, what customer groups are interested in your products, who the competitors are? After formulating your problem, you need to formulate your research questions. What questions need to be answered and which possible sub-questions do you have.

With the problem or opportunity defined, the next step is to set objectives for your market research operations. Research objectives, related to and determined by the problem formulation, are set so that when achieved they provide the necessary information to solve the problem. A good way of setting research objectives is to ask, "What information is needed in order to solve the problem?"

Your objective might be to explore the nature of a problem so you may further define it, or perhaps it is to determine how many people will buy your product packaged in a certain way and offered at a certain price. Your objective might even be to test possible cause and effect relationships. For example, if you lower your price, how much will it increase your sales volume? And what impact will it have on your profit?

Clear objectives can lead to clear results. An example of this is a situation at Camaro/Firebird. Auto manufacturers are sometimes criticized for creating expensive vehicles with unwanted features and technologies that do not meet the needs of the target market. To avoid this trap engineering team of this company turned to market research to evaluate how changes in performance and fuel economy would affect sales volume and customer satisfaction. It turned out that customers were willing to pay more for greater performance if the car also offered simultaneous increases in fuel economy.

The problem description, the research question, sub questions and the research objectives are part of an overall document problem description.

After describing and formulating the problem and the objectives, the next step is to prepare a detailed and realistic time frame to complete all steps of the market research process. If your business operates in cycles, establish target dates that will allow the best accessibility to your market. For example, a holiday greeting card business may want to conduct research before or around the holiday season buying period, when their customers are most likely to be thinking about their purchases.

Selecting and Establishing Research Design

The step selecting and establishing research design consists of 3 main steps: (1) select the research design, (2) identify information types and sources and (3) determine and design research instrument.

Select the Research Design

As staled earlier, every research project and every business is different. Still, there are enough commonalities among research projects to categorize them by research methods and procedures used to collect and analyze data. There are three types of research design:

- Exploratory research design
- Descriptive research
- Causal research

Exploratory research is defined as collecting information in an unstructured and informal way. For example if the owners of a new restaurant often eat out at competitor's restaurants in order to gather information about menu selections, prices and service quality.

Descriptive research refers to a set of methods and procedures that describe marketing variables. Descriptive studies portray these variables by answering who, what, why and how questions. These types of research studies may describe such things as consumers' attitudes, intentions, and behaviours, or the number of competitors and their strategies.

Causal research design is conducted by controlling various factors to determine which factor is causing the problem. It allows you to isolate causes and effects. By changing one factor, say price you can monitor its effects on a key consequence such as sales. Although causal research can give you a high level of understanding of the variable you are studying, the designs often require experiments that are complex and expensive.

Identify Information Types and Sources

There are two types of information available to a market researcher: primary data and secondary data. Primary data is original information gathered for a specific purpose. Secondary data refers to information that already exists somewhere and has been collected for some other purpose. Both types of research have a number of activities and methods of conducting associated with them.

Secondary research is usually faster and less expensive to obtain than primary research. Gathering secondary research may be as simple as making a trip to a local library or business information center or browsing the Internet. There is already a lot of statistics about different businesses that can be used for this research.

Information Source

Secondary data help identify the problem; better define problem; develop an approch to problem; formulate an appropriate research design; answer certain research questions and test some research hypotheses; Interpret primary data more insightfully.

Determining and Design Research Instrument

After determining which type(s) of information are needed, the methods of accessing data must be determined. There are several different methods of collecting data. These methods include telephone surveys, mail surveys, personal interviews or group surveys.

The actual design of the research instrument, the data collection form that is used to ask and record the information is critical to the success of the project. There are two basic methods to collect information: by asking questions or by observing. The most common research instrument is the questionnaire. There are two types of forms: structured and unstructured. Structured questionnaires list close-end questions. These include multiple choice questions which offer respondents the ability to answer "yes" or "no" or choose from a list of several answer choices. Close-end questions also include scales refer to questions that ask respondents to rank their answers at a particular point on a scale. Unstructured questionnaires have open-ended questions. Respondents can answer in their own words.

Collecting and Analyzing Data

Data collection is usually done by students. They are employed by field data collection companies to collect primary data. A choice has to be made between collecting the data yourself or hiring an external office who are specialized in interviews.

