

Market Research in Global Healthcare

A Dissertation Report

Submitted in Partial Fulfilment of the Requirements

for the Award of the Degree

Master of Science

In

Biotechnology

By

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➤ Declaration

Declaration I hereby declare that the work being presented in the dissertation report “Market Research in Global Healthcare” submitted by me for the award of the degree of Master of Technology in Department ‘of Biotechnology, TIET university, Patiala is true and original record of my own independent and original research work carried out under the joint supervision of Dr. M S Reddy. Further, I declare that no part of this dissertation has been submitted to any other University/Institute for the award of any degree in India or abroad.

Dated:29.07.2022



Harshita Mahajan

➤ Certificate

This is to certify that the dissertation work entitled, submitted by Harshita Mahajan (Roll No. 602004009) in partial fulfilment for the award of degree of Master of Technology in Biotechnology from Thapar Institute of Engineering and Technology, Patiala Punjab is the record of the candidates own independent and original research work carried out under our supervision and guidance. The matter embodied in this dissertation has not been submitted in part to any other university/Institute for the award of any degree or diploma in India or Abroad.



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We would like to extend our sincere gratitude towards Dr. M S Reddy HOD, Biotechnology department, for being cooperative to the students of the department and providing relevant guidance in their endeavors.

A rectangular box containing a handwritten signature in blue ink that reads "Harshita Mahajan".

Harshita Mahajan

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1. Abstract

Market research is the overall procedure of collecting data or information from any particular market or the target consumers of a specific product. There are various techniques of market research which make it possible to gather information from some of the key opinion leaders who are a part of different companies or hospitals around the world. Two projects were completed within the two months of the internship at Growman Research Group. This company majorly conducts market research in the field of healthcare. Quantitative as well as qualitative research was conducted on various medical techniques, devices and diseases for the completion of these two projects. The name of the two projects are APAC Market Assessment and Endocrinology Study respectively. In the first study, we were required to transcribe data gathered through various interviews. We interviewed various individuals like the procurement manager, the quality assurance manager, the quality control manager who worked in different companies which were involved in the manufacturing of variety of medical devices or industrial materials or life science tools. These companies were located in Asian pacific region like India, Singapore, Malaysia, Taiwan, Korea and many others. In the second study, we were required to punch the data through the links after interviewing various endocrinologists in Saudi Arabia who provided insights about the insulin delivery device used by them. These interviews were mainly telephonic interviews.

2. Introduction

- ABOUT THE ORGANISATION

GRG Health is a global marketplace for research that helps institutions all throughout the world to optimize and improve their research process. Growman Research Group (GRG) offers an extensive market research solution to the clients. The company has more than five years of expertise in the fields of healthcare, finance, IT, telecom, Pharma and energy.

GRG Health is a firm which was established in the year 2015 and have their main headquarters situated in Gurugram, India. However, they have various offices located in Pune, USA, Singapore etc. as well. Our company has more than 28 years of participation and expertise in providing appropriate and satisfactory solutions to all our clients in various fields of healthcare, finance, food, telecom etc. With its ever growing growth potential our company has already covered 12+ intercontinental dialects and 56+ nations as yet in the course of all their research projects and along with this they conduct around 1000+ HCPs, KOLs, Payer and Trade Professional Surveys annually.

GRG designs and provides custom made services based on the client's needs. The company dwells on creating personalized research concepts and methodology which further allows their employees to deliver various demanding studies and their results with utmost precision and efficiency. GRG has an exclusive and especial group of researchers who all specialize in qualitative study and quantitative analysis. We at GRG aim at helping our applicant to opt for the correct means of collecting data and give them their satisfactory results. Our expert panel has 1.3 million actively partaking respondents employed from various sectors to guarantee heterogeneity.

We at GRG process and acknowledge our clients request at the earliest, finalize the timelines and after work is allocated to the respected departments, drafting and collation of sheets are done together with proper quality checks and assurance the final output is made and after incorporating any feedbacks given by our client a final invoice is sent to the client. The investigation, experimentation and analysis at GRG are based on expert knowledge and thorough industrial understanding of individuals in the group. The many years of skill, encounter, and experiential in pharma markets, EU, and APAC are one of our many key factors.

Our principal services include: market research, sales strategy, market access stakeholders, treatment flow analysis, KOL research.

GRG (Growman Research Group) is a worldwide market intelligence company which mainly focuses on medical services, healthcare, pharmaceuticals and life sciences. GRG comprises of a group of motivated and enthusiastic life sciences and market researchers. Our company believes, in providing custom-tailored services based on our client's requirements. The years of expertise and understanding of the healthcare and sciences enables us to give our apprehension after thoroughly analyzing the data which is collected during the field of study. Along with this we also manage a phone-based research and surveys in 56 different countries across the globe.

➤ **Analysis and Reporting**

GRG has a dedicated team of experienced transcripts that aids GRG in designing and integrating complex questionnaire's and get them floating online. Our project management professionals together with the skilled survey programming team help in catering to all our client needs. The survey programming professions have excellent domain expertise and understand our client's needs. Our programmers have immense experience in using Java script, ASP and flash. The survey programming team has experience in multi-lingual surveys and can program questionnaires with complex logic checks with helps in working globally. Companies wish to understand its client's requirements and the commitment to provide quality work on time make us apart from the competitors.

➤ **Competition Intelligence**

GRG collects expert insights and ground l intelligence on competition. Pharmaceutical and medical devices companies face challenge on a day to day basis – At GRG, identify competitive intelligence as a superior set of two different level of insights – global level and regional level. When it comes to the dynamic landscape of emerging markets of Asia- Pacific region, LATAM and middle east and developed markets of EN, CRG's "CIRCLE of researchers" have a strong history of gathering competitive information on both levels (global and regional) exhaustively. We use a both of expert interviews and secondary research to gather validated information on competition.

➤ **Market Access Insight**

•GRG designs various programs and conducts ATI and online surveys with easy-to-use real-time reporting. Market Access has become increasingly significant over the last 5 to 10 years because there are abundant more and more hi-tech expensive drugs coming to market, and at the same time, there is extreme pressure on governments and/or healthcare systems to reduce the costs of their drug bills. PH Payer Research Experts indulge in a wide range of therapy area-wise intelligence gathering around public versus private payers in the market.

- Stakeholders/KOL Insight
- Pricing and Reimbursement' (P&R)
- Health Economics and Outcomes Research (HEOR)
- Payer (or Payer) Research
- Cost Effectiveness KOL MARKET INSIGHTS

GRG identifies and profiles Union of the leaders across custom requirements and also maps it down the influence of KOLs regionally and nationally. Healthcare firms all across the globe are exploring the need for effective and efficient KOL management strategy from a global standpoint as one of key strategic area for their annual growth plans. GRG's KOL circle of experts provides new thinking on thought leader development by its prowess in KOL identification and management.

