MIS, MkIS, Market (ing) Research, Demand, Market Potential

<u>Marketing Information System (MIS)</u>: consists of people, equipment, & procedures to gather, sort, analyze, evaluate & distribute needed, timely & accurate information to marketing decision makers.

Internal Records System: reports on orders, sales, prices, inventory levels, etc.

Order-to-Payment Cycle - must perform quickly & accurately; customers favor those firms that deliver on time; bills should go out promptly.

Sales Reporting System - managers need up to date information on current sales

<u>Marketing Intelligence System</u>: set of procedures & sources used by managers to obtain their everyday information about pertinent developments in the marketing environment.

<u>Five things to improve marketing intelligence:</u>

1. Sales force to spot & report new developments
2. Motivate distributors, retailers, & other intermediaries to pass along important intelligence
3. Appoint specialists to gather marketing intelligence
4. Purchase information from A.C. Neilsen or IRI
5. Establish internal marketing information center

Marketing Research System: Marketing Research - systematic design, collection, analysis & reporting of data & findings relevant to a specific marketing situation facing the company.

Suppliers of Marketing Research:

 Student projects
 Online information sources
 Check out rivals
 Syndicated-service firms
 Custom marketing firms
 Specialty marketing research firms

<u>The Marketing Research Process:</u>

Step 1: Define the problem & agree on research objectives
 Required level of detail, how specific? Order of magnitude?
 Competitive issues: how easily copied by competitors, etc.

Step 2: Develop research plan
 What is most efficient plan to obtain information.

Step 3: Data sources:
Secondary data - collected for other purpose & already exist
Primary data - collected for specific purpose or project
Marketing Database - collection of data about customers, prospects, leads, etc. that is actionable for marketing purposes

Research approaches:

Observational Research: watch relevant actors & settings
Focus group: people invited to discuss/try product
Surveys: questionnaire
Experimental Research: controlled environment; subjecting groups to a variety of treatments

 Research Instruments:

 Questionnaires: closed end & open-end questions
 Mechanical Testing Instruments

 Sampling plan:

Who is to be surveyed?
Sample size, how many people?
Procedure, how to choose people?

Contact Methods:

Mail questionnaire
Telephone interviewing
Personal interviewing - arranged or intercept people (i.e. the mall)

Step 4: Collect the Information
Scanners, computers, data entry

Step 5: Analyze the Information - averages, measures of dispersion

Step 6: Present the Findings to relevant parties

The Characteristics of Good Marketing Research

Scientific Method - careful observation, generate hypothesis, prediction, testing

Research creativity - innovative ways to solve problems

Multiple Methods - shy away from any one method

Interdependence of models & data - data interpreted from underlying models

Value & cost of information - value/cost considerations

Healthy skepticism - skepticism of assumptions

Ethical Marketing - learn about customers needs to better serve them

Overcoming barriers to the use of Marketing Research:

Narrow conception - many managers see it as only a fact finding mission

Uneven caliber of marketing researchers - perceived as clerical activity

Late & erroneous findings

Personality & presentational differences

Marketing Decision Support System (MDSS) - is a coordinated collection of data, system, tools, & techniques with supporting software & hardware by which an organization gathers and interprets relevant information from business & environment & turns it into a basis for marketing action.

An Overview of Forecasting & Demand Measurement

Measures of market demand

Product levels: all, industry, company, product line, product form, product item sales

Space levels: World, USA, Region, Territory, Customer

Time levels: Short run, Medium run, Long run

<u>Which market to measure</u>

Market - set of all actual & potential customers

Potential market: profess sufficient level of interest in a defined market offer

Available: consumers who have interest, income, & access to offer

Qualified available: have interest, income, access, & qualifications for offer

Target: part of qualified market the company decides to serve

Penetrated market: set of consumers who have already purchased the product

<u>Demand Measurement</u>

Market demand - total volume that would be bought by a defined customer group in a defined geographical area in a defined time period in a defined marketing environment under a defined marketing program.