Data analysis is needed to give the raw data any meaning. The first step in analyzing the data is cleaning the data. This is the process of checking the raw data to verify that the data has been correctly entered into the files from the data collection form.

After that the data have to be coded. This is the process of assigning all response categories a numerical value. For example males = 1, females = 2. After that the data can be tabulated, which refers to the actual counting of the number of observations that fall in to each possible response category.

Data can also be collected on a smaller scale to obtain more qualitative data. One frequently used form of qualitative data collection is the focus group. Focus Groups are generally comprised of a small selection of the target audience. The participants are then queried and the discussions are guided by a moderator. The group is often recorded and/or viewed by the marketing team or others via a two-way mirror or closed circuit system. Focus group companies exist worldwide. Some specialize in certain industries, such as the legal community, while others provide more general services.

Research is the search for and retrieval of existing, discovery or creation of new information or knowledge for a specific purpose. Research has many categories, from medical research to literary research. 'Marketing research is a form of business research, and Business-to-Business (B2B) Marketing Research, or Business Marketing Research, previously known as Industrial Marketing Research.

B2B Marketing Research investigates the markets for products sold by one business to another, rather than to consumers. Consumer Marketing Research is a form of applied sociology which concentrates on understanding the behaviors, whims and preferences, of consumers in a market-based economy. The field of consumer marketing research as a statistical science was pioneered by Arthur Nielsen with the founding of the ACNielsen Company in 1923.

In addition to marketing research, other forms of business research include:

- Market research - is broader in scope and examines all aspects of a business environment. It asks questions about competitors, market structure, government regulations, economic trends, technological

advances, and numerous other factors that make up the business environment. (See Environmental scanning.)

Sometimes the term refers more particularly to the financial analysis of companies, industries, or sectors. In this case, financial analysts usually carry out the research and provide the results to investment advisors and potential investors.

- Product research - This looks at what products can be produced with available technology, and what new product innovations near-future technology can develop (see New Product Development)
- Advertising Research - is a specialized form of marketing research conducted to improve the efficacy of advertising, copy testing, also known as pre-testing, is a form of customized research that predicts in-market performance of an ad before it airs by analyzing audience levels of attention, brand linkage,motivation, entertainment, and communication, as well as breaking down the ad's Flow of Attention and Flow of Emotion . Pre-testing is also used on ads still in rough (ripomatic or animatic) form.

TYPES OF MARKETING RESEARCH

Marketing research techniques come in many forms, including:

- Ad Tracking - periodic or continuous in-market research to monitor a brand's performance using measures such as brand awareness, brand preference, and product usage.
- Advertising Research - used to predict copy testing or track the efficacy of advertisements for any medium, measured by the ad's ability to get attention, communicate the message, build the brand's image, and motivate the consumer to purchase the product or service.
- Brand equity research - how favorably do consumers view the brand?
- Brand name testing - what do consumers feel about the names of the products?
- Commercial eye tracking research - examine advertisements, package designs, websites, etc., by analyzing visual behavior of the consumer.
- Concept testing - to test the acceptance of a concept by target consumers.
- Consumer decision process research - to determine what motivates people to buy and what decision-making process they use.
- Copy testing - predicts in-market performance of an ad before it airs by analyzing audience levels of attention, brand linkage, motivation, entertainment, and communication, as well as breaking down the ad's Flow of Attention and Flow of Emotion.
- Customer satisfaction studies - exit interviews or surveys that determine a customer's level of satisfaction with the quality of the transaction.
- Demand estimation - to determine the approximate level of demand for the product.
- Distribution channel audits - to assess distributors' and retailers' attitudes toward a product, brand, or company.

Internet Strategic Intelligence - searching for customer opinions in the Internet: chats, forums, web pages, blogs, where people express freely about their experiences with products, becoming strong "opinion formers"

Marketing Effectiveness and analytics - Building models and measuring results to determine the effectiveness of individual marketing activities.

Mystery shopping - An employee or representative of the market research firm anonymously contacts a salesperson and indicates he or she is shopping for a product. The shopper then records the entire experience. This method is often used for quality control or for researching competitors' products.

Positioning research - how does the target market see the brand relative to competitors? - what does the brand stand for?

Price elasticity testing - to determine how sensitive customers are to price changes.

Sales forecasting - to determine the expected level of sales given the level of demand. With respect to other factors like Advertising expenditure, sales promotion, etc.

