Chapter II

Review of Literature
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MARKETING STRATEGY

Philippe Lasserre (2003) highlights that the strategy (from the Greek, stratos: an army and agein: to lead) has traditionally been a military art. The ancient Chinese military theorist, Sun Tzu (Circa 500 BC) stated that “the supreme art of war is to subdue the enemy without fighting”. Strategy as an art of war was transferred into a business context in the early 1960s. This does not mean that there was no ‘strategy’ behind business decisions earlier; but there were no formal theories of business strategy.

William M Pride and Ferrell O.C. (2005) define marketing strategy as typically made up of two components: (1) the selection of a target market and (2) the creation of a marketing mix that will satisfy the needs of the chosen target market. Thus, a marketing strategy includes a plan of action for developing, distributing, promoting and pricing products that meet the needs of the target market. A marketing strategy articulates the best use of the firm’s resources and tactics to achieve its marketing objectives. In a broader sense, however, marketing strategy refers to how the firm will manage its relationships with customers so that it gains an advantage over the competition.
Charles W. Lamb, Joseph F. Hair and Carl McDaniel (2004) define marketing strategy which involves the activities of selecting and describing one or more target markets and developing and maintaining a marketing mix that will produce mutually satisfying exchanges with target markets.

Philip Kotler (2000) explains that marketing strategy deals with target market, positioning, product line, price, distribution outlets, sales force, service and facilitating, sales promotion, advertising, research and development and marketing research.

Rajan Sexena (2002) explains that there are two major methods of segmenting the market - one on the basis of product usage and the other on the basis of customer groups. One approach is to target customers who are dissatisfied with their existing supplies and suppliers. These are the customers who do not perceive significant value in their current purchases and hence are vulnerable to change to a supplier who delivers more value.

Philip Kotler and Gary Armstrong (2005) define marketing strategy as marketing logic by which the company hopes to achieve its profitable relationships. Through market segmentation, targeting and positioning, the company decides which customers it will serve and how. It identifies the total market, then divides it into smaller segments, selects the most promising segments and focuses on serving and satisfying customers in these segments. Guided by marketing strategy, the company designs a marketing mix made up of factors under its control- product, price, place and promotion.
To find the best marketing strategy and mix, the company engages in marketing analysis, planning, implementation and control. Through these activities, the company watches and adapts to the actors and forces in the marketing environment.

Joseph F Hair, Robert P. Bush and David J Ortinau (2006) state marketing-strategy-design as information collected during a situation analysis is subsequently used to design a marketing strategy. At this stage of the planning process, companies identify target markets, develop positioning strategies for products and brands, test new products and assess market potential.

Rajendra Nargundkar and Tapan K Panda (2005) clarify that the marketing strategy focuses itself on a few key strategic and operational elements. In strategy, the classical problems of segmenting customers, targeting chosen segments based on certain criteria, and positioning products appropriately. Branding decisions are another critical element of marketing strategy, apart from the usual product design and packaging, pricing, promotion and place issues. A study of consumer behaviour is an input into many of the marketing strategies, and hence an important theoretical and empirical subject. Each of these marketing decisions requires customised handling for emerging markets. The approaches which work in a homogeneous and well-researched market simply may not work in many emerging markets. Though experts such as Kenichi Ohmae (author of The Borderless World) have talked of a globalised world, they are mainly referring to segments that behave like each other in three major developed areas of world-Japan, Europe and North America.
There is a need to look at the rest of the world too, in terms of what its consumers need, what drives their buying patterns, and which P’s of marketing need fine-tuning to serve their needs better in a given product-service arena.

Philip Kotler (2004) clarifies that in defense strategies, position defense involves building superior brand power, making the brand almost impregnable. In flank defense, the market leader should also erect outposts to protect to weak front or possibly serve as an invasion base for counter attack. In preemptive defense, a more aggressive maneuver is to attack before the enemy starts its offense. A company can launch a preemptive defense in several ways. It can wage guerrilla action across the market-hitting one competitor here, another there-and keep everyone off balance; or it can try to achieve grand market envelopment. In counter offensive defense when attacked, the most market leaders will respond with a counterattack. In counter offensive, the leader can meet the attacker frontally or hit its flank or launch a pincer movement. An effective counterattack is to invade the attacker’s main territory so that it will have to pull back some troops to defend the territory. In mobile defense, the leader stretches its domain over new territories that can serve as future centers for defense or offense. It spreads through market broadening and market diversification. In contraction defense, large companies sometimes recognise that they can no longer defend all of their territory. The best course of action then appears to be planned contraction. In strategic withdrawal, planned contraction means giving up weaker territories and reassigning resources to stronger territories. The counterfeiter duplicates the leader’s product and packaged and sells it on the black market or through disreputable dealers.
The cloner emulates the leader’s products, name and packaging with slight variations. The imitator copies some things from the leader but maintains differentiation in terms of packaging, advertising, pricing or location.

Rajen Sexena (2002) explains that defensive marketing warfare is played by the market leader who wants to hold on to his market share. One of the best options before the leader is to continuously attack its own self. This involves questioning whether its existing product portfolio is competitively satisfying customer needs or are there any new needs that are emerging, which the current portfolio does not help to satisfy; is its current distribution plan effective enough to meet emerging markets segments and needs or is a change required. Offensive warfare is the war fought by the market challenger or the firm that is trying for the number one position in the market. The challenger has to consider the leader’s strengths and identify weaknesses in this strength. Flanking warfare is a strategy that involves flanking the leader in areas that are uncontested. This could be in product mix, distribution or even pricing. Guerilla warfare is a strategy for niche leaderships. This involves carving out a market niche, large enough to be defended by firms’ capabilities. The niche leader should never act like a mass leader as it may lead to its unviability. Also, the niche leader or the guerilla should be able to vacate a niche without severe losses. Guerrilla attack is another option available to market aggressors, especially smaller undercapitalised ones. Guerrilla warfare consists of waging small, intermittent attacks on different territories of the opponents, with the aim of harassing and demoralising the opponent and eventually securing permanent footholds.
Al Ries and Jack Trout (1986) clarify that only the market leader should consider playing defense. Companies do not create leaders-customer do. The true leader lives in the mind of customers and prospects. Business people believe in the power of positive thinking. Understanding the truth will help to achieve great. The best defensive strategy is the courage to attack oneself. In other words, strengthen your position by introducing new products or services that obsolete existing one. Strong competitive moves should always be blocked. If a leader misses an opportunity to attack, the company can often recover by copying the competitive move. But the leader must move rapidly before the attacker gets established.

Philip Kotler and Gary Armstrong (2005) explain that to design a winning marketing strategy, the marketing manager must answer two important questions: (1) what customers will we serve (what is our target market)? (2) How can we serve these customers best (what is our value position)? Market penetration strategy is a strategy for company growth by increasing sales of current products to current market segments without changing the product. Market development strategy is a strategy for company growth by identifying and developing new market segments for current company products. In undifferentiated market coverage strategy a firm decides to ignore market segment differences and go after the whole market with one offer. In differentiated market coverage strategy a firm decides to target several market segments and designs separate offers to reach. Micro marketing is the practice of tailing products and marketing programs to suit the tastes of specific individuals and locations. Companies need to consider many factors when choosing target marketing strategy. Which strategy is the best depends on company resources.
The best strategy also depends on the degree of product variability. The product’s life-cycle stage also must be considered when a firm introduces a new product, it may be practical to launch only one version and undifferentiated marketing or concentrating marketing may make the most sense. In the mature stage of the product life cycle, however differentiated marketing begins to make more sense.