➤ **How GRG Benefits the Clients**

Customized approach for KOL identification brings about strong and significant value to our customers in understanding the opinion leader landscape for

- Drug Development Process
- Key marketing feedback
- Product launch
- Brand establishments

Project Team Structure

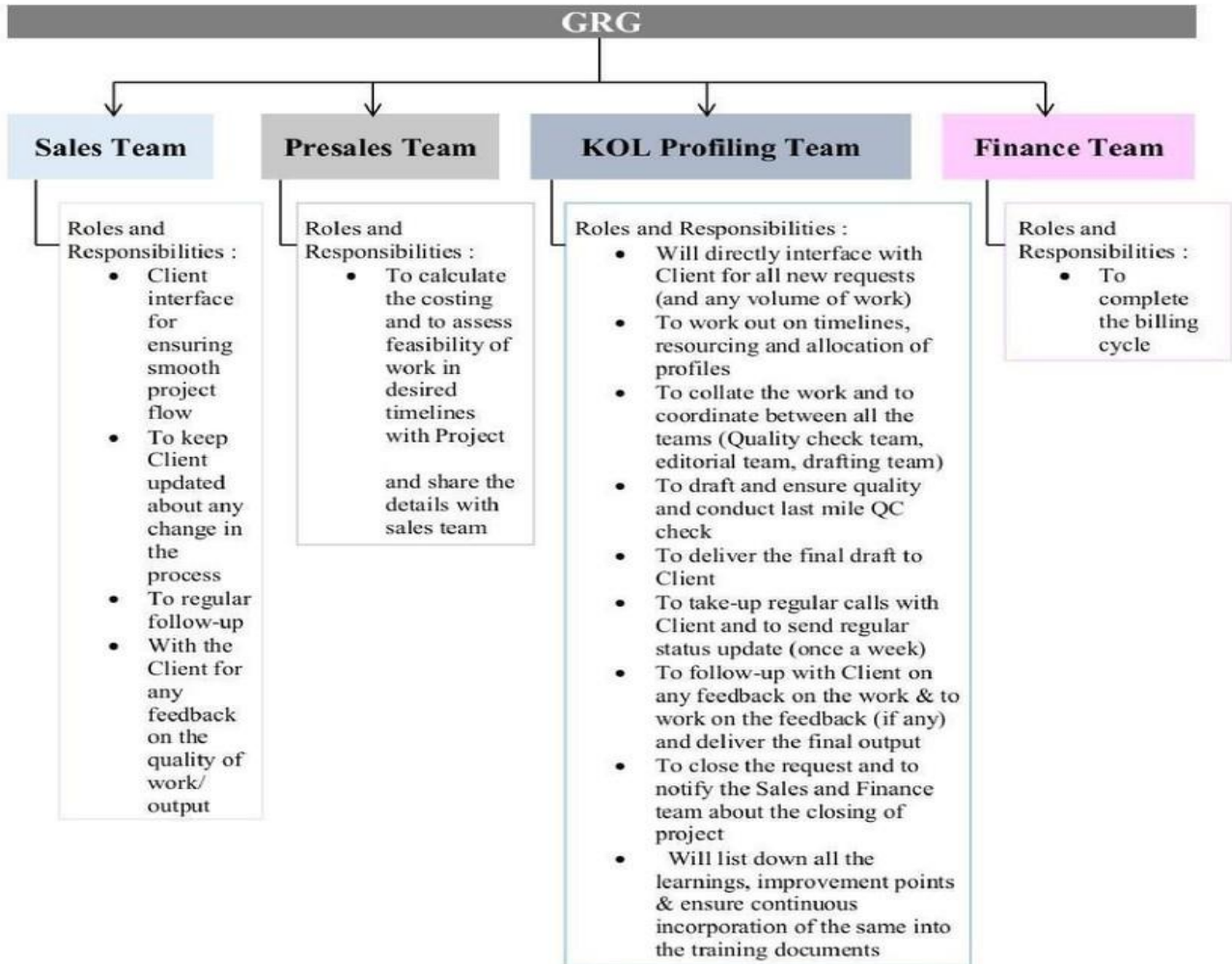


Fig1.1: Project Team Structure

3. Review of Literature

Markets change constantly and businesses need to have a clear understanding of both the supply and demand. The principal role of market research, therefore, is to provide businesses with a comprehensive view of consumers and the market in order to develop products and services that satisfy their needs better than the competition. The main purpose of market research is to answer questions and help in acquiring new knowledge. This enables the client to assess additional accurately the extent of demand for its products. It conjointly influences choices to focus on capital investment on projects that may provide the simplest return on that investment, such as opening a brand new store or getting into a brand new market. research provides shopper feedback. It's essential for the buyer to realize insight into what they admit its vary of products, brands and services. This allows the business to satisfy its demands and outgo the competition. It helps the business develop a transparent and educated strategic business arrange that all business colleagues will work towards fulfilling. For instance, this info will produce a winning selling combine to focus on promotions to achieve totally different client teams or influence choices on vary designing in new stores. Analysis can even give info concerning the scale and performance of markets. It will inform a business about UN agency the key competitors area unit, what they're doing, and their market share.

Potential areas of chance among a global, national and native context can even be known on with:

- Market penetration - winning bigger market share in its existing markets
- Market development - getting into new countries or new retail sectors
- Product development - getting or developing new product or brands
- Diversification - taking the business in an exceedingly utterly new direction.

With the development of the market and therefore the competition raised them arose a demand for risk assessment to stay removed from the risks of market fall. The importance of knowledge arose a lot of than ever and effortlessly. Therefore, on confine knowledge from numerous sources the info analysis and research were evolved. research could be a major issue

to keep up competitiveness. In an endeavour to know whether or not the essential deliverables are being received from the market plans the strategists developed the analysis procedure.

Market research, which also includes social and opinion research, is the organized assembly and understanding of information about individuals using the statistical and analytical, methods and techniques of the applied social sciences to support decision making. Market research is any combined effort to gather information about target markets or custom.

➤ **Need for Market Research**

For any decision maker, it is imperative to identify and understand the customers, what they desire in terms of products and services and their purchasing power or capacity. Due to globalization of the marketplace, the system has been segmented heavily, increasing the gap between the consumers and the decision makers. One of the key aspects of a successful business is customer retention. Most people fail to address the ever changing demands and standards of their customers and end up losing their consumer base.

Considering this, market research can be broadly classified into:

- **Problem identification research**

This is the introductory part of the research method. Basically, it involves a transparent and precise understanding of the matter at hand. It's crucial that the analysis team identifies, understands and defines the matter in its entire capability, because it affects all the following activities concerned within the analysis method. analysis groups build use of client feedback, internal and external knowledge reports, sales graphs, buying patterns, etc. to come back up with a correct drawback definition. It helps in characteristic new market opportunities for existing and new product. It provides data on market share, nature of competition, client satisfaction levels, sales performances and channel of distribution. This helps the corporations is resolution issues.

- Problem solving research

Identifying the percentage of women who prefer hormone replacement therapy for the treatment of vulvo vaginal atrophy and segmenting them according to their purchasing power.

Classification helps in providing a better perspective to the problem at hand. However, there are no strict rules when it comes to the two types of market research. A research project can involve both the types simultaneously

For example,

1. Market research to understand the prevalence of vulvo vaginal atrophy in Malaysia and the growing demand for its treatment. (Problem Identification Research)
2. Identifying the percentage of women who prefer hormone replacement therapy for the treatment of vulvo vaginal atrophy and segmenting them according to their purchasing power. (Problem Solving Research).
3. Identifying key players in the market who have products for the treatment of vaginal atrophy (Problem Identification Research).
4. Preference of the consumers and identifying a price that will be feasible and competitive (Problem Solving Research).

➤ **Content of Market Research:**

• **Quantitative Analysis**

Quantitative analysis is numerically bound, needs vital attention to the measurement of market phenomena and often involves applied mathematics analysis. as an example, a bank would possibly raise its customers to rate its overall service as glorious, good, poor or terribly poor. this may give quantitative information that may be measured statistically. the most rule with quantitative analysis is that each respondent is asked a similar series of queries. The approach is extremely structured and commonly involves giant numbers of interviews/questionnaires.

- Perhaps the foremost common quantitative technique is that the 'market analysis survey'. This square measure primarily comes that involve the gathering of information from multiple cases - like client or a group of Product. Quantitative Survey will be conducted by exploitation post (self- completion), face-to- face (in-street or in-home), telephone, email or internet techniques. The form is one amongst a lot of common tools for grouping information from a survey, however it's just one of a large move set of information assortment aids.