- **Segmentation research** - to determine the demographic, psychographic, and behavioural characteristics of potential buyers
- **Store audit** - to measure the sales of a product or product line at a statistically selected store sample in order to determine market share, or to determine whether a retail store provides adequate service.
- **Test marketing** - a small-scale product launch used to determine the likely acceptance of the product when it is introduced into a wider market.

All of these forms of marketing research can be classified as either problem-identification research or as problem-solving research.

A company collects primary research by gathering original data. Secondary research is conducted on data published previously and usually by someone else. Secondary research costs far less than primary research, but seldom comes in a form that exactly meets the needs of the researcher.

A similar distinction exists between exploratory research and conclusive research. Exploratory research provides insights into and comprehension of an issue or situation. It should draw definitive conclusions only with extreme caution. Conclusive research draws conclusions: the results of the study can be generalized to the whole population.

Exploratory research is conducted to explore a problem to get some basic idea about the solution at the preliminary stages of research. It may serve as the input to conclusive research. Exploratory research information is collected by focus group interviews, reviewing literature or books, discussing with experts, etc. This is unstructured and qualitative in nature. If a secondary source of data is unable to serve the purpose, a convenience sample of small size can be collected. Conclusive research is conducted to draw some conclusion about the problem. It is essentially, structured and quantitative research, and the output of this research is the input to Management information systems.

Exploratory research is also conducted to simplify the findings of the conclusive/ descriptive research., if the findings are very hard to interpret for Marketing Manager.

Some times it may happen to conduct conclusive research with out followed by an exploratory research, e.g. Consumer satisfaction Study. Because every year this study conducted

by some one and initial ideas concern to the study may readily available.

Marketing Research Methods

Methodologically, marketing research uses the following types of research designs:

A. Based On Questioning

- **Qualitative marketing research -** generally used for exploratory purposes - small number of respondents - not generalizable to the whole population - statistical significance and confidence not calculated - examples include focus groups, in-depth interviews, and projective techniques.
- **Quantitative marketing research -** generally used to draw conclusions - tests a specific hypothesis - uses random sampling techniques so as to infer from the sample to the population - involves a large number of respondents - examples include surveys and questionnaires.

B. Based on Observations

• **Ethnographic studies** - by nature qualitative, the researcher observes social phenomena in their natural setting - observations can occur cross-sectionally (observations made at one time) or longitudinally (observations occur over several time-periods) -examples include product-use analysis and computer cookie traces.

• **Experimental techniques** - by nature quantitative, the researcher creates a quasi-artificial environment to try to control spurious factors, then manipulates at least one of the variables - examples include purchase laboratories and test markets

Researchers often use more than one research design. They may start with secondary research to get background information, then conduct a focus group (qualitative research design) to explore the issues. Finally they might do a full nation-wide survey (quantitative research design) in order to devise specific recommendations for the client.

Business to Business Market Research

Business to business (b2b) research is inevitably more complicated than consumer research. The researchers need to know what type of multi-faceted approach will answer the objectives, since seldom is it possible to find the answers using just one method. Finding the right respondents is crucial in b2b research since they are often busy, and may not want to participate.

Encouraging them to “open up” is yet another skill required of the b2b researcher. Last, but not least, most business research leads to strategic decisions and this means that the business researcher must have expertise in developing strategies that are strongly rooted in the research findings and acceptable to the client.

There are four key factors that make b2b market research special and different to consumer markets

- The decision making unit is far more complex in b2b markets than in consumer markets.
- B2b products and their applications are more complex than consumer products.
- B2b marketers address a much smaller number of customers who are very much larger in their consumption of products than is the case in consumer markets.
- Personal relationships are of critical importance in b2b markets.

Commonly used marketing research terms:

- Market research techniques resemble those used in political polling and social science research. Meta-analysis (also called the Schmidt-Hunter technique) refers to a statistical method of combining data from multiple studies or from several types of studies.
- Conceptualization means the process of converting vague mental images into definable concepts. Operationalization is the process of converting concepts into specific observable behaviors that a researcher can measure.
- Precision refers to the exactness of any given measure.
- Reliability refers to the likelihood that a given operationalized construct will yield the same results if re-measured.
- Validity refers to the extent to which a measure provides data that captures the meaning of the operationalized construct as defined in the study. It asks, "Are we measuring what we intended to measure?"