Arthur A Thomson and Strickland AJ (2003) suggest that competitive advantage usually acquired by employing a creative offensive strategy that is not easily thwarted by rivals. Competent, resourceful rivals will exert strong efforts to overcome any competitive disadvantage they face-they won’t be out competed without a fight. One of the most powerful offensive strategies is to challenge rivals with an equally good or better product at a lower price. The foremost purpose of defensive strategy is to protect competitive advantage and fortify the firm’s competitive position. Strategic alliances are more effective in helping establish a beachhead of new opportunity in world markets than in achieving and sustaining global leadership.

**Market Leader Strategy**

Philip Kotler and Gary Armstrong (2005) explain that market leader is the firm in an industry with the largest market share. To remain number one, leading firm can take any of three actions. First, they can find ways to expand total demand. Second, they can protect their current market share through good defensive and offensive actions. Third, they can try to expand their market share further even if market size remains constant. A market challenger must first define which competitors to challenge and its strategic objective. The challenger can attack the market leader, a high-risk but potentially high-gain strategy.
Its goal might be to take over market leadership. Not all runner-up companies want to challenge the market leader. Challenges are never taken lightly by the leader. If the challenger’s lure is lower prices, improved service or additional product features, the leader can quickly match these to defuse the attack. Many firms prefer to follow rather than challenge the leader. A follower can gain many advantages. The market leader often bears the huge expenses of developing new products and markets, expanding distribution and educating the market. By contrast, the market follower can learn from the leader’s experience. It can copy or improve on the leader’s products and programs, usually with much less investment. Although the follower will probably not overtake the leader, it often can be profitable. Almost every industry includes firms that specialise in serving market niches. Instead of pursuing the whole market, or even large segments, these firms target sub segments. Nichers are often smaller firms with limited resources. But smaller divisions of larger firms also may pursue niching strategy. Market nicher ends up knowing the target customer group so well that it meets their needs better than other firms that casually sell to this niche. As a result, the nicher can charge a substantial markup over costs because of added value. Whereas the mass marketer achieves high volumes, the nicher achieves high margin. In general, the market leader should look for new users, new uses and more usage of its product. Every product class has the potential of attracting buyers who are unaware of the product or who are resisting it because of its price or lack of certain features (new users). Convincing non-users to use a product (market-penetration strategy) or convince new customer to start use a product (new-market strategy) or convince new customer to use a product in new places (geographical-expansion strategy). Markets can be expanded through discovering and promoting new uses for the product (new uses).
A third-market expansion strategy is to convince people to use more of the product per use occasion (more usage). What can the market leader do to defend its terrain? The most constructive response is continuous innovation. The leader hence applies the military principles of the offensive. The commander exercises initiative, sets the pace, and exploits enemy weaknesses. The best defense is a good offense. The leader must guard all fronts and not leave any major exposed flanks. The leader must “plug holes” so that attackers do not jump in. There are, in fact, six defense strategies that a dominant firm can use.

Philip Kotler and Gary Armstrong (2005) explain that E-business involves the use of electronic platforms—intranets, extranets and the internet—to conduct a company’s business. E-marketing is the marketing side of e-commerce, company efforts to communicate about, promote and sell products and services over the internet. Conducting e-marketing through different methods are using e-mails, creating a website, placing advertising or promotion online and creating web communities. Viral marketing is the internet version of word-of-mouth marketing email messages or other marketing events that are so infectious that customers will want to pass them along to friends. Web sites upon which members can congregate online and exchange views on issues of common interest are web communities.

William M Pride and Ferrell O. C. (2005) explain that monopolistic competition is a competitive structure in which a firm with many potential competitors attempts to develop a marketing strategy to differentiate its product.
Roger A Kerin et al. (2007) clarify that for any product there is both a current market (consisting of existing customers) and a new market (consisting of potential customers). And for any market, there is a current product (what they are now using) and a new product (something they might use if it were developed). These four product-market strategies are market penetrations strategy, market development strategy, product development strategy and diversification marketing strategy. Penetration strategy is a marketing strategy of increasing sales of present products in existing market. Market development strategy is a marketing strategy of selling existing products to new markets. Product development is a marketing strategy of selling of new products in existing markets. Diversification is a marketing strategy of developing new products and selling them in new markets.

Philip Kotler (2000) proposes that many companies believe that they can establish a long-lasting competitive advantage by performing similar activities better than their competitors. But today competitors can rapidly copy the operationally effective company using bench marketing the other tools, thus diminishing the advantage of operational effectiveness. In contrast, porter defines strategy, “as the creation of a unique and valuable position involving a different set of activities”. A company that is strategically positioned “performs different activities from rivals or performs similar activities in different ways”. Kotler cites a company, Southwest Airlines as having distinctive strategies consisting of many different but consistent and synergistic activities that would be hard for competitors to imitate as a whole. Marketing strategic alliances take the form of marketing alliances. These fall into four major categories. Companies are also discovering that they need strategic partners if they hope to be effective.
(1) Product or service alliances: One company licenses another to produce its product or two companies jointly market their complementary products or a new product.

(2) Promotional alliances: One company agrees to carry a promotion for another company’s product or service.

(3) Logistics alliances: One company offers logistical services for another company’s product.

(4) Pricing collaborations: One or more companies join in a special pricing collaboration.

Rajendra Nargundkar and Tapan K Panda (2005) present their ideas about competitive marketing strategy for the Indian pharmaceutical industry-post 2005: A meta-analysis has been performed on the strategy adopted by the successful pharmaceutical players including, the restructuring of strategy to face the patent challenge, product patent regime and a cutting edge focus on niche segments to foster growth. Co-marketing ought to be adopted as one of the strategies by midcap pharmaceutical companies to face the onslaught from bigger companies and Multi National Companies (MNC’s). Domestic players and MNC’s need to enter into marketing arrangements to increase market penetration and further strengthen their position in respective therapeutic segments. Resorting to the franchise route is an effective way of focusing marketing efforts on core products. Detailing which is an ideal communication tool to improve the productivity of market representatives, and the company’s image and visibility, need to be adopted.
Companies started shifting their focus to the following strategies such as Mergers and Acquisitions, Strategic Alliances and Brand Acquisitions to achieve the desired growth that shall be the standard and rapid routes to success. The support strategies that would play an important role to support the core marketing activities include Research & Development (R&D). Indian companies will have to change their business model from reverse engineering to in-house R&D; active research in India being considered and licensing opportunities being explored by newly created business development. Targeting segments where there are unmet needs with less focus, including the New Chemical Entities (NCE’s) and Novel Drug Delivery System (NDDS) research, shall improve the market image score of the companies. Ultimately, it would help the Indian companies to climb the ladder of innovation in the pharmaceutical value chain. Foreign subsidiaries are the worldwide wheels to tread the path of globalisation by applying for drug master file, product registration, abbreviated new drug applications (ANDAs). The Indian companies need to upgrade their manufacturing facilities and have approval from the United States Food and Drug Administration (USFDA), United Kingdom Medical Control Agency (UK MCA) authorities and other international agencies.