➤ **Qualitative Analysis**

Qualitative analysis provides AN understanding of how or why things are as they're. as an example, a Market research worker could stop a shopper who has purchased a selected variety of bread and raise him or her why that variety of bread was chosen. not like quantitative analysis there are not any fixed set of queries however, instead, a subject guide (or discussion guide) is employed to explore numerous problems in- depth. The discussion between the inquirer (and moderator) and also the respondent is essentially determined by the respondents' own thoughts and feelings.

- As with quantitative techniques, there are numerous kinds of qualitative methodologies. Analysis of this type is generally done face-to-face. one in all the known techniques is research cluster discussions (or focus groups). These are typically created of 6 to eight targeted respondents, a search moderator whose role is to raise the desired queries, draw out answers, and encourage discussion, associated an observation area typically behind one-way mirrors, and video and/or audio taping facilities.
- In addition, qualitative analysis may also be conducted on a 'one on one' basis i.e. an in-depth interview with a trained executive interviewer and one respondent, a paired depth (two respondents), a triad (three respondents) and a mini group discussion (4-5 respondents).

➤ **Components of Market research**

- Market information

Through Market information one can come to know about the prices of different products in the market, as well as the information about supply and demand conditions. Market researchers have a major role than previously renowned by helping their clients to understand social, legal and technical aspects of markets.

- Market segmentation

Market segmentation is the splitting up of the market into subgroups with similar motivations. It is majorly used for segmenting on geographic differences, demographic differences, personality differences, use of product differences, gender differences.

- Market trends

Market trends are the upward or downward movement of a market, throughout a specific period of time. Market size may be more difficult to determine if one is starting with a new innovation. In this case, one needs to obtain the figures from the significant number of potential customers.

➤ **SWOT Analysis**

SWOT analysis is a written investigation of the Strengths, Weaknesses, Opportunities and Threats to a business body. SWOT analysis should not only be used in the initial stages of the company but could also be used through the entire life cycle of the company. A SWOT may also be used to understand the competition and how one need to develop the marketing and product mixes. Besides knowing only about the target market, one should also have information about one's own competitors, customers, products, etc.

➤ **Types of market research**

Market research can be usually categorized into two kinds: primary research and the other one is secondary research. In turn, the information one gather is of two types: Qualitative Market Research information is collected by actually talking to people, asking for the feedback and/or opinions, while in Quantitative Market Research, the information is gathered from figures and numbers in the form of charts, statistics, graphs and tables.

➤ **Primary Research**

Whenever someone is in conversation with customer's competitors, one is collecting the primary market research information. Majorly this will be qualitative information. This is most of the time the most valuable market research information for one's business. It is the obtaining of data first hand from relevant sources. It is generally collected through in-depth interviews (CATI, CAWI), surveys or focus groups.

➤ **Surveys**

Surveys are one of the most commonly and most basic forms of primary data collection. Surveys can be conducted through e-mail, telephonic call (CATI), online (CAWI) and face-to-face interviews. Factors like number of respondents, type of data to be collected, the time frame and the budget, influence the method of survey to be used.

➤ **Mail survey**

Mail survey is an inexpensive mode of primary data collection, especially when the data has to be collected from a number of respondents belonging to diverse regions of interest. Furthermore, questionnaires can be fairly lengthy in the case of email interviews. One of the major disadvantages of the email surveys is the very few response and the time it takes to get a response. Another issue that is faced is the misunderstood or skipped questions and the unclear understanding of the answer.

➤ **Telephonic survey**

As the name suggests, telephone surveys involve calling the respondents and obtaining information over the phone by asking questions. This enables the interviewer to encourage the respondent to participate in the survey and get immediate responses to the questions. This is a favourable mode when the sample size is not too large.

➤ **Computer-Assisted Telephonic Interviewing (CATI)**

It is the most popular, in the recent years compared to the tradition telephonic calling method. UTI uses a computerized questionnaire which is administered to the respondents over the telephone. The interviewer basically reads the questions from the computer to the respondents and records the answer directly displaying on the screen.

➤ **Internet Survey**

For this respondent should have access to the internet then this is one of the most convenient ways to carry out a survey. It is faster than email surveys and depending on how it is conducted, it can be cost-effective too. It provides all the fundamental advantages of all forms of offline interviews with the added benefit of interactivity and speed. The main disadvantage of internet surveys is to contact the respondents and convincing them to opt for the online survey.

➤ **In-person Interviews**

In-person interviews are an effective tool to complete a survey and to be able to immediately analyses the responses. However, it can prove to be expensive if it involves an enlargement sample size. The willingness of people to confide in a stranger can also be one of the issues that may arise during in-person interviews.

➤ **Survey Strategies**

Pilot surveys are an important part of the survey process. Pilot surveys or focus groups help in determining the validity and effectiveness of the questions being asked. This helps in refining the survey questions so that it serves the intended purpose without being too complicated for the respondents to understand. The questions being asked in the survey are as important as the type of survey being used. It has to appeal to the target audience in order to get maximum number of responses. There are a number of ways in which questions can be posed to the respondent.

➤ **Multiple-choice questions**

This format first poses a question to the respondent and then provides multiple answer options to choose from. The multiple choice format also allows the respondent to choose one or more responses of their liking. This format is very easy for the respondent to understand.

However, questions with more than one option selected are difficult to analyse.

➤ **Rating Scale Questions**

In this type of questions, respondents are asked to indicate their level of agreement or acceptance with a statement. This provides a measurable or a quantifiable data which is easy to analyse and interpret. These types of questions are very simple and easy to understand for the respondents. However, they cannot be used for all types of surveys.

➤ **Nomination surveys**

Nomination survey or study is done to identify Key Opinion Leaders (KOLs) or experts in a particular field. Nomination survey respondents usually also belong to the same field. In nomination surveys, respondents are asked to nominate people who they consider as experts.

➤ **Secondary Research**

Secondary research caters the research of data that has eventually been collected and is available in either electronic or published form.

Secondary data is always obtained, well-structured and analyzed with a specific purpose. Therefore, its applications may be limited.

However, the cost and time saving aspect of secondary research is advantageous, especially if there is a constraint on budget. Secondary data is usually available from sources like government agencies, published articles, company reports and news articles.

Table 1: Secondary data sources

Data Source	Examples
<i>Internal Data</i>	<i>Company reports, memos etc.</i>
<i>Syndicated Data</i>	<i>Syndicated services like AC Nelson</i>
<i>Expert Advice</i>	<i>Newspaper, reports</i>
<i>Internet</i>	<i>Search engines, portals and websites</i>
<i>Industry Data</i>	<i>Industry or trade associations</i>
<i>Macro Data</i>	<i>Government and international publications</i>
<i>Market Research Report</i>	<i>Independent market research firms</i>