Demand is not a fixed number, rather a function
Market minimum - sales with no stimulation
Market sensitivity of demand

Expansible market - affected by level of industry expenditures
Non-expansible market - not affected by level of industry expenditures

Market Forecast - market demand corresponding to company marketing expenditures

Market potential - max demand as industry expenditures approach infinity

Company demand - estimated share of market demand at alternative levels of company marketing effort

Company sales forecast - expected level of company sales based on a chosen marketing plan & an assumed marketing environment

Sales quota - sales goal set for a product line, company division, or sales representative

Sales budget - is a conservative estimate of the expected volume of sale & is used primarily for making current purchasing, production, & cash-flow decisions

Company sales potential - sales limit approached by company demand as company marketing effort increases relative to competitors

Total market potential - max amount of sales that might be available to all the firms in an industry during a given period under a given level of industry marketing effort & given environmental conditions

Area market potential - select best territories

Market build-up method - identifying all the potential buyers in each market & estimating their potential purchases

Industry & Market Shares:Company needs to know actual industry sales taking place in its market

<u>Estimating Future Demand</u>

Three stage procedure to prepare sales forecast:

Macroeconomic forecast
Industry forecast
Company sales forecast

<u>Firms can buy macroeconomic forecasts from:</u>

Marketing research firms
Specialized forecasting firms
Futurist research firms

All forecasts based on: what people say, what people do, what people have done

<u>Survey of buyer's intention:</u>

Anticipate what buyers will do
Purchase probability scale
Composite of Sales Force Opinions
Have sales force estimate future sales, then make adjustments

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 (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.

Marketing Research is "the process or set of processes that links the consumers, customers, and end users to the marketer through information — information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications."

It is the systematic gathering, recording, and analysis of qualitative and quantitative data about issues relating to marketing products and services.

The goal of marketing research is to identify and assess how changing elements of the marketing mix impacts customer behavior. The term is commonly interchanged with market research; however, expert practitioners may wish to draw a distinction, in that market research is concerned specifically with markets, while marketing research is concerned specifically about marketing processes.

Marketing research is often partitioned into two sets of categorical pairs, either by target market:

Consumer marketing research, and
Business-to-business (B2B) marketing research

Or, alternatively, by methodological approach:

Qualitative marketing research, and
Quantitative marketing research

Role of MR:

The task of marketing research (MR) is to provide management
with relevant, accurate, reliable, valid, and current
information. Competitive marketing environment and the ever-
increasing costs attributed to poor decision making require
that marketing research provide sound information. Sound
decisions are not based on gut feeling, intuition, or even pure
judgment.

Marketing managers make numerous strategic and tactical
decisions in the process of identifying and satisfying customer
needs. They make decisions about potential opportunities,
target market selection, market segmentation, planning and
implementing marketing programs, marketing performance, and
control. These decisions are complicated by interactions
between the controllable marketing variables of product,
pricing, promotion, and distribution. Further complications are
added by uncontrollable environmental factors such as general
economic conditions, technology, public policies and laws,
political environment, competition, and social and cultural
changes. Another factor in this mix is the complexity of
consumers. Marketing research helps the marketing manager link
the marketing variables with the environment and the consumers.
It helps remove some of the uncertainty by providing relevant
information about the marketing variables, environment, and
consumers. In the absence of relevant information, consumers'
response to marketing programs cannot be predicted reliably or
accurately. Ongoing market (ing) research programs provide
information on controllable and non-controllable factors and
consumers; this information enhances the effectiveness of
decisions made by marketing managers

Decide Model:

The **DECIDE** model conceptualizes managerial decision making as a
series of six steps.

1. The decision process begins by precisely <u>defining</u> the
problem or opportunity, along with the objectives and
constraints.
2. Next, the possible decision factors that make up the
alternative courses of action (controllable factors) and

uncertainties (uncontrollable factors) are <u>enumerated.</u>
3. Then, relevant information on the alternatives and possible outcomes is *collected*.
4. The next step is to *identify* and select the best alternative based on chosen criteria or measures of success.
5. A detailed plan to *develop* and implement the alternative selected is developed and put into effect.
6. Last, the outcome of the decision and the decision process itself are <u>evaluated</u>.

<u>MR Methods:</u>

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

<u>Based on questioning:</u>

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. Techniques include choice modelling, maximum difference preference scaling, and covariance analysis.