Roger A Kerin et al. (2007) describe that marketing strategy is the means by which a marketing goal is to be achieved, usually characterised by a specified target market and a marketing program to reach it. Although the term marketing strategy is often used loosely, it implies both the end sought (target market) and the means to achieve it (marketing program). To implement a marketing program successfully, hundreds of details decisions are often required. These decisions, called marketing tactics, are detailed day-to-day operational decisions essential to the overall success of marketing strategy.
Strategic marketing process is the approach whereby an organisation allocates its marketing mix resources to reach its target markets. This process divided into three phases such as planning, implementation and control. The planning phase of the strategic marketing process consists of the three steps such as situation analysis, market-product focus and goal setting and the marketing program. The essence of situation analysis is taking stock of where the firm or product has been recently, where it is now, and where it is headed in terms of the organisation’s plans and the external factors and trends affecting it. An effective shorthand summary of the situation analysis is a SWOT analysis, an acronym describing an organisation’s appraisal of its internal Strengths and Weaknesses and its external Opportunities and Threats. Both the situation and SWOT analyses can be done at the level of the entire organisation, the business unit, the product line or a specific product.

David W Cravens and Nigel F. Piercy (2003) clarify that market sensing is needed at all stages of product planning, providing information for matching new product ideas with customer needs and wants, product specifications and guiding target market and program-positioning strategies. Product line actions may consist of adding a new product, reducing costs, improving the existing product, altering the marketing strategy or dropping the product. Product mix strategy may involve adding a product line, deleting a line or changing the priority of a line. Brand extension approach benefits from buyer’s familiarity with an existing brand name in a product class to launch a new product line in another product class. Products are often improved by changing their features, quality and styling. One way to differentiate a brand from the competition is with unique features. Dropping a product may be necessary when reduction in cost, product improvement or marketing strategies are not feasible.
Roger A Kerin et al. (2007) explain that price is the money or other considerations exchanged for the ownership or use of a good or service. A firm introducing a new or innovative product can use skimming pricing, setting the highest initial price that customers really desiring the product are willing to pay. These customers are not very price sensitive because they weigh the new product’s price, quality and ability to satisfy their needs against the same characteristics of substitutes. As the demand of these customers is satisfied, the firm lowers the price to attract another, more price-sensitive segment. Setting a low initial price on a new product to appeal immediately to the mass market is penetration pricing, the exact opposite of skimming pricing. Prestige pricing involves setting a high price so that quality-or-status-conscious customer will be attracted to the product and buy it. The seller’s price constrained by the type of market in which it competes. Economists generally delineate four types of competitive markets: pure monopoly, oligopoly, monopolistic competition and pure competition. Pure monopoly can be defined as one seller who sets the price for a unique product. Oligopoly can be defined as few sellers who are sensitive to each other’s prices. Monopolistic competition can be defined as many sellers who compete on non-price factors. Pure competition can be defined as many sellers who follow the market price for identical and commodity products.

Roger A Kerin et al. (2007) describe that the promotional element consists of communication tools, including advertising, personal selling, sales promotion, public relations and direct marketing. The combination of one or more of these communication tools is called promotional mix. All of these tools can be used to inform prospective buyers about the benefits of the product, persuade them to try it and remind them later about the benefits they enjoyed by using the product.
Today, the concept of designing marketing communications programs that coordinate all promotional activities—advertising, personal selling, sales promotion, public relations, and direct marketing—to provide a consistent message across all audiences is referred to as integrated marketing communications (IMC). Promotional programs are directed to the ultimate consumer, to an intermediary (retailer, wholesaler, or industrial distributor) or to both. All products have a product life cycle and the composition of the promotional mix changes over the four life-cycle stages. Informing consumers in an effort to increase their level of awareness is the primary promotional objective in the introduction stage of the product life cycle. The primary promotional objective of the growth stage is to persuade the consumer to buy the product. The primary promotional element is advertising, which stresses brand differences. In the maturity stage, the need is to maintain existing buyers and advertising’s role is to remind buyers of the product’s existence. Sales promotion, in the form of discounts and coupons offered to both ultimate consumers and intermediaries, is important in maintaining loyal buyers. The decline stage of the product life cycle is usually a period of phase out for the product, and little money is spent in the promotional mix. The rate of decline can be rapid when a product is replaced by an improved or lower cost product, for example, or slow if there is a loyal group of customers.

Roger A Kerin et al. (2007) explain that marketing channel of distribution consists of individuals and firms involved in the process of making a product or service available for use of consumption by consumers or industrial users. Achieving the best coverage of the target market requires attention to the density—that is, the number of stores in geographical area—and type of intermediaries to be used at the retail level of distribution.
Three degrees of distribution density exist, such as intensive, exclusive and selective. Channel conflict arises when one channel member believes another channel member is engaged in behaviour that prevents it from achieving its goals. Two types of conflict occur in marketing channels, such as vertical conflict and horizontal conflict. Vertical conflict occurs between different levels in marketing channel-for example, between a manufacturer and a wholesaler or retailer or between a wholesaler and a retailer. Horizontal conflict occurs between intermediaries at the same level in a marketing channel, such as between two or more retailers or two or more wholesalers that handle the same manufacturer’s brands. Supply chain management is the integration and organisation of information and logistics activities across firms in a supply chain for the purpose of creating and delivering goods and services that provide value to consumers. In developing retailing strategy, managers work with the retailing mix, which includes activities related to managing the store and the merchandise in the store. The retailing mix is similar to the marketing mix and includes retail pricing, store location, retail communication and merchandise.

Arthur A Thomson and Strickland AJ (2003) suggest that a growing majority of business across the world were connected to the internet. Uses of the internet varied widely among individuals and businesses-from e-mail communications to information gatherings to shopping to entertainment to a growing number of business application. The internet is the most powerful and broad-ranging tool currently available for improving the efficiency of company and industry value chains.
Rajendra Nargundkar and Tapan K Panda (2005) discuss that the initial strategies of the companies were targeted towards generating organic growth, but due to the government regulations and intense competition it has become difficult even to sustain the market share. Hence, companies started shifting their focus to the following categories to achieve the desired growth that shall be the standard and rapid routes to success: Mergers and Acquisitions (M&A), Strategic Alliances and Brand Acquisitions. The contribution from M&A to the total pharmaceutical market is much higher than strategic alliances or brand acquisitions in the process of increasing the market share and attaining positioning to become a formidable player in the industry.