Fig 1.2: Different Secondary data sources

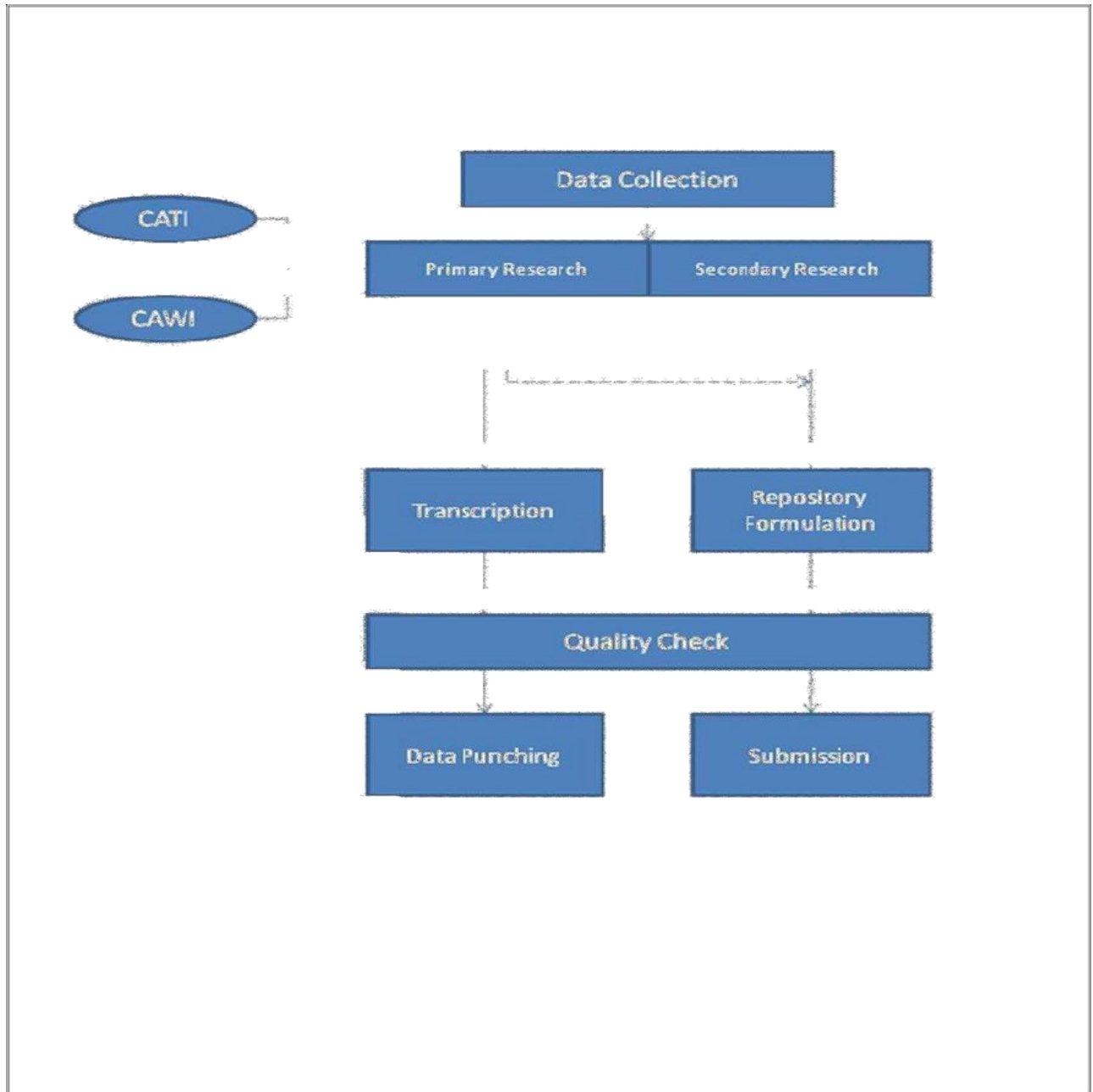


Fig 1.3: Basic Flowchart for Primary and Secondary Research

➤ **Client-based Market Research**

Client-based marketing research is involved with the construction, analysis and interpretation of data on organizations as well as on their respective environments, so that information can be provided to help the client organizations in diagnosing, deciding and delivering marketing strategies and tactics. Figure 3 illustrates the process. The aim is to deliver value points to the clients and to provide data, information and inputs that are relevant and actionable. Client-based marketing research is often referred to as “commissioned”, “commercial”, “market” or “practitioner” research. If the client is another organization, there will certainly be a fee involved for the services offered; in short, it will be a commercial transaction between the client organization and the market research agency, in which the research is undertaken by an agency for a profit. This does not depend on whether the client organization is itself commercial or non-profit. If, however, the client is an existing part of the research agency, then it will be called “in-house” research project. In this situation, there may or may not be a fee for the services offered. But, it will be different from the kind offered by an external client. There is a further category of applied or policy research, which although not commercial is still client-based. In this type of research, the research work is carried out by an academic body on behalf of a governmental organization, quasi government or local authorities.

Although, in recent times, professional market research agencies have been also used for applied or policy research. There has also been a sudden growth in a range of non-profit clients, for example, educational institutions, political parties, museums and galleries, the performing arts or even religious institutions. Not all client-based research is necessarily commercial in nature. Research is undertaken to solve, or help diagnose and identify, client’s problems and its value or quality is judged on the basis of its success in doing so and not on the basis of the scientific rigor that was employed to carry out the research. However, this does not mean that client-based research is not rigorous; only that rigor is a way to approach the end, not an end in itself. After all, rigorous research is more likely to help solve the client’s problem; but rigor is subject to degree and it requires monetary input. A degree of rigor applied will depend on the extent required to sufficiently meet the

project objectives without compromising on the quality of work.

The solutions are usually compiled together in a form of a report that contains a set of recommendations and actionable directions to the client. Often, academic researchers also make recommendations to the industry at large and not to a specific organization, and they will be secondary to the exploration or testing of theoretical idea and the advance of understanding of marketing phenomena.

The second feature of client-based research is that it is never neutral. It is a partisan and it operates on behalf of the client. This is not to say that such research lacks objectivity; it is a kind of “partisan objectivity”. The data, evidence, information, interpretation and even speculation should be uncolored by the researcher’s subjective preferences, emotions or sensations. It will always focus on what is important to the client while assuring that what is actual, practical and external is presented to the client to ensure validity of the research.

Most client-based research will be interventionist. The main objective will be to make changes and monitor their effects or to assist the client to bring about certain desirable changes. The outcome of the research will sometimes be the recommendation that no changes be made, but this is rare, and it still focuses on the issue of change or no change.

Client-based research is carried out for a third party, so the researcher does not decide, originate or “own” the research problem. It is the client who has the problem and takes the initiative. The client will approach a research agency; the client will have a discussion with the agency in which the client will explain the problem that they are facing and his or her perception of the situation and in varying degrees of detail how the research is envisaged; the client is responsible to choose the agency where the research is in a commercial context; the client will be final decision maker in case an alternative course of action is being considered.

Client-based research are always time and cost constrained. The researcher will need to adhere to a budget and there may be severe penalties for not meeting deadlines. The key output of client-based research is usually a report. Reports may be hard copy, face-to-face presentations, or, more likely, some combination of the two.

4. Objective

- To know about the current market scenario in different countries.
- To study about probiotics, the different products being developed and the strains of bacteria that are being used.
- To study about cardiovascular system, the brands used and the market scenario of the system.

5. Materials Used and Methodology

Software Used

- Hardware's
 - Computer systems

Computer system is a machine which follows set of programs or instructions given by the operator. We used these systems to carry out the various tasks on Microsoft word and Microsoft excel. This provided us ease in making transcripts and punching the links.



Fig 1.4: Representing software's used Headphones and computer

- **Headphones**

Headphones were used for carrying out different telephonic interviews in this company. We interviewed procurement managers, control managers, quality assurance managers, endocrinologists using headphones.

- **Software Used**

- **Ameyo**

Ameyo is an online software which is used by our company for calling purposes. Through this software one can call internationally as well as nationally. In this software, the call automatically gets recorded and is utilized for the internal Quality check procedures within the company. All the telephonic interviews are conducted through this software only.



Fig 1.5: Screenshot of the ameyo software used

- **Join Me**

This is an application which allows the user to share their laptop or desktop screen with the individual they want to. In our company, we use this app for sharing screen with specific key opinion leaders in order to gather market insights from them.