<u>Based on observations</u>

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

Types of MR:

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 (measured with Attention Tracking), 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 association research — what do consumers associate with the brand?

 Brand attribute research — what are the key traits that describe the brand promise?

 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

 Coolhunting - to make observations and predictions in changes of new or existing cultural trends in areas such as fashion, music, films, television, youth culture and lifestyle

 Buyer decision making process research — to determine what motivates people to buy and what decision-making process they use; over the last decade, Neuromarketing emerged from the convergence of neuroscience and marketing, aiming to understand consumer decision making process

 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 research - quantitative or qualitative studies that yields an understanding of a customer's satisfaction with a 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 consumer or 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

Online panel - a group of individual who accepted to respond to marketing research online

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

Viral Marketing Research - refers to marketing research designed to estimate the probability that specific communications will be transmitted throughout an individual's Social Network.

Estimates of Social Networking Potential (SNP) are combined with estimates of selling effectiveness to estimate ROI on specific combinations of messages and media.

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

There are two main sources of data – primary and secondary.

Primary research is conducted from scratch. It is original and collected to solve the problem in hand. Secondary research already exists since it has been collected for other purposes. It 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.

MIS

A marketing information system (MkIS) is a management information system (MIS) designed to support marketing decision making.

Jobber (2007) defines it as a "system in which marketing data

is formally gathered, stored, analysed and distributed to managers in accordance with their informational needs on a regular basis."

Online business dictionary defines Marketing Information System (MkIS) as "a system that analyzes and assesses marketing information, gathered continuously from sources inside and outside an organization.

Marketing Information System can be defined as a set structure of procedures and methods for the regular, planned collection, analysis and presentation of information for use in making marketing decisions.

The main benefit of MkIS systems is to integrate market-monitoring systems with strategy development and the strategic implementation of policies and processes that help capture and act on customer management applications with marketing decision support systems. This area constitute Marketing intelligence that supports the analysis and market based activities that support customer relations and customer service with real time information with real time applications that support market based approaches.

According to Robert Harmon (2003), MkIS systems are composed on four components: (1) user interfaces, (2) applications software, (3) databases, and (4) systems support. The following is a description of each one of these components.

1. User interfaces. The essential element of the MkIS is the managers who will use the system and the interface they need to effectively analyze and use marketing information. The design of the system will depend on what type of decision managers need to make.

2. Application software. These are the programs that marketing decision makers use to collect, analyze, and manage data for the purpose of developing the information necessary for marketing decisions.

3. Database marketing. A marketing database is a system in which marketing data files are organized and stored.

4. System support. This component consists of system managers who manage and maintain the system assets including software and hardware network, monitor its activities and ensure

compliance with organizational policies.

Along with these components, MkIS systems include *Marketing Decision Support Systems (MDSS)*, which in turn rely on simple systems such as Microsoft Excel, SPSS, and on-line analytical tools that help collect data. Data compiled for analysis is stored and processed from a data warehouse, which is simply a data repository system that helps store and further process data collected internally and externally. (Harmon, 2003).

Demand Forecasting

Demand forecasting is the activity of estimating the quantity of a product or service that consumers will purchase. Demand forecasting involves techniques including both informal methods, such as educated guesses, and quantitative methods, such as the use of historical sales data or current data from test markets. Demand forecasting may be used in making pricing decisions, in assessing future capacity requirements, or in making decisions on whether to enter a new market.

Role: Demand forecasting is the area of predictive analytics dedicated to understanding consumer demand for goods or services. That understanding is harnessed and used to forecast consumer demand. Knowledge of how demand will fluctuate enables the supplier to keep the right amount of stock on hand. If demand is underestimated, sales can be lost due to the lack of supply of goods. If demand is overestimated, the supplier is left with a surplus that can also be a financial drain. Understanding demand makes a company more competitive in the marketplace. Understanding demand and the ability to accurately predict it is imperative for efficient manufacturers, suppliers, and retailers. To be able to meet consumers' needs, appropriate forecasting models are vital. Although no forecasting model is flawless, unnecessary costs stemming from too much or too little supply can often be avoided using data mining methods. Using these techniques, a business is better prepared to meet the actual demands of its customers.