Applied research sets out to prove a specific hypothesis of value to the clients paying for the research. For example, a cigarette company might commission research that attempts to show that cigarettes are good for one's health. Many researchers have ethical misgivings about doing applied research.

Sugging (or Selling Under the Guise of market research) forms a sales technique in which sales people pretend to conduct marketing research, but with the real purpose of obtaining buyer motivation and buyer decision-making information to be used in a subsequent sales call.

Frugging comprises the practice of soliciting funds under the pretense of being a research organization.

The Role of Qualitative Research

Qualitative research methods are used primarily as a prelude to quantitative research. They are used to define a problem, generate hypotheses, identify determinants, and develop quantitative research designs. They are expensive and slow. Because of the low number of respondents involved, these exploratory research methods cannot be used to generalize to the whole population. They are however, very valuable for exploring an issue and are used by almost all researchers. They can be better than quantitative research at probing below the surface for affective drives and subconscious motivations.

Approaches

Most qualitative methods use a direct approach: they clearly disclose the purpose of the study and the organization that commissioned it. Questions are direct and to the point. Many other qualitative techniques use an indirect approach. The true intent of the research is disguised, either by claiming a false purpose or by omitting any reference to the study's purpose.

Some researchers have ethical misgivings about the deceit involved in this approach. Those researchers that use this approach feel that it provides the more honest and accurate responses. If disguised methods are used, all respondents should, on completion, attend a debriefing session in which the true purpose of the research is given and the reason for the deception explained.

The main types of qualitative research are:

Depth Interviews

- Interview is conducted one-on-one, and lasts between 30 and 60 minutes.
- Best method for in-depth probing of personal opinions, beliefs, and values.
- Very rich depth of information.
- Very flexible
- Probing is very useful at uncovering hidden issues.
- They are unstructured (or loosely structured)- this differentiates them from survey interviews in which the same questions are asked to all respondents.
- Can be time consuming and responses can be difficult to interpret.
- Requires skilled interviewers - expensive - interviewer bias can easily be introduced.
- There is no social pressure on respondents to conform and no group dynamics.
- Start with general questions and rapport establishing questions, then proceed to more purposive questions.
- Laddering is a technique used by depth interviewers in which you start with questions about external objects and external social phenomena, then proceed to internal attitudes and feelings.
- Hidden issue questioning is a technique used by depth interviewers in which they concentrate on deeply felt personal concerns and pet peeves.
- Symbolic analysis is a technique used by depth interviewers in which deeper symbolic meanings are probed by asking questions about their opposites.

Focus Groups

- An interactive group discussion lead by a moderator
- Unstructured (or loosely structured) discussion where the
- Moderator encourages the free flow of ideas
- Usually 8 to 12 members in the group who fit the profile of the
- Target group or consumer
- Usually last for 1 to 2 hours
- Usually recorded on video
- The room usually has a large window with one-way glass -participants cannot see out, but the researchers can see in
- Inexpensive and fast
- Can use computer and internet technology for on-line focus
- Groups
- Respondents feel a group pressure to conform
- Group dynamics is useful in developing new streams of
- Thought and covering an issue thoroughly
- See focus group for a more detailed description

Projective Techniques

- These are unstructured prompts or stimulus that encourage the respondent to project their underlying motivations, beliefs, attitudes, or feelings onto an ambiguous situation.
- They are all indirect techniques that attempt to disguise the purpose of the research.

- Examples of projective techniques include:
- World association - say the first word that comes to mind after hearing a word - only some of the words in the list are test words that the researcher is interested in, the rest are fillers - is useful in testing brand names - variants include chain word association and controlled word association
- Sentence completion - respondents are given incomplete sentences and asked to complete them
- Story completion - respondents are given part of a story and are asked to complete it
- Cartoon tests - pictures of cartoon characters are shown in a specific situation and with dialogue balloons - one of the dialogue balloons is empty and the respondent is asked to fill it in
- Thematic apperception tests - respondents are shown a picture (or series of pictures) and asked to make up a story about the picture(s)
- Role playing - respondents are asked to play the role of someone else - researchers assume that subjects will project their own feelings or behaviours into the role
- Third-person technique - a verbal or visual
- Representation of an individual and his/her situation is presented to the respondent - the respondent is asked to relate the attitudes or feelings of that person -researchers assume that talking in the third person will minimize the social pressure to give standard or politically correct responses

Qualitative Information is information based on peoples views, opinions and perceptions

Quantitative marketing research is the application of quantitative research techniques to the field of marketing. It has roots in both the positivist view of the world, and the modern marketing viewpoint that marketing is an interactive process in which both the buyer and seller reach a satisfying agreement on the "four P's" of marketing: Product, Price, Place (location) and Promotion.