Rajendra Nargundkar and Tapan K Panda (2005) discuss that Indian pharmaceutical companies will have to change their business model from reverse engineering to-in-house Research and Development; active research in India being considered and licensing opportunities being explored by newly created business development. Targeting segments where there are unmet needs with less focus, including the New Chemical Entities (NCE’s) and Novel Drug Delivery System (NDDS) research, shall improve the market score of the companies. Ultimately, it would help the Indian companies to claim the ladder of innovation in the pharmaceutical value chain.

Shailesh Gadre (2007) clarifies that domestic pharmaceutical companies cornered a record 80 per cent share of domestic prescription sales in 2006. The Indian prescription drugs market in 2006 was worth of Rs. 27,333 crore, up 18 per cent as compared to Rs. 23,243 crore in 2005.
Bulk of this business came from the sale of drugs that do not enjoy patent protection, a reason for the dominance of domestic companies. Multi National Companies could manage only Rs. 5,535 crore registering 11 per cent value work and eight per cent volume growth as compared to 2005. Glaxo Smith Kline Pharmaceutical had net sales of Rs. 1648.76 crore for the year ended December 31, 2006, a six per cent increase from Rs.1550.94 crore of the previous year. Performance of the domestic drug companies was driven by increased penetration to smaller towns and villages. The Indian pharmaceutical market is expected to continue its growth at 12 to 14 per cent over three to five years.
Tapan K Panda (2006) explains that strategy is a brute force to accomplish the desired goal through utilisation of time financial resources and man power commitments. The marketplace is a dynamic Warfield in which every one has to face a different set of challenges. Companies engage in two kinds of roles in marketplace namely attrition fighter and manoeuvre fighter. Attrition fighter always tries to create market place supremacy by taking a strong position in the market as a leader or defender or even a niche player in specific segments. The attrition fighter wins by superiority of assets and ability to deliver better offers compared to competitors. A maneuver fighter achieves market place superiority in a state of perpetual motion. It always seeks opportunistic gaps in the market place and manoeuvres its assets to maximise the scope of success. It tries to continuously disrupt the market place by changing rules of competition. Technology plays the role of an enabler to change the way strategic warfare was fought in the past.

Tybout AM, Calder BJ and Sternthal B (1981) comment about the influence of business strategy on consumer. Attack the negative publicity head-on by trying to refute the connection between the company and the negative event or attribute. This is probably the most common strategy and is usually the worst. Tybout explain this as occurring because the mere “association” between the company and the negative entity is rehearsed each time the situation is mentioned, and thus the affective connection remains (and is strengthened) even if the logical connection appears to be broken. Tybout commented regarding the direct refutation strategy “consumers are affected because they process the rumor, not because they necessarily believe it”. Negative affect, and often-negative imagery, remains when consumer thinks of the company, even if the rational belief connection is weakened or removed.
A good flanking move must be made into an uncontested area. A flanking move does not necessarily require a new product unlike anything now on the market. But there must be some element of newness or exclusivity. The prospect must put you into a new category. Tactical surprise ought to be an important element of the plan. A flanking attack is a surprise attack. Test marketing is a proposed flanking attack. The pursuit is just as critical as the attack itself. The most obvious form of flanking is low price. For many products high price is a benefit. The price adds credibility to the product and it adds higher profit margins with a higher price.

Runu Kumari, Devashis Mitra and Gopalan Srinivasan (2006) clarify about performance oriented categorisation of firm. A firm within an industry can be categorised into the following four ‘strategy types’ backed mainly, on the rate at which it changes its products or target market that is, the rate at which it acclimatises to the challenges it faces. Prospectors will continuously search for new market opportunities and respond to emerging environmental trends by pioneering products and market developments. Defenders are characterised by narrow product-market domains and typically do not engage in a search for new opportunities. They strive to improve the efficiency of existing operations. Analysers do not innovate, but instead they adjust rapidly to any new ideas bought up by others. They are hybrid between prospectors and defenders. Reactors do not make changes in their product until forced by environmental pressures. They tend to be short-term oriented and environmentally dependent. Defenders tend to be relatively risk averse and have high operational and asset utilisation efficiency, more during troubled times. Prospectors will be valued more for taking risk and increasing the probability of hitting it big when they can afford to do it.
Hawes JM and Rao CP (1985) discuss the importance of marketing research technique that can be easily and effectively applied in the health sector to suggest successful marketing strategy. This article described how this procedure was used to develop marketing strategy for hospital obstetric services. (www.pubmed.gov).

Helper CD and Strand LM (1990) suggest that the drug-related morbidity and mortality are often preventable and pharmaceutical services can reduce the number of adverse drug reaction (ADRs), the length of hospital stays and the cost of care. Pharmacists must abandon factionalism and adopt patient-centered pharmaceutical care as their philosophy of practice. It will be necessary to get new price stands, establish cooperative relationships with other health-care professions and determine strategy for marketing pharmaceutical care. Pharmacy’s responsibilities will be completed only when all pharmacists accept their social mandate to ensure the safe and effective drug therapy of the individual patient. (www.pubmed.gov).

Grauer DW (1981) clarifies about marketing concepts as a mechanism to help pharmacy develop, communicate and sell future pharmaceutical services to consumers are discussed. Pharmacy as a profession must define itself broadly to take advantage of future growth opportunities. These growth opportunities will be realised from unmet health-care needs and changing consumer life style trends and values. New services must therefore be oriented toward consumers (i.e., patients, health professionals and third-party agencies) to gain acceptance. Dispensing and drug-knowledge-distribution pharmaceutical services are reviewed by a product life cycle analysis of sales profits versus time. A marketing mix for new pharmaceutical services is developed consisting of service, price, distribution and promotion strategy.
Marketing can encompass those key elements necessary to meet the organisational goals of pharmacy and provide a systematic, disciplined approach for presenting a new service to consumers. (www.pubmed.gov).

Carrol NV and Gagon JP (1983) discuss about formulation of marketing strategy in identifying consumer segments in health services markets. Because of increasing competition, it is becoming more important that health care providers pursue consumer-based market segmentation strategy. This paper presents a methodology for identifying and describing consumer segments in health service markets and demonstrates the use of methodology by presenting a study of consumer segments in the ambulatory care pharmacy market. (www.pubmed.gov).

Rao SK (2002) emphasises that the effective campaigns still need to focus on what customers want. The pharmaceutical industry has focused heavily on marketers’ ability to market new products more efficiently. However, a more streamlined marketing approach can help address customers’ needs and ease the pressure on drug companies to discover new drugs with blockbuster appeal. Through discussion and a detailed example, this article describes a streamlined approach to creating more effective marketing and sales for strategy. (www.pubmed.gov).

Kalman Applbaum (2006) mentions that there is no doubt that drug company discoveries have profoundly improved upon our capacity to treat illness. But pharmaceutical marketing is more closely aligned with consumer marketing in other industries than with medicine, for which the consequences are not trivial.
Once we view pharmaceutical industry activities in this light, we can disentangle industry's influence on contemporary medicine. Because we believe that we owe corporations our wealth and well being, we tend not to question corporation’s fundamental practices and they become invisible to us. What follows is an attempt to demystify some of the assumptions at work in the culture of marketing toward the goal of explaining contemporary disease mongering. (www.pubmed.gov).