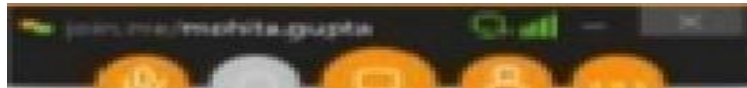


Fig1.6:Screenshot of the Join Me Software use

6. Project-1

•Cardiovascular Ultrasound Study (CVUS)-Qualitative Study

- Countries in Focus: Germany, France and US and UK

Project objectives:

- Capture customer response to new features, capabilities, and tools that will be available in the upcoming release of next generation cardiovascular ultrasound system.
- Understand the extent to which the new offerings will be perceived as differentiated and valuable enough to have an impact on purchasing.
- Capture response to the Value Proposition and messaging elements to refine them before product launch.
- Assess willingness to pay for the new features, capabilities, and tools.

• Procedures:

1. The first thing we were supposed in to find market access managers and try to reach them viaEmail or Linked In.
2. If the market access managers accept to participate in the study, then we ask them for their time, so that we can have the interview.
3. Then after taking the interview, we have to fill below mentioned questions very briefly, giving every detail that the respondent has toldus.
4. After, we are done with the transcripts, our QC (Quality control) teams goes through the transcripts and if there are any mistakes then we will correct and send it to them again.
5. Once the QC team is satisfied with the quality, after that we share our transcripts with the client.

• Outline of the questions asked according to our discussion guide and client expectations:

- Introduction / Warm Up (facility and department information) To

begin, please tell me a bit about your primary [SETTING] and your role and key responsibilities in your role

- What would you say are the top 3 CHALLENGES you expect to face as a department /practice over the next 1 – 3 years? What are you concerned about?

- Current CVUS Practices, Workflow, and Challenges

What would you say are the top challenges your department / practice faces now related to providing optimal cardiovascular ultrasound services?

1. Considering the list of potential challenges on the page here, which of these would you say are top 3 challenges for your department / practice related to cardiovascular ultrasound imaging, if any?
2. [SHOW LIST BELOW ON THE SCREEN. ADD IN ANY OTHERS MENTIONED IN PREVIOUS QUESTION TO TABLE.]
3. [ASK a. FOR EACH TOP CHALLENGE]

- a. What could a manufacturer of cardiovascular ultrasound systems do to help you address each of these top challenges some of these challenges? Please explain

4.

	Potential Challenge	Manufacturers could do
A	Staff turnover/staff retention	
B	Staff ergonomic / health concerns	
C	Inter-operator / Inter-observer variability	
D	Scanner uptime / reliability	
E	High scans volumes/number of patients	
F	Image quality variability between ultrasound systems	
G	Access to advanced applications	
H	Exam acquisition takes too long	
I	Exam interpretation/reading takes too long	
J	Poor connectivity/integration with other systems	
K	Other: _____	
L	Other: _____	

- Cardiovascular Ultrasound Decision-Making
- Response to Value Proposition Elements
- Response to Core Attributes
- Response to Messaging Elements
- Purchasing Decisions and Willingness to Pay
- All the sections has such questions related to each of the category.
- Basically, the client has four products in mind, which we had to showcase to our respondents. Depending upon their profile we have a corresponding product for them.

Response to Value Proposition Elements- We captured response from the respondents related to how appealing a product would be if it could address the challenges mentioned, which are relevant to respondents' role.

	[PRODUCT Y]	[PRODUCT X]
[Customer Challenge Statement]	<p>I perform many cardiac examinations every day and am expected to deliver advanced diagnoses for mix of routine, follow-up and complex cases, while also allocating some time for advanced research.</p> <p>My challenge is that using advanced ultrasound clinical capabilities requires extraeffort, clinical expertiseand time, resulting in delays and generating increasedworkload. I wish I could have a system that would allow me to perform a complete diagnosis, including 2D, 4D TTE & 4D TEE, with accurate measurements, and minimizedroom for error, in a time efficient manner.</p>	<p>I perform many cardiac examinations every day, in Echo Labs and/or in a ward, and am expected to deliver a wide range of cardiac exams, from routine diagnosis to more advanced diagnosis for most complex patients.</p> <p>My challenge is that using advanced ultrasound clinical capabilities requires extraeffort, clinical expertise and time, resulting in delays and generating increasedworkload. I wish I could have a system that would allow me to perform a complete diagnosis, including 2D and 4D TEE, with accurate measurements, and minimized room for error, in a time efficient manner.</p>

	[PRODUCT Z]	[PRODUCT A]
<p>[Customer Challenge Statement]</p>	<p>I perform echo exams across multiple departments, hospital buildings, campuses, and/or clinics.</p> <p>My challenge is lack of access to standard echo systems when I am not in the main hospital. I need a portable high-performance echo solution to perform standard echo exams and confidently evaluate patients in off-site and remote locations.</p> <p>I wish I could have a user-friendly, portable echo system that would allow me to perform a complete diagnosis at the patient's bedside.</p>	<p>I perform cardiovascular and/or oncology patient assessment and surveillance in line with new guidelines.</p> <p>My challenge is that I have to make therapeutic and referral decisions in a time- constrained, resource-limited, and cost- sensitive environment.</p> <p>I wish I could have an echo system that would enable me to provide a high standard of care, while still maintaining a profitable practice and ensuring high customer satisfaction.</p>

First we provided them with the statements above and then these, stating:

“This statement has been developed by a leading global manufacturer of ultrasound systems to describe their vision for one of their next-generation cardiovascular ultrasound systems.”

	[PRODUCT Y]	[PRODUCT X]
[Solution Statement]	<p>PRODUCT Y has been designed to provide uncompromised image quality, advanced visualization, measurements in 2D & 4D, and automation of tedious tasks, with state-of-the-art quantification capabilities for a wide range of patients, from routine exams to the most complex patients.</p> <p>Resulting in:</p> <ul style="list-style-type: none"> -Reduced exam time*: up to -8 minutes, from a 30mincomplete exam - Reduced fatigue: 80% less clicks to get2D measurements -Reduced inter-observer variability <p>Helping to:</p> <ul style="list-style-type: none"> Allocate more qualitytime with patients -Increase numberof exams per day Increase time spent on researchactivities 	<p>PRODUCT X is a portable and robust console ultrasound system that has been designed to provide superb 2D and color image quality, streamlined workflow efficiency, reduced inter-observer variability, as well as improved diagnostic confidence with advanced quantification capabilities in 2D & 4D.</p> <p>Resulting in:</p> <ul style="list-style-type: none"> - Reduced exam time*: up to -8 minutes, from a 30min complete exam - Reduced fatigue: 80% less clicks to get 2D measurements - Reduced inter-observer variability <p>Helping to:</p> <ul style="list-style-type: none"> - Allocate more quality time with patients - Increase number of exams per day - Finish the workday earlier

	[PRODUCT Z]	[PRODUCT X]
[Solution Statement]	<p>PRODUCT Z is a lightweight portable, easy to use cardiovascular echo imaging system, designed with an intuitive user interface, easy to clean, and superior image quality that helps improve diagnostic confidence with advanced quantification capabilities in 2D & 4D.</p> <p>Resulting in:</p> <ul style="list-style-type: none"> - Reduced learning curve for novice users - Reduced exam time*: up to -8 minutes, from a 30min complete exam - Reduced fatigue: 80% less clicks to get 2D measurements - Reduced inter-observer variability <p>Helping to:</p> <ul style="list-style-type: none"> - Allocate more quality time with patients - Increase number of exams per day - Finish the workday earlier 	<p>PRODUCT A is an extremely silent system,* which delivers fast, reproduceable diagnostic output using Gold Standard quantification tools and automated workflows.</p> <p>Resulting in:</p> <ul style="list-style-type: none"> - Pleasing patient experience, due to the silent system - Streamlined workflow efficiency - Reduced exam time**: up to 8 minutes, from a 30min complete exam - Reduced fatigue: 80% less clicks to get 2D measurements - Reduced inter-observer variability <p>Helping:</p> <ul style="list-style-type: none"> - Increase number of exams per day - Fini

After gaining all the insights, from multiple telephonic interviews, we wrapped up with the following questions, it was a total of 32 questions in the sheet.