Understanding Consumer Demand: In demand forecasting, as with most analysis endeavors, data preparation efforts are critical. Data is the main resource in data mining; therefore it should be properly prepared before applying data mining and forecasting tools. Without proper data preparation, the old adage of "garbage in, garbage out" may apply: useless data results in meaningless forecast models. Major strategic

decisions are made based on the demand forecast results. Errors and anomalies in the data used to create forecast models may impact the model's ability to forecast. These errors give rise to the potential for bad forecasts, resulting in losses. With properly prepared data, the best possible decisions can be made.

There are several sources for problems with data. Data entry errors are one possible source of error that can adversely affect the demand forecasting efforts. Basic statistical summaries and graphing procedures can often make these types of error apparent. Artificial demand shifts are another error source. For example, consumer response to a promotional offer may temporarily boost sales of an item. Without a similar promotion, the same increase cannot be expected in the future. Some uncontrollable factors have the ability to influence consumer demand as well. A factor such as economic conditions may tend to impact demand. An unusually mild winter will likely cause lower energy demand. Accounting for these influences of demand can help fine tune forecast modeling.

Seasonal fluctuations: Every business sees seasonal fluctuations. Holidays and weather changes influence products and services that consumers want. While it is extremely important to account for how seasonal changes affect demand, it may be possible to benefit further from this. Understanding how seasonal factors affect consumers helps businesses position themselves to take advantage.

Forecasting Consumer Demand

Analysis Tools: A wide variety of analysis tools can be used to model consumer demand - from traditional statistical approaches to neural networks and data mining. Using these demand models enables estimation of future demand: forecasting. Possibly, a combination of multiple types of modeling tools may lead to the best forecasts.

Time series analysis is a statistical approach applicable for demand forecasting. This technique aims to detect patterns in the data and extend those patterns as predictions.

The ARIMA model, or autoregressive integrated moving average, in particular is used both to gain understanding of the patterns in data and to predict in the series. Different parameters are used to detect linear, quadratic, and constant trends.

Other approaches for building forecast models are Neural Networks and Data Mining, which are capable of modeling even very complex relationships in data. Demand forecasting is a very complex issue for which these methods are well suited. Multilayer Perceptrons and Radial Basis Function neural networks, Multivariate Adaptive Regression Splines,Machine Learning, and Tree algorithms can all generate predictive models for this application.

Systematic patterns vs. Trends: Generally, demand patterns consist of some basic classes of components, seasonality, and trend. Seasonality refers to the portion of demand fluctuation accounted for by a reoccurring pattern. The pattern repeats systematically over time. Trend is the portion of behavior that does not repeat. For example, a trend may show a period of growth followed by a leveling off. In retail sales, seasonality will likely find patterns that repeat every year. With sufficient data, other seasonality trends may manifest across multiple years.

Forecasting techniques: Once adequate predictive models are found, these models can then be used to forecast demand. A demand forecast model may actually be an ensemble of multiple models working together. This technique of combining models often results in better predictive accuracy. When one model gets off track, the ensemble as a whole counteracts.

As more data accumulate about consumer behavior, demand forecast models should be updated. This will be a continual effort monitoring and modeling demand in order to be constantly aware of changes. Failing to update forecast models and take advantage of all the information available will likely prove to be a costly mistake.

Inventory Management: Using up-to-date demand forecast models, inventory management becomes a much simpler task. The forecast models offer insight into when shifts will occur, but more importantly, how big the shift will be. Using demand forecast models, inventory and human resources can be properly planned and managed well in advance and with fewer surprises.

Market Potential Analysis

Market Potential and Market Sizing Analysis

Market analysis services from Mapping Analytics help you know the economic opportunity available to you in any geographic market. Whether you sell to consumers, to businesses, or both, market sizing provides intelligence you need to deploy sales and marketing resources effectively.

<u>Benefits of Market Potential Analysis:</u>

Understand market potential for a single store, network of stores or a new market

Deploy resources effectively by ranking markets in priority order

Forecast total opportunity in terms of number of customers and revenue potential

Estimate your market share