Zalesky CD (2006) discusses about ethics and regulation in pharmaceutical marketing practices. Fraudulent or abusive sales and marketing practices by pharmaceutical companies can result in costly overutilisation of products that are increasingly paid for by government healthcare programs and may result in adverse health and safety consequences to the patient-beneficiaries of those programs. This article explores current federal and state efforts to limit overutilisation, fraud and abuse in the sales and marketing of prescription drugs and illustrates the merits of an expanded role for the United States Food and Drug Administration (USFDA) to regulate pharmaceutical sales. This approach borrows lessons learned from the FDA’s efficient and effective regulatory and enforcement methods and maintains a careful balance between the interests of patient beneficiaries, the government and industry. (www.pubmed.gov).

Rao SK (2000) highlights that brand teams charged with the commercialisation of the pharmaceutical products in the pipeline operate in an uncertain environment. Market, customer and competitive interrelationships undergo changes, often in ways that are unpredictable with conventional research practices.
This article describes a framework whereby such uncertainty can be managed more effectively in the context of ongoing business needs. (www.pubmed.gov).

**Anaemia and Hematinics**

Giribala Deosthale (2005) discusses the influence of illiteracy for not accepting medicine by the following article. “Anaemia” is generally defined as a condition in which the blood is deficient in red blood cells, in hemoglobin or in total volume. Without doubt iron deficiency is by far the most common cause of anaemia throughout the world. “Hematinic” is defined as an agent that tends to stimulate blood cell formation or to increase the hemoglobin in the blood. According to a WHO survey around 58 per cent of all South Asia women are anaemic. In India it is estimated that 70 per cent of all women are anaemic. Anaemia develops slowly and is usually not noticed early. If it is noticed, it is not taken seriously by women. In India it has been noticed that the most vulnerable groups are women of childbearing age and pre-school age children. Anaemia in pregnant women is known to cause maternal mortality and increased fetal mortality or morbidity of low birth-weight. In addition anaemia also adversely affects our immune system. While medicinal iron in pill or tablet form has been around for a very long time, it does not have acceptance amongst uneducated women primarily because anything with a “medicinal” connotation is viewed negatively. (www.imdr.com).

Prakash Shetty (2002) while emphasising the importance of food and nutrition advocates the following points. In pregnant women iron deficiency contributes to maternal morbidity and mortality, and increases the risk of fetal morbidity, mortality and low birth weight.
Long-standing iron deficiency in general terms also results in a reduction in physical work capacity and productivity of adults in work situations. These functional impairments are economically important. Iron Deficiency Anaemia (IDA) seems to be a particular problem of developing countries and the dominant cause is nutritional iron deficiency. Over all, globally, 39 per cent of pre-school children are anaemic and 52 per cent of pregnant women are anaemic; of these, more than 90 per cent live in developing countries. Iron supplementation is one of the strategies to combat iron deficiency by World Health Organisation.

Sharada Jain (2005) suggests the following ideas to control Iron Deficiency Anaemia in young children and an adolescent is necessary to improve the quality of life for youngsters. In addition, detection and treatment of anaemia can fuel an economic miracle, as much productivity is lost due to weakness caused by the silent epidemic of anaemia. Children, adolescents, parents and teachers should be made aware of this problem. The future generation should also be educated and actively involved in the fight against anaemia. Government should provide funds and maintain regular supply of quality Iron Folic Acid Tablets. The author is the chairperson of the Women Doctor’s Wing of the Indian Medical Association, New Delhi.

ICDS (2004) Integrated Child Development Services Scheme report highlights the incidence of anaemia in non-pregnant women is 45 per cent and anaemia in pregnant women is 51 per cent. To prevent weakness and anaemia, Iron Folic Acid Tablets have been distributed among adolescent girls, pregnant women and lactating mothers by ICDS scheme.
Hematinic Market Scenario

Indian pharmaceutical anti-anaemic market is one of the largest markets in the world. As per ORG-MAT (Operational Research Grading - Moving Annual Total) 2006 report, total hematinics market was worth of Rupees 538 crores, growing at 14 per cent. In which hematinics oral solids formulations was worth of Rupees 247 crores. It consist of Conventional iron solid was worth of Rupees 171 crores, Carbonyl iron solid was worth of Rupees 61 crores and Iron Polymaltose Complex solid was worth of Rupees 14 crores in Indian pharmaceutical industry.

<table>
<thead>
<tr>
<th>Product</th>
<th>Company</th>
<th>Sales (Crores)</th>
<th>Market Share</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fefol-Z</td>
<td>GlaxoSmithKline-Asclepius</td>
<td>18.0</td>
<td>7.2</td>
<td>9.6</td>
</tr>
<tr>
<td>Raricap</td>
<td>Janseen-Cilag</td>
<td>15.0</td>
<td>6.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Autrin</td>
<td>Wyeth</td>
<td>12.5</td>
<td>5.0</td>
<td>27.5</td>
</tr>
<tr>
<td>Orofer-XT</td>
<td>Emcure</td>
<td>12.2</td>
<td>4.9</td>
<td>287.0</td>
</tr>
<tr>
<td>Fesovit</td>
<td>GlaxoSmithKline-Derma</td>
<td>11.0</td>
<td>4.4</td>
<td>11.1</td>
</tr>
<tr>
<td>Conviron-TR</td>
<td>Ranbaxy</td>
<td>10.0</td>
<td>4.0</td>
<td>-8.2</td>
</tr>
<tr>
<td>Dexorange</td>
<td>Franco-Indian</td>
<td>9.4</td>
<td>3.8</td>
<td>28.2</td>
</tr>
<tr>
<td>Ferium-XT</td>
<td>Emcure-Swiz</td>
<td>7.0</td>
<td>2.8</td>
<td>138.9</td>
</tr>
<tr>
<td>Livogen</td>
<td>E.Merck</td>
<td>6.9</td>
<td>2.8</td>
<td>21.4</td>
</tr>
<tr>
<td>Fefol</td>
<td>GlaxoSmithKline-Asclepius</td>
<td>6.4</td>
<td>2.6</td>
<td>6.2</td>
</tr>
<tr>
<td>Anofer</td>
<td>Sun</td>
<td>6.3</td>
<td>2.6</td>
<td>22</td>
</tr>
</tbody>
</table>

**Figure No. 2.** Hematinics market and competition - ORG MAT-2006.

**Source:** Sun Pharmaceutical Market Manual - Quarter II, 2006. p.22.
Each and every company highlights the advantages of its own hematinics composition by quoting supplements of elemental iron, presence of hemopoietic factors, tolerability of the product, superiority of salts; technological factor such as sustained release, timed release, extra timed release, controlled release, multi-layered delivery system thereby make a claim of superiority than other products.