Purchasing Decisions and Willingness to Pay

We have reviewed a variety of packages of capabilities and features that could be offered as part of a next generation cardiovascular ultrasound imaging system.

1. Switching from one cardiovascular ultrasound brand to another can be challenging.

If this new cardiovascular ultrasound system is offered by one of the leading global ultrasound vendors, but one that you are not currently working with....
I what you are seeing here “enough” to motivate your department / practice to switch brands? Please explain.

2. Which brand and model of cardiovascular ultrasound system did your organization?

most recently purchase?

- a. Do you know how much your facility paid for this system? [IF YES] How much?

3. Compared to the cardiovascular ultrasound systems you are currently using; how much more do you think your facility would be willing to pay for this product to obtain the benefits we have been discussing? *(e.g., _ % more than the CV ultrasound systems we are currently using)*
 - a. What are the key features or outcomes or benefits of this product that you think your facility would be willing to pay more to have? Why?
4. Are there any final comments or recommendations you would like to add for the manufacturer who is developing this product?

Thank you for participating in our in the interview

7. Project 2

• Probiotics:

• What are probiotics?

Probiotics are bacteria that help maintain the natural balance of organisms (microflora) in the intestines. The normal human digestive tract contains about 400 types of probiotic bacteria that reduce the growth of harmful bacteria and promote a healthy digestive system. The largest group of probiotic bacteria in the intestine is lactic acid bacteria, of which *Lactobacillus acidophilus*, found in yogurt with live cultures, is the best known. Yeast is also a probiotic substance. Probiotics are also available as dietary supplements.

It has been suggested that probiotics be used to treat problems in the stomach and intestines. But only certain types of bacteria or yeast (called strains) have been shown to work in the digestive tract. It still needs to be proved which probiotics (alone or in combination) work to treat diseases. At this point, even the strains of probiotics that have been proved to work for a specific disease are not widely available.

• What are probiotics used for?

Many people use probiotics to prevent diarrhea, gas, and cramping caused by antibiotics. Antibiotics kill "good" (beneficial) bacteria along with the bacteria that cause illness. A decrease in beneficial bacteria may lead to digestive problems. Taking probiotics may help replace the lost beneficial bacteria. This can help prevent diarrhea.

A decrease in beneficial bacteria may also lead to other infections, such as vaginal yeast and urinary tract infections, and symptoms such as diarrhea from intestinal illnesses.

• Probiotics may also be used to:

- Help with other causes of diarrhea.
- Help prevent infections in the digestive tract.
- Help control immune response (inflammation), as in inflammatory bowel disease (IBD).
- Probiotics are being studied for benefits in colon cancer, skin infections, and irritable.

• Are probiotics safe?

- Most probiotics are like what is already in a person's digestive system. Some probiotics have been used for a very long time throughout history, such as in fermented foods and cultured milk products. These don't appear to cause illness. But more study is needed on the safety of probiotics in young children, the elderly, and people who have weak immune systems.
- As with any dietary supplement, be aware that probiotic supplements are regulated as foods, not drugs. Tell your doctor about everything you are taking, including the specific bacteria in your probiotic supplement.

• Probiotics May Help Lots of Ailments

• Although they are still being studied, probiotics may help several specific illnesses, studies show. In 2011, experts at Yale University reviewed the research. They concluded that probiotics are most effective for:

- Treating childhood diarrhea

- Treating ulcerative colitis

- Treating necrotizing enterocolitis, a type of infection and inflammation of the intestines mostly seen in infants

- Preventing antibiotic-associated diarrhea and infectious diarrhea

- Preventing pouchitis, an inflammation of the intestines that can follow intestinal

- surgery

- Treating and preventing eczema associated with cow's milk allergy

- Helping the immune system

- The Yale University panel of experts concluded that probiotics may be helpful in

- other ways, although the evidence is less convincing. These include:

- Treating symptoms of irritable bowel syndrome

- Treating vaginitis

- Treating diarrhea caused by *C. difficile* bacteria

- Treating Crohn's disease

- Probiotics may also be useful in unexpected ways. A study published in 2010

- suggests that probiotics may lower the risk of common childhood illnesses such as ear infections, strep throat, and colds.

• **Cautions About Probiotics:**

- For the most part, taking probiotics is safe and causes few side effects. "People in cultures around the world have been eating yogurt, cheeses, and other foods containing live cultures for centuries," says Martin Floch, MD, a professor of gastroenterology at Yale University, co-author of *Probiotics: A Clinical Guide*, and a consultant for the Dannon Company.
- Still, probiotics may be dangerous for people with weakened immune systems or serious illnesses. One study found that patients with severe pancreatitis who were given probiotics had a higher risk of death.

• Global Industry Analysis: Probiotics Market

The global market for probiotics is mainly driven by high demand for probiotic yogurt and growing consumption of functional food. Growing consumer awareness regarding gut health has played a key role in sustained growth of these ingredients. However, pricing issues, culture cultivation and lack of standardization of product specifications are expected to have an inhibiting effect on market growth over the next five years.

Probiotic foods & beverages are the dominant segments the global market and are expected to grow at a CAGR of 6.8% from 2013 to 2018. Probiotic demand for food & beverage segment is estimated to reach USD 37.9 billion in 2018. Following food and beverages, the market for dietary supplements and animal feed are also witnessing significant growth.

With respect to application segments, probiotics are widely used in dairy, non-dairy, cereals, baked products, fermented meat products, dry foods and others. Dairy products are the largest application market for probiotic foods. Probiotic demand for dairy products is estimated to reach USD 32.2 billion in 2018, growing at a CAGR of 6.8% from 2013 to 2018. Probiotics have also emerged as a critical part of the animal feed industry. Probiotic demand for animal feed applications is estimated to cross USD 3 billion by 2018.

Asia-Pacific is the market leader for probiotics, with an expected CAGR of 7.0% from 2013 to 2018. Europe is another key consumer of probiotic products, with consumer awareness levels much higher than compared to North America; European probiotic demand is expected to grow at a CAGR of about 6.7% from 2013 to 2018. In Asia-Pacific, China and Japan dominate the market revenue for probiotics, with India and other regions also showing significant growth. In Europe, Germany and U.K. are the most attractive markets, with expected CAGR of over 6% each from 2013 to 2018. The markets of North America and emerging countries such as Brazil also show huge potential for demand growth.

Some of the key players of the market are BioGaia Biologics AB, Danisco, Chr. Hansen A/S, Nestle SA, Probi AB, Lifeway Foods Inc. and Yakult Honsha Co. Ltd.

According to Euromonitor International's packaged food data, in 2000, pro/prebiotic yogurt (both drinking and spoon able combined) accounted for one-quarter of global yogurt sales by value. A decade later, in 2010, it accounted for one-third. global value for sales of probiotic dietary supplements almost tripled, amounting to US\$2.2 billion in 2010, thereby, further suggesting that probiotics are spreading like wildfire around the globe.