As a social research method, it typically involves the construction of questionnaires and scales. People who respond (respondents) are asked to complete the survey. Marketers use the information so obtained to understand the needs of individuals in the marketplace, and to create strategies and marketing plans,

SCOPE AND REQUIREMENTS

Both descriptive and inferential statistical techniques can be used to analyse data and draw conclusions. It involves a quantity of respondents sometimes ranging in number from ten to ten million, and may include hypotheses, random sampling techniques to enable inference from the sample to the population. Marketing research may include both experimental and quasi-experimental research designs.

TYPICAL GENERAL PROCEDURE

Simply, there are five major and important steps involved in the research process:

- Defining the Problem.
- Research Design.
- Data Collection**.**
- Analysis.
- Report Writing and presentation**.**

The brief discussion on each of these steps are:

1. Problem audit and problem definition - What is the problem? What are the various aspects

of the problem? What information is needed?

2. Conceptualization and operationalization - How exactly do we define the concepts involved? How do we translate these concepts into observable and measurable behaviours?
3. Hypothesis specification - What claim(s) do we want to test?
4. Research design specification - What type of methodology to use? -ex: questionnaire, survey
5. Question specification – What questions to ask? In what order?
6. Scale specification - How will preferences be rated?
7. Sampling design specification - What is the total population? What sample size is necessary for this population? What sampling method to use?- examples:

· Probablity Sampling:- (cluster sampling, stratified sampling, simple random sampling, multistage sampling, systematic sampling)

· Nonprobability sampling:- (Convenience Sampling,Judgement Sampling, Purposive Sampling, Quota Sampling, Snowball Sampling, etc.)

8. Data collection - Use mail, telephone, internet, mall intercepts
9. Codification and re-specification - Make adjustments to the raw data so it is compatible with statistical techniques and with the objectives of the research - examples: assigning numbers, consistency checks, substitutions, deletions, weighting, dummy variables, scale transformations, scale standardization
10. Statistical analysis - Perform various descriptive and inferential techniques (see below) on the raw data. Make inferences from the sample to the whole population. Test the results for statistical significance.
11. Interpret and integrate findings - What do the results mean? What conclusions can be drawn? How do these findings relate to similar research?
12. Write the research report - Report usually has headings such as:

· Executive summary;

· Objectives;

· Methodology;

· Main findings;

· Detailed charts and diagrams. Present the report to the client in a 10 minute presentation. Be prepared for questions'

DESCRIPTIVE TECHNIQUES

The descriptive techniques that are commonly used include:

1. Graphical description

· Use graphs to summarize data

· Examples: histograms, scattergrams, bar charts, pie charts

2. Tabular description

· Use tables to summarize data

· Examples: frequency distribution schedule, cross tabs

3. Parametric description

· Estimate the values of certain parameters which summarize the data

- Measures of location or central tendency » arithmetic mean

4. Median
5. Mode
6. Interquartile mean

- Measures of statistical dispersion
- Standard deviation
- Range (statistics)
- Interquartile range
- Absolute deviation.
- Measures of the shape of the distribution
- Skewness
- Kurtosis

Inferential Techniques

Inferential techniques involve generalizing from a sample to the whole population. It also involves testing a hypothesis. A hypothesis must be stated in mathematical/statistical terms that make it possible to calculate the probability of possible samples assuming the hypothesis is correct. Then a test statistic must be chosen that will summarize the information in the sample that is relevant to the hypothesis. A null hypothesis is a hypothesis that is presumed true until a hypothesis test indicates otherwise. Typically it is a statement about a parameter that is a property of a population. The parameter is often a mean or a standard deviation.