<table>
<thead>
<tr>
<th>Company’s Name</th>
<th>Product Name</th>
<th>Constituents</th>
</tr>
</thead>
<tbody>
<tr>
<td>GlaxoSmithKline-Asclepius</td>
<td>Fefol-Z</td>
<td>Elemental iron 50 mg (carbonyl iron), Zinc Sulfate Monohydrate USP 61.8mg, Folic acid IP 0.5 mg</td>
</tr>
<tr>
<td>Janseen-Cilag</td>
<td>Raricap</td>
<td>Ferrous calcium citrate complex 500 mg, vitB₂2mg vitB₆1mg, vitC35mg, vitB₁₂1mcg, Folic acid 0.3mg</td>
</tr>
<tr>
<td>Wyeth</td>
<td>Autrin</td>
<td>Ferrous Fumarate IP 300mg, cyanocobalamin IP 15mcg, Folic acid IP 1.5mg</td>
</tr>
<tr>
<td>Emcure</td>
<td>Orofer-XT</td>
<td>Ferrous Ascorbate 100mg, Folic acid IP 1.1mg</td>
</tr>
<tr>
<td>GlaxoSmithKline-Derma</td>
<td>Fesovit</td>
<td>Dried Ferrous Sulphate (in time release form) 150mg, Folic acid IP 1mg, cyanocobalamin IP 15mcg, pyridoxine hcl IP 2mg, Nicotinamide IP 50mg</td>
</tr>
<tr>
<td>Ranbaxy</td>
<td>Conviron-TR</td>
<td>Ferrous sulphate 60mg, folic acid 1.5mg, vit c 75.1mg, vitB₁₂15mg, vitB₆1.5mg</td>
</tr>
<tr>
<td>Franco-Indian</td>
<td>Dexorange</td>
<td>Ferric Ammonium citrate IP 160mg, vitB₁₂7.5mcg, folic acid 0.5mg, Znso₄ 20.61mg</td>
</tr>
<tr>
<td>Emcure-Swiz</td>
<td>Ferium-XT</td>
<td>Ferrous Ascorbate 100mg, Folic acid IP 1.5mg</td>
</tr>
<tr>
<td>E.Merck</td>
<td>Livogen</td>
<td>Ferrous Fumarate IP 152mg, Folic acid IP 1500mcg</td>
</tr>
<tr>
<td>GlaxoSmithKline-Asclepius</td>
<td>Fefol</td>
<td>Dried Ferrous Sulphate 150 mg, Folic acid IP 0.5 mg</td>
</tr>
<tr>
<td>Sun</td>
<td>Anofer</td>
<td>Elemental iron 120mg (carbonyl iron) Vit A IP 5000IU Vit E acetate 25 IU, Vit C 75mg, Thiamine 4.5mg B₆3mg, B₁₂12mcg, folic acid 1.5mg, Nicotinamide 45mg, Iodine 150mcg, copper 2mg, zinc 25mg</td>
</tr>
</tbody>
</table>

**Figure No.3.** Product composition of hematinics

**Source:** Drug Index, July - September 2006. pp.351-353.
Oral Iron Therapy

Oral iron therapy is the method of choice for the treatment of anaemia. Daily administration of any one of the following iron salts usually given (ferrous sulphate, ferrous fumarate, ferrous gluconate, ferrous succinate, ferric ammonium citrate, ferrous calcium citrate, ferrous glycine sulphate, haemoglobin) along with folic acid is a quite effective therapy.

<table>
<thead>
<tr>
<th>Product</th>
<th>Pack</th>
<th>MRP (Rs.)</th>
<th>Cost per cap/tab (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fefol-Z</td>
<td>15's</td>
<td>68.53</td>
<td>4.56</td>
</tr>
<tr>
<td>Raricap</td>
<td>40's</td>
<td>66.40</td>
<td>1.66</td>
</tr>
<tr>
<td>Autrin</td>
<td>30's</td>
<td>45.75</td>
<td>1.52</td>
</tr>
<tr>
<td>Orofer-XT</td>
<td>10's</td>
<td>62.55</td>
<td>6.25</td>
</tr>
<tr>
<td>Fesovit</td>
<td>30’s</td>
<td>85.20</td>
<td>2.84</td>
</tr>
<tr>
<td>Conviron-TR</td>
<td>10’s</td>
<td>58.70</td>
<td>3.91</td>
</tr>
<tr>
<td>Dexorange</td>
<td>30’s</td>
<td>53.90</td>
<td>1.79</td>
</tr>
<tr>
<td>Ferium-XT</td>
<td>10’s</td>
<td>62.55</td>
<td>6.25</td>
</tr>
<tr>
<td>Livogen</td>
<td>10’s</td>
<td>14.91</td>
<td>1.49</td>
</tr>
<tr>
<td>Fefol</td>
<td>15’s</td>
<td>43.00</td>
<td>2.86</td>
</tr>
<tr>
<td>Anofer</td>
<td>10’s</td>
<td>47.00</td>
<td>4.70</td>
</tr>
</tbody>
</table>

**Figure No. 4.** Prices of the leading hematinic products

**Source:** Drug Index, July - September 2006. pp.351-353.
<table>
<thead>
<tr>
<th>Product and Company</th>
<th>Communication Theme</th>
</tr>
</thead>
</table>
| Fefol-Z GlaxoSmithKline -Asclepius | (i) Sustained release form-Spansule contains minute Pellets.  
(ii) Free from Gastro Intestinal side effects.  
(iii) Ensures optimal absorption of both zinc and iron. |
| Raricap Janseen-Cilag | (i) Multi-layered Delivery System (MDS) technology.  
(ii) Built in iron absorption promoter-increases Hb level.  
(iii) Excellent patient compliance-“gastro friendly” |
| Autrin Wyeth | (i) Meeting WHO and Ministry of Health and Family Welfare recommendation of elemental iron supplement.  
(ii) Hb (Hemoglobin) restoration time is faster.  
(iii) Well tolerated and Most economical brand. |
| Orofer-XT Emcure | (i) Unique extra timed release technology.  
(ii) No Gastro Intestinal side effects.  
(iii) Better tolerability. |
| Fesovit GlaxoSmithKline -Derma | (i) Iron with B-complex advantage  
(ii) Suitable for all age group.  
(iii) Better tolerability. |
| Conviron-TR Ranbaxy | (i) Timed Release technology.  
(ii) Better efficacy.  
(iii) Well tolerated. |
| Dexorange Franco-Indian | (i) Faster Hb rise.  
(ii) Better absorption.  
(iii) Well tolerated. |
| Ferium-XT Emcure | (i) Extra timed release technology.  
(ii) Free from Gastro Intestinal side effects.  
(iii) Better tolerability. |
| Livogen E.Merck | (i) Superior iron for better efficacy.  
(ii) Better absorption.  
(iii) Well tolerated. |
| Fefol GlaxoSmithKline -Asclepius | (i) Sustained release Technology  
(ii) Free from Gastro Intestinal side effects.  
(iii) Ensures optimal absorption of iron. |
| Anofer Sun | (i) Iron with anti-oxidant advantage  
(ii) Added laxative to avoid constipation  
(iii) Better tolerability. |