Normalization of the properties of unbalanced indigenous microflora of the intestinal tract by ingestion of specific strains of the healthy microflora forms the rationale of probiotic therapy. It is now well recognized that probiotics hold great promise and have the prospects to serve as candidate biotherapeutics in the management of inflammatory metabolic disorders including cardiovascular diseases such as atherosclerosis. hypertension and stroke etc. So many food companies are expanding their market profile to the most promising growth markets for probiotics.

PROBIOICS - An Indian Scenario

Within the functional foods, probiotics is the rapidly expanding, active arena. In probiotic revolution, India can play a key role as being the largest producer of milk and having world's highest cattle population. Indian probiotic industry is in its infancy stage and presently accounts for only a small fraction i.e. less than 1% of the total world market turnover in the probiotic industry. But Probiotic industry is evolving at a steady pace with conditions set for tremendous growth in near future. India is emerging as a major probiotic market of the future with annual growth rate of 22.6% until 2015 with a handful of players in Indian probiotic industry are Amul, Mother Dairy, Yakult Danone and Nestle along with other minor players operating in different regions in their own capacities. With their advent, the Indian probiotic market turnover is expected to reach \$8 million by the year 2015. Probiotics in India generally comes in two forms, milk and fermented milk products with the former occupying 62% of the market share and the latter having 38% market share (Indian consumer survey, 2010).

Amul was the first to make a dent at the National level with its probiotic ice cream prolife in February 2007. On the other hand, Amul has tasted success in the probiotics category with its ice cream introduced probiotic lassi. Probiotic products contribute 10% to its ice-cream sales and 25 percent of its Dahi (Indian yogurt) sales. Mother Dairy has the most significant milk (liquid/unprocessed) plants in Asia, selling more than 25 lakh liters of milk per day. b- Activ Probiotic Dahi, b-Activ Probiotic Lassi, b- Activ Curd, and Nutrifit (Strawberry and Mango) are the company's probiotic products. Probiotic products contribute to 15% of the turnover of fresh dairy products. Nestle NESVITA was India's first Dahi with Probiotics – For Healthy Digestion. Yakult Danone India Pvt Ltd (YDIPL) is a 50:50 joint venture between Japan's Yakult Honsha and The French- Danone Group and is offering Yakult, a probiotic drink made from fermented milk, Lactobacillus, and some sugar. The entry of Yakult is expected to

Increase the visibility and growth of the probiotic category in India. Major players in the probiotics drug market in India include companies like Ranbaxy (Benefit), and Dr. Reddy's Laboratories, which has four probiotic brands, Zydus Cadila, Unichem, JB Chem, and Glaxo SmithKline. While probiotics in the form of drugs are widely accepted, probiotic foods are still viewed with scepticism. Acceptance is growing slowly, but it will take a long time while before changing the mindset of Indian consumers.

Amul is the leader with nearly 70% market share in 2011 and is likely to be at the top in the coming years as well. In 2011, Amul Probiotic share accounted for more than double than the combined share of its competitors like Mother Dairy, Nestle and Yakult. Nestle and Mother Dairy is holding second and third position in the Indian Probiotic Market.

Probiotic Yogurt is the leading category which accounts for more than 50% share in 2011 followed by Probiotic Ice Cream and Probiotic drink.

It is expected that Probiotic yogurt sales will cross 100,000 thousand packets by 2015. Amul is the leader in Probiotic yogurt sales in India and is likely to remain as a leader in the years to come. Probiotic drink sales volume is likely to reach a little less than 100,000 thousand bottles by the year 2015. In probiotic drink sales volume, Yakult is way ahead than Mother Dairy. Being a lonely player in the probiotic ice cream market in India Amul is gaining advantage.

Although there are formidable challenges to be encountered, the prospects of the market expanding in a steadfast way look bright. As Probiotics are not previewed under any health-related law in India and with Indian Council of Medical Research (ICMR) still framing the guidelines for Probiotic sales (ICMR status report on Probiotics, 2009), Probiotics face no hindrance from government health officials on its sales.

• Yakult Danone India

A 50:50 JV between Danone of France and Yakult Honsha, Japan, has trained its guns on smaller towns as it looks at a three-fold increase in the sales of its probiotic health product (probiotics are beneficial bacteria which helps to keep our digestive system healthy) by 2015. The company, which has a strong foothold in north India, is working to strengthen its presence in Hyderabad and Chennai this year, followed by Kolkata and tier 2 and tier 3 cities next year.

Yakult, which sells a range of products in the global markets, began marketing its probiotic drink in India in 2008 when the market for probiotic products was at a nascent stage. While the product was new, its distribution was no less innovative. In addition to retail stores, Yakult Danone has put in place a parallel distribution model that engages women to deliver its product to consumers at their doorstep. The Yakult drink is priced at Rs 50 for a pack of five bottles.

There is a band of 250 women (known as Yakult Ladies) spread across the national capital region of Delhi besides Jaipur, Chandigarh, Pune and Mumbai, who are associated with the company as special agents. They crisscross their respective sales regions in scooters that are fitted with chiller boxes to ensure the product reaches the consumer without any spoilage.

- Today, Yakult is sold in 31 countries, although its bacteria cultures are provided from a mother strain from Japan regardless of production location.

- Yakult is marketed in different sizes. In Australia, Europe, India, and Indonesia, Yakult comes in 65mL bottles.

- Yakult is a Japanese probiotic milk-like product made by fermenting a mixture of skimmed milk with a special strain of the bacterium *Lactobacillus casei* .
- It was created by Minoru Shirota.
- Yakult has also introduced a line of beverages for the Japanese market that contain *Bifidobacterium breve* bacteria, and has also used its lactobacilli research to develop cosmetics
- After its introduction in Japan and Taiwan, Yakult was first sold in Brazil in 1966, due to the large number of Japanese immigrants in the country, before it was marketed elsewhere.
- Japan, Philippines and South Korea, 80 ml bottles are available.
- In Thailand, Singapore, Taiwan and mainland China, and the United States. It is also available in Hong Kong where it comes in 100 ml bottles. Standard Yakult (excludes variations such as in Yakult Light) contains:
 - Sugar (sucrose, dextrose) to balance sourness with sweetness.
 - Skimmed milk powder
 - Natural flavours
- Live *Lactobacillus casei* Shirota strain, 8 billion per 65 mL bottle (concentration of 108 CFU/mL)
 - Water
- Standard Yakult contains 18g of sugar for every 100g, but comes in 65 mL bottles. This concentration is higher than the level defined as "HIGH" by the UK Food Standards Agency.

- As a comparison Coca-Cola and orange juice are in the range of 10g of sugar per 100g, but with a serving size usually greater than 250 ml, while Yakult is served in much smaller doses.