Not unusually, such a hypothesis states that the parameters, or mathematical characteristics, of two or more populations are identical. For example, if we want to compare the test scores of two random samples of men and women, the null hypothesis would be that the mean score in the male population from which the first sample was drawn, was the same as the mean score in the female population from which the second sample was drawn:

Ho: $\mu 1 = \mu 2$

where:

Ho - the null hypothesis

$\mu 1$ = the mean of population 1, and

μ_2 = the mean of population 2.

The equality operator makes this a two-tailed test. The alternative hypothesis can be either greater than or less than the null hypothesis. In a one-tailed test, the operator is an inequality, and the alternative hypothesis has directionality:

These are sometimes called a hypothesis of significant difference because you are testing the difference between two groups with respect to one variable.

Alternatively, the null hypothesis can postulate that the two samples are drawn from the same population:

Ho: $\mu 1 - \mu 2 = 0$

A hypothesis of association is where there is one population, but two traits being measured. It is a test of association of two traits within one group.

Nominal/ordinal level test of a single sample:

- Chi-square
- Kolmogorov-Smirnov one sample test
- Runs test
- Binomial test Nominal/ordinal level test of two independent samples:
- Chi-square

- Mann-Whitney U
- Median
- Kolmogorov-Smirnov two sample test

Nominal/ordinal level test for paired samples:

- Wilcoxon test
- McNemar test

Point to Remember

- If the sample is interval/ ratio scaled and meet some statistical assumption (e.g., Normality), then it is eligible for Parametric test.
- If the sample is Nominal/ Ordinal scaled and/ or does not meet some statistical assumption (e.g., Normality), then it is not eligible for Parametric test. In this situation we have to use Non-parametric test.

We should use non-parametric test only if sample is not eligible for parametric test. Remember that the non-parametric test is mostly used and misused technique in the world.

RELIABILITY AND VALIDITY

The distribution of the test statistic is used to calculate the probability sets of possible values (usually an interval or union of intervals). Among all the sets of possible values, we must choose one that we think represents the most extreme evidence against the hypothesis. That is called the critical region of the test statistic. The probability of the test statistic falling in the critical region when the hypothesis is correct is called the alpha value of the test. After the data is available, the test statistic is calculated and we determine whether it is inside the critical region.

If the test statistic is inside the critical region, then our conclusion is either the hypothesis is incorrect, or an event of probability less than or equal to alpha has occurred. If the test statistic is outside the critical region, the conclusion is that there is not enough evidence to reject the hypothesis.

The significance level of a test is the maximum probability of accidentally rejecting a true null hypothesis (a decision known as a Type I error).For example, one may choose a significance level of, say, 5%, and calculate a critical value of a statistic (such as the mean) so that the probability of it exceeding that value, given the truth of the null hypothesis, would be 5%. If the actual, calculated statistic value exceeds the critical value, then it is significant “at the 5% level”.

Types of Hypothesis Tests

- Parametric tests of a single sample: o t test o z test
- Parametric tests of two independent samples: o two-group t test to z test
- Parametric tests of paired samples: o paired t test

Research should be tested for reliability, generalizability, and validity. Generalizability is the ability to make inferences from a sample to the population.

Reliability is the extent to which a measure will produce consistent results. Test-retest reliability checks how similar the results are if the research is repeated under similar circumstances. Stability over repeated measures is assessed with the Pearson coefficient. Alternative forms reliability checks how similar the results are if the research is repeated using different forms.

Internal consistency reliability checks how well the individual measures included in the research are converted into a composite measure. Internal consistency may be assessed by correlating

performance on two halves of a test (split-half reliability).

The value of the Pearson product-moment correlation coefficient is adjusted with the Spearman-Brown prediction formula to correspond to the correlation between two full-length tests. A commonly used measure is Cronbach's a, which is equivalent to the mean of all possible split-half coefficients. Reliability may be improved by increasing the sample size.

Validity asks whether the research measured what it intended to. Content validation (also called face validity) checks how well the content of the research are related to the variables to be studied. Are the research questions representative of the variables being researched. It is a demonstration that the items of a test are drawn from the domain being measured. Criterion validation checks how meaningful the research criteria are relative to other possible criteria. When the criterion is collected later the goal is to establish predictive validity.

Construct validation checks what underlying construct is being measured. There are three variants of construct validity. They are convergent validity (how well the research relates to other measures of the same construct), discriminant validity (how poorly the research relates to measures of opposing constructs), and nomological validity (how well the research relates to other variables as required by theory).