**Figure No. 5.** Communication theme of hematinic companies

**Source:** Collected from hematinic companies-Product literatures - 2006.
<table>
<thead>
<tr>
<th>Product and Company</th>
<th>Promotional Inputs</th>
</tr>
</thead>
</table>
| Fefol-Z GlaxoSmithKline-Asclepius | (i) CD on Pregnancy and Lactation for doctors.  
(ii) Arranging yoga video shows for pregnant ladies  
(iii) “STUDD” books for doctors (once in a year) |
| Raricap Janseen-Cilag   | (i) CD -Diet in Pregnancy.  
(ii) CD on Infant care to doctors.  
(iii) Obst. & Gynec. Specialisation books/CD for doctors. |
| Autrin Wyeth            | (i) Prenatal exercise charts.  
(ii) Postnatal exercise charts.  
(iii) A guide for expectant mothers. |
| Orofer-XT Emcure        | (i) Booklet on pregnancy.  
(ii) Wall hangs charts on pregnancy.  
(iii) Research journals for doctors. |
| Fesovit GlaxoSmithKline-Derma | (i) CD on Pregnancy and Lactation.  
(ii) Guide to pregnant ladies and lactating mothers.  
(iii) Medical books for Gynecologists/Lady General Practitioners. |
| Conviron-TR Ranbaxy     | (i) Pregnancy informative booklet for patients.  
(ii) Medical books for doctors.  
(iii) Congratulations card on new arrival of baby. |
| Dexorange Franco-Indian | (i) Exercise charts for pregnant ladies.  
(ii) Informative leaflet on pregnancy and lactation.  
(iii) Medical books for doctors. |
| Ferium-XT Emcure        | (i) Information booklet for pregnant mothers.  
(ii) Wall hangs charts on pregnancy.  
(iii) Journals for doctors. |
| Livogen E.Merck         | (i) Booklet on pregnancy and lactation.  
(ii) Exercise charts for pregnant mothers.  
(iii) Medical journals for doctors. |
| Fefol GlaxoSmithKline-Asclepius | (i) CD on Pregnancy and Lactation.  
(ii) Arranging video shows for pregnant ladies in hospitals.  
(iii) Medical books for doctors. |
| Anofer Sun              | (i) Medical Journals for doctors.  
(ii) Medical books for doctors.  
(iii) Informative books on pregnancy. |

(CD – Compact Disc)

**Figure No. 6.** Promotional inputs of hematinic Companies

**Source:** Collected from hematinic companies–Marketing manuals – 2006.
**Product Strategic Components**

Gina S. Krishnan (2006) highlights the importance of discovery of drugs as follows. The industry matures as dozen-odd companies get into the new drug research game. GSK (GlaxoSmithKline) has 143 new compounds under development while Pfizer has 140. But then, the first sometimes, a second or third drug in a new family also turns out to be a bigger blockbuster simply because it is overall a better drug. The analogue strategy was very successfully used by the Japanese drug industry when it was venturing into new drug development. If analogue research helps cut down research risks, the out licensing strategy drastically reduces the financial risk and in fact, helps a company earn some money even before the drug is fully developed by taking them up to the pre-clinical trial phase. Ranbaxy, Dr.Reddy’s and Glenmark follow this out licensing strategy.

IIPM (2005) Indian Institute of Planning and Management highlights the latest marketing strategy and innovations to boost up their sales. Indian companies are leaving no stone unturned to enter the big league, either through increased focus on Research and Development and enhancing their drug delivery mechanisms, or collaborating with international pharmaceutical giants, or even forging alliances with other domestic companies to increase market penetration. Identifying and targeting niche segments and concentrating on specialisations is the latest strategy in pharmaceutical sector.
CII (2006) Confederation of Indian Industries highlights about implementing two-pronged strategy”. On one hand, they are nationalising their product portfolio by phasing out low volume products that do not fit with their future strategy. On the other hand, they are scouting for brand acquisitions and even company acquisitions in order to increase their therapeutic reach and market penetration.

Gauri Kamath (2006) highlights about the marketing war that US court delivered a blow to Ranbaxy’s hopes of launching a copy of Pfizer’s $ 8.5 billion cholesterol reducer Lipitor in the US before its patent expiry in March 2010. The court refused to revisit its decision made in August 2006 that said “Ranbaxy would infringe Pfizer’s patent if it launched its generic”. An apex court judgement will take at least a year. The legal proceedings will buy Pfizer time to come up with a potent defensive strategy even as Ranbaxy continues to pay its lawyers.

Rajeswari Sheth (2006) conveys the following points while discussing the preference of medicines by Indian customer. The primary reason is the cost created on attractive impression about that international brand. The other reason is that the Indian customer is not fully confident even today that local brands offer the same quality as their international counterparts. This is where Indian brands have to fight for share against competition from international brands.

Vedpuriswar (2006) emphasises the need of knowledge management and mentions that knowledge sharpens our intuition and helps us cope with situations, which we have never encountered before. Knowledge based competitive advantage is sustainable because it has the potential to create virtuous circle.
Innovative knowledge helps a firm to lead its firm and competitors and to significantly differentiate itself from its competitors.

PC & ICMR (2006) Planman Consulting and Indian Council of Medical Research highlight that “Crocin” as a brand has scored 17,923 point and stood in 69th rank brand in their survey. It was evaluated with five parameters such as image and perception, brand awareness, brand loyalty, brand association and brand performance. To beat the competition crocin has recently gone for an all-new packaging with 3D-hologram seal. After two decades it underwent this change in package. ‘Crocin’ brand was sold by Duphar International to SmithKlineBeecham now called as GlaxoSmithKline. Innovative packing strategy differentiated ‘crocin’ from the rest of the other brands and made it achieve better score from the customers.

PC & ICMR (2006) Planman Consulting and Indian Council of Medical Research highlight that “Ranbaxy” scored 21,502 points and stood 26th rank in their survey. Forming the backbone of Ranbaxy is their robust distribution network and formidable product line that sets the stage for great things to achieve with their full-fledged Research and Development (R&D) centers.

PC & ICMR (2006) Planman Consulting and Indian Council of Medical Research highlight that “Band-aid” scored 21,652 points and stood 25th rank in their survey. Band-aid is one of the classical cases of a new product category becoming a generic brand name from Johnson & Johnson. The instant success came with the launch of Band-aid wash proof that delivered a significant consumer benefit of ‘staying on even in water’.
Innovative product technology made Band-aid to maintain its unchallenged supremacy in the market, without spending heavily on advertising.

Sandya Tiwari (2005) highlights about innovative marketing strategy as follows. The demand for product differentiation, as a great marketing tool is increasing in the Indian market and companies have begun to open their wallets to invest generously in R&D to achieve this. The focus is not only to develop new products but also to discover and disseminate Novel Drug Delivery System (NDDS). Novel Drug Delivery System has huge scope in both Indian and global market. Marketing tie-ups bring forward the combined strengths of two companies in different segments, leading to consolidation of market share and creating of sustainable competitive advantage in marketing. Ranbaxy Laboratories Limited has entered into a co-marketing alliance with France based Aventis Pasteur in the year 2003 for marketing its recombinant Hepatitis-B vaccine globally. In India, the company has such alliances with Cipla, Glaxo and Hoechst. Nicholas Piramal has tied up Hoechst. Kopran pharmaceuticals has strong rural reach has tied up with Zydus Cadila for its marketing alliance affairs.