Figure 1 Big shots selling Yakult

Fig1.7: Products which are being developed by Yakult in different countries

8. Results

Project1

Cardiovascular Ultrasound Study (CVUS)-Qualitative Study

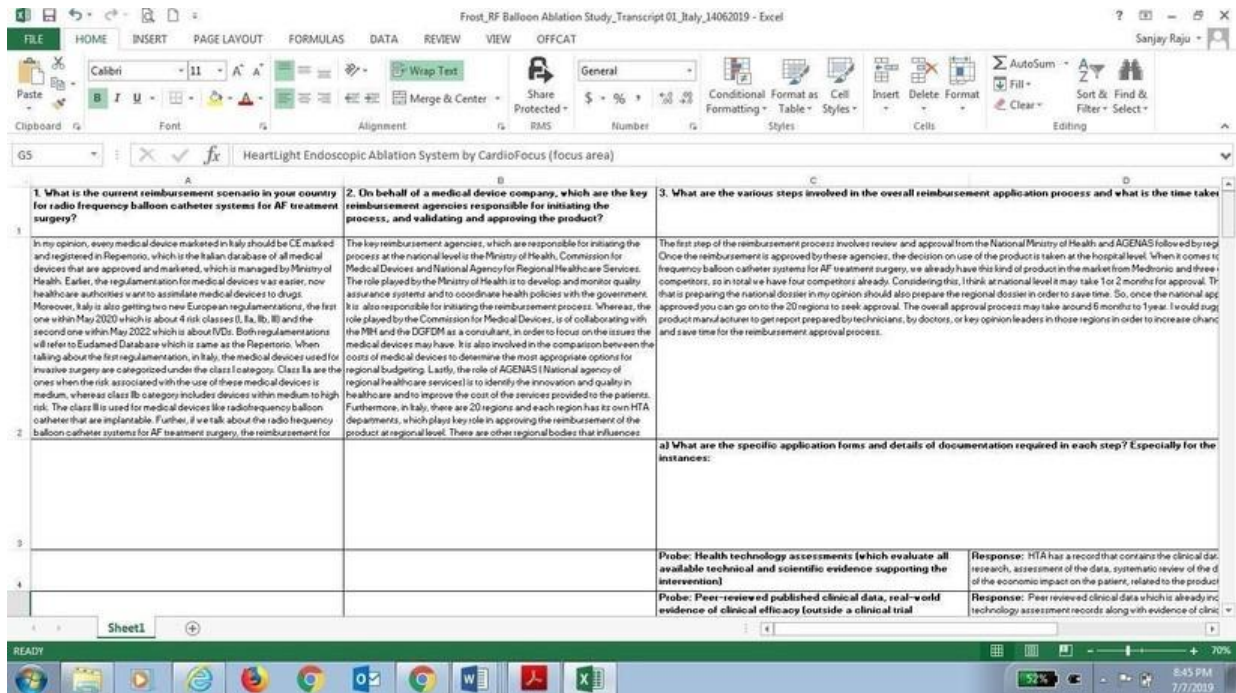


Fig1.8: Screenshot about the transcript on Cardiovascular Ultrasound system

1. Through this study we got to know the response of the customers and current market scenario for new features, capabilities, and tools that will be available in the upcoming release of next generation cardiovascular ultrasound system.
2. We got to know the different brands of cardiovascular ultrasound system used in the country.
3. The benefits and side effects of the use of the system in patients.

➤ Project 2

• Probiotics

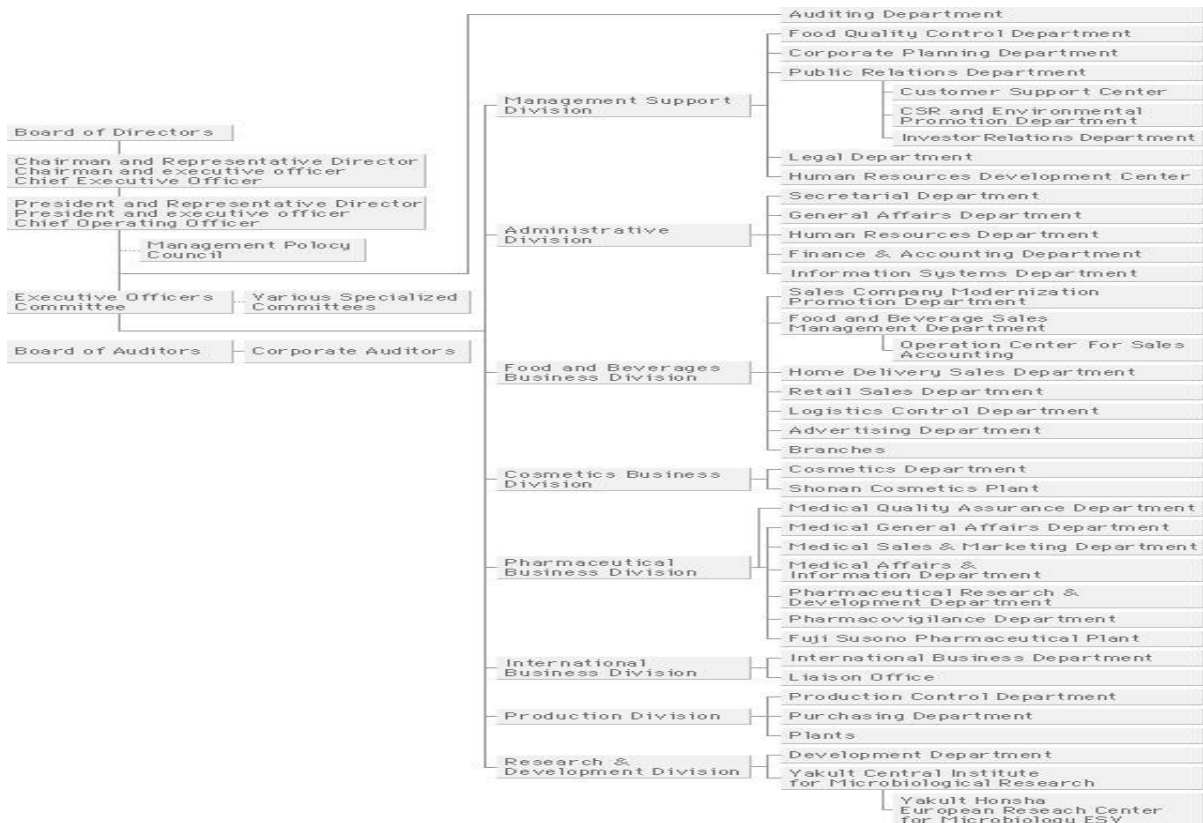


Fig1.9: Organization Chart of Yakult

1. We got to know about the current market scenario for probiotics in different countries.
2. Yakult has introduced new products which contain different strains of bacteria.
3. Yakult contains different ranges of product and are widely used in different countries.
4. Probiotic Yogurt is the leading category which accounts for more than 50% share in 2011 followed by Probiotic Ice Cream and Probiotic drink the use of probiotic yogurt is increasing.

9. Challenges faced during these projects

The challenges that was faced by me while working on all the projects was same and is mentioned below:

- **Language Barrier:**

In the countries like, Germany, China, Japan and many more, where the native language is not English, people there wasn't able to understand the questions we were asking them regarding the study. So, to overcome this challenge, we hired some professionals who can speak their languages and help us in translation of the conversations. Moreover, sometime we translated some basic question in the native language of that particular country, so the other person is able to understand what we are trying to ask them. This challenge was the most common challenge that was faced by us.

- **Data Issues:**

There were times that we were not able to find the data via secondary research and without having the information regarding the market scenario of that project we couldn't reach the respondents for the interview.

- **Issues with the QC team:**

Sometime, the QC team is not at all satisfied with the data we have provided, so in order to provide more data, we have to reconnect the respondent and there are chances that the respondent won't reply to our calls, so we will not be able to send our files to the client on time.

10. Conclusion

In GRG, I have done many projects of link punching and making transcripts, even recruiting respondents for the interviews. Also, while working with GRG I was able to learn about different aspects of market research, presentation of data and collections of data. Moreover, GRG helped mw making me ready for the corporate world.

In case of Cardiovascular Ultrasound Study, most of them have the challenges of doing complex procedures in a given time frame, issues with imaging quality and visualization, and to make their work faster with accuracy is what their foremost demand is. So, they would want to give extra percentage of amount to the manufacturer if they claim to incorporate all the features they are offering in their new product and most importantly artificial intelligence (AI) and automation which can address almost all of their limitations

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➤ Plagiarism Report



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Sources included in the report

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