Internal validation, used primarily in experimental research designs, checks the relation between the dependent and independent variables. Did the experimental manipulation of the independent variable actually cause the observed results? External validation checks whether the experimental results can be generalized.

Validity implies reliability : a valid measure must be reliable. But reliability does not necessarily imply validity :a reliable measure need not be valid.

Types of Random sampling errors

- Sample too small
- Sample not representative
- Inappropriate sampling method used
- Random errors

Research Design Errors

- Bias introduced
- Measurement error
- Data analysis error
- Sampling frame error
- Population definition error
- Scaling error
- Question construction error

Interviewer Errors

- Recording errors
- Cheating errors
- Questioning errors
- Respondent selection error

Respondent Errors:

- Non-response error
- Inability error
- Falsification error

Hypothesis Errors

1. Type I error (also called alpha error)

· The study results lead to the rejection of the null hypothesis even though it is actually true

2. Type II error (also called beta error)

- The study results lead to the acceptance (non-rejection) of the null hypothesis even though it is actually false

Experimental research designs are used for the controlled testing of causal processes. The general procedure is one or more independent variables are manipulated to determine their effect on a dependent variable. These designs can be used where:

- There is time priority in a causal relationship (cause precedes effect).
- There is consistency in a causal relationship (a cause will always lead to the same effect).
- The magnitude of the correlation is great. The most common applications of these designs in marketing research and experimental economics are test markets and purchase labs.
- The techniques are commonly used in other social sciences including sociology and psychology.

Controls

One of the most important requirements of experimental research designs is the necessity of eliminating the effects of spurious, intervening, and antecedent variables. In the most basic model, cause (X) leads to effect (Y). But there could be a third variable (Z) that influences (Y), and X might not be the true cause at all. Z is said to be a spurious variable and must be controlled for.

The same is true for intervening variables (a variable in between the supposed cause (X) and the effect (Y)), and anteceding variables (a variable prior to the supposed cause (X) that is the true cause). When a third variable is involved and has not been controlled for, the relation is said to be a [zero order] relationship. In most practical applications of experimental research designs there are several causes (X1,X2,X3). In most designs only one of these causes is manipulated at a time.

Purchase Laboratory

A true experimental design requires an artificial environment so as to control for all spurious, intervening, and antecedent variables. A purchase laboratory approaches this ideal. Participants are given money, script, or credit to purchase products in a simulated store. Researchers modify one variable at a time (for example; price, packaging, shelf location, size, or competitors' offerings) and determine what effect that has on sales volume. Internet-based purchase labs (called virtual purchase labs) are becoming more common.

Simplified versions of the purchase laboratory are often used for pragmatic reasons. An example of this would be to use tachistoscopes for testing packaging and shelf location.

Test Markets

Quasi-experimental designs control some, but not all, of the extraneous factors. A test market is an example of this. A new product is typically introduced in a select number of cities. These cities must be representative of the overall national (or international) population. They should also be relatively unpolluted by outside influences (for example : media from other cities).

The marketer has some control over the marketing mix variables, but almost no control over the broader business environment variables.

Competitors could change their prices during the test. Government could change the level of taxes. New competing products could be introduced. An advertising campaign could be

"initiated by competitors. Any of these spurious variables could contaminate the test market.

Experimental Research Designs

In an attempt to control for extraneous factors, several experimental research designs have been developed, including:

- **Classical pretest-post test** - The total population of participants is randomly divided into two samples; the control sample, and the experimental sample. Only the experimental sample is exposed to the manipulated variable. The researcher compares the pretest results with the post test results for both samples. Any divergence between the two samples is assumed to be a result of the experiment.
- **Solomon four group design** - The population is randomly divided into four samples. Two of the groups are experimental samples. Two groups experience no experimental manipulation of variables. Two groups receive a pretest and a post test. Two groups receive only a post test. This is an improvement over the classical design because it controls for the effect of the pretest.
- **Factorial design** - this is similar to a classical design except additional samples are used. Each group is exposed to a different experimental manipulation.

About water

Water the Beverage your Body Needs Most:

When we were kids in school, we learned that each molecule of water is made up of two hydrogen atoms and one oxygen atom. We also learned that it was great fun to fill up our squirt guns with water, at least until the principal caught us. What we really didn't learn, however, was how much water we needed in order to be healthy human beings.

Water's Role in the Body

Water helps nearly every part of the human body function efficiently. Considering that our bodies are almost two-thirds water, it is important to understand water's role in healthy lifestyles. The following are just some of the things water does in the body:

- Brain is 75% water / Moderate dehydration can cause headaches and dizziness
- Water is required for breathing
- Regulates body temperature
- Carries nutrients and oxygen to all cells in the body
- Blood is 92% water
- Moistens oxygen for breathing
- Protects and cushions vital organs
- Helps to convert food into energy
- Helps body absorb nutrients
- Removes waste
- Bones are 22% water
- Muscles are 75% water
- Cushions joints

Why We Need to Drink Water

Our bodies are estimated to be about 60 to 70% water. Blood is mostly water, and our muscles, lungs, and brain all contain a lot of water. We need to drink water because water is needed to regulate body temperature and to provide the means for nutrients to travel to all our organs. Water also transports oxygen to our cells, removes waste, and protects our joints and organs.

Signs of Dehydration

We lose water through urination, respiration, and by sweating. If you are very active, you lose more water than if you are sedentary. Diuretics such as caffeine and alcohol result in the need to drink more water because they trick our bodies into thinking we have more water than we need.

Symptoms of mild dehydration include chronic pains in joints and muscles,lower back pain, headaches, and constipation. A strong odor to your urine, along with a yellow or amber color indicates that you are not getting enough water.

DO'S & DONT'S

Tip#l: Drink plenty...

Our body needs a lot of water, so indulge to your heart's content! H2O is not just a way to flush out toxins, but if you have more fluid in your body, you will generally feel healthier and fitter. This in itself will discourage any tendency to gorge, with the added benefit of no extra calories at all.

As soon as you wake up in the morning, gulp down a glass of cool water. It's a wonderful way to start your day and you need a smaller quantity of your breakfast drink after that.

A glass of water lets out all your digestive juices and sort of lubricates the insides of your body. You may have your morning cup of tea or coffee, but have it after a glass of water. It's good for you!

Tip #2: Drink Warm or Room Temperature Water:

You wouldn't water your plants with freezing cold water or put icy water into your pet's water bowl, would you? In Traditional Chinese Medicine, cold drinks disrupt the proper flow of energy in the body and "shock" the body. Stick to warm or room temperature fluids.

Tip#3: Avoid drinking at night:

People who don't make the time to drink fluids during the day sometimes try to make up for it in the evening, but this may result in waking up during the night to urinate and unrefreshing sleep. Avoid drinking at least two hours before bedtime.

Tip#4: Start a meal with water. To avoid overeating:

Drink a glass before you start the meal. Water naturally needs some space so that you feel fuller without actually having to stuff yourself. Have another glass while you are eating the meal. Again, this is another way of making yourself full so that you can rise from the table eating less, but feeling full just the same.

HOW MUCH WATER IS ENOUGH?

Contrary to popular belief, "chugging" a gallon of water is not going to provide your body with the water it needs. When too much water floods your system at once, your body will pass most of it on to your bladder, and only absorb a slight amount. Weight in the stomach is a signal for digestive processes to begin, and a number of biological chemicals enter your stomach and change the pH balance. This can result in indigestion and stomach pain.

The best way to get benefits of drinking water is to steadily sip it throughout the day. You should also eat plenty of fruits and vegetables - most of the produce you eat is filled with water, and the body can process this water very efficiently.

FINDINGS

The study reveals the following things :

- Most of the Respondents are fimilar with Bisleri Brand.

- Bisleri ranks next to Kinley in terms of packing and fast moving Mineral water.
- Most of the respondents wants change in color.
- Most of the respondents wants change in packing.
- Most of the respondents wants improve in quality.
- Most of the respondents prefer bisleri because its pure,safe and tasty.
- Kinley is the main competitor.

SUGGESTIONS

- It is advice to modify product in an attractive way as many of the respondents give utmost importance to packaging.
- It is better to develop sales promotion program me to sustain competition.
- Quality should not be neglected while developing a new product. Create a trade off between price and quality.
- It is important of the customers s satisefection,every changes near will be explamneshan is customers satisfaction.
- Quantity also the customer bye easy packs making observation.

BOOKS

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