Kumar Sharma (2007) mentions that developing a new drug from scratch is still a tall order for most Indian companies, but there is plenty a foot. If it happens, it will be sweet victory for Dr. Reddy’s Laboratories and which is why it is appropriate that India’s first indigenous drug may be the one to treat diabetes. Balaglitazone or DRF 2593 happens to be the most advanced New Chemical Entity (NCE) or molecule in the country, having successfully completed phase II clinical trials.
Ranbaxy has a molecule RBX 11160 (an anti-malarial) in phase II clinical trials, Wockhardt has WCK 771 (a broad spectrum antibiotic) also in phase II. Zydus Cadila has four new molecular entities in development and this includes ZYH1 which is also undergoing phase II clinical trial. Nicholas Piramal India has a lead molecule in oncology. Dr. Reddy plans to complement the internal Research and Development (R&D) efforts by pursuing, what it calls “strategic partnerships and alliances”.

Giana S. Krishnan (2006) remarks that the most Indian pharmaceutical companies give their molecules to multinational that take it the rest of the way. In return they get payments for each phase of the clinical trial that manages to cross. Avaant pharmaceuticals does just the opposite that is to look at compounds that have been discovered by global pharmaceutical giants but subsequently ignored and try to take them on licence for development, after evaluation. Then begin negotiations on cost sharing, marketing rights and intellectual property ownership. Avaant implements contrary strategy to win over market.

Martin Ahrens (2006) while discussing customer’s preferences in product development mentions that relevant and authentic data can drive up profits. Successful customer acquisition, retention and new product development-all of these depend upon customer understanding. Customer’s needs, wants, sensitivity to offer details, channel preferences, price sensitivities, risk characteristics and demographics are all important factors in the creation or maintenance of a profitable relationship. Finding all the relevant and correct data is one of marketer’s biggest ongoing challenges. Constant evaluation of customers and prospects should be carried out with respect to new products and services.
Gauri Kamath (2006) emphasises the importance of drug discovery and makes the following observations. Sun pharmaceutical chairman Mr. Shanghvi’s strategy is to defend its profit margin and establish with the highest operating margin with their presence in both abroad and domestic market. Nowhere is Mr. Shanghvi’s conservatism more obvious than in his acquisition strategy. In 2004-05, Sun pharmaceutical raised a sizeable $350 million through the issue of foreign currency convertible bonds for acquisitions primarily in the US. Sun pharmaceutical has doubled its bulk manufacturing capacity at minimal cost, added strength to their strategy. Sun pharmaceutical team is working with a strategy to bring out with product, characterised by lesser competition and high margins. While these will initially be copies of patented products to be launched on expiry. Sun is also using the learning’s to come out with own drug delivery systems to be applied to known drugs and that can be patent-protected for 20 years. A speciality company in the US focuses on niche products and owns substantial intellectual property. (www.pubmed.gov).

Spilker B (1998) emphasises the need to develop commercially viable drugs and hence to reduce pharmaceutical risk. Several types of risk encounter in drug discovery, development and marketing, as well as the overall business risks in the pharmaceutical industry. Discovery risk refers to the risk companies face if they are partly or totally dependent on discovering new drugs; many avenues are presented for companies to pursue in order to decrease discovery risk. Development risk is defined as the risk that drug discoveries that enter development will not reach the market and become commercially viable drugs. To decrease development risk, it is possible to pursue one or more of the approaches presented.
Significant marketing risks for a company include that the sales forecasts will not be met, the positioning of a drug may not be correct or optimal and the sale force is not performing adequately. At the corporate level there are numerous major risks involved in pursuing the specific mission, objectives, strategies and tactics of the overall company as well as those in the functional areas. Many aspects of the company’s business can be adjusted or changed to decrease corporate risk.

Mehta SC and Mehta SS (1997) express that pharmaceutical companies face a very hostile competitive environment from generic drugs once the patents on their brand name drugs expire. Depending on the country, such patents usually last 10-15 years but no sooner do the patents’ expire than copies of off-patent brand name drugs, called generics, are introduced, generally by smaller-size and lesser-known companies, at significantly lower prices. As health care costs escalate all over the world, efforts to control medication costs have created a major market for generic prescription drugs, particularly in government funded hospitals and in dispensing general practitioner markets of the Asia-pacific and the third world. The world market for generics estimated at US $ 20 billion is doubling in only five years and capturing over 30 per cent of the market share. Because of adverse effects on sales and profitability due to the launching of generics, most research based companies, that produce original brand-name patented drugs are forced to take counter measures to overcome this problem, particularly when Research and Development costs for new patents are skyrocketing. (www.pubmed.gov).
Carter T (2002) highlights about marketing crises and the ways to overcome the same. Johnson & Johnson has also had its share of marketing crisis, including the classic case example of The Tylenol scare in fall; 1982, so they can appreciate the need for effective marketing performance and customer responsiveness. This article examined how Johnson & Johnson has adopted to a highly volatile business environment and how they can be bench marked for highly competitive marketing strategies and practices. (www.pubmed.gov).

Herrod KG (2001) suggests that establishing a brand to excellence requires more than simply advertising. Adequate preparation and strategic planning will help organisation to successfully navigate looming pitfalls, overcome competitive pressures and make a direct hit with physicians and consumers. (www.pubmed.gov).

Kingsley VH (1986) suggests that consumers are becoming ever more selective in their choice of health care providers. Hospitals that are aware of local preferences and how to reach and influence consumers will gain a competitive advantage. Outlined in this article are consumer-marketing techniques that can be utilised for all product lines. The concept is applied here as a case study in obstetrics. (www.pubmed.gov).

Costaigne A (2002) explains about reimbursement procedures for product claim as follows. When a medication receives an authorisation for the release onto the market, it is necessary to determine the place that it will occupy in the therapeutic strategy with two regulations steps.
The commission for transparency gives an opinion on the target population, the placing in the therapeutic strategy, the level of medical benefit for patient, the restriction or not to hospital usage, and the inclusion in the national medical insurance reimbursement scheme for the medications that are not reserved to hospitals. The second step is the passage before medical economies committee that fixes the price of re-imbursement of the product. The final place of a given medication in the therapeutic strategies depends on numerous factors that can lead to two specialised medicines having the same indications occupying very different parts of the market, without the prescribers being capable to easily justify the reasons that makes them choose one molecule over another. (www.pubmed.gov).

Barros JA (2000) reveals the double standard practiced by pharmaceutical companies. Different factors have been identified as influencing drug prescribers. Some studies emphasis the role played by sources of information available to physicians. Reports have been published in the influence of marketing strategy on these health professionals such strategy include advertisements in medical journals, sales representatives, free samples, leaflets, distribution of gifts and prizes etc. The research reported here aimed to identify information provided by commonly used Brazilian prescription handbook. In relation to the 44 most frequently sold pharmaceuticals products in Brazil using as parameters, the World Health Organisation guidelines for information to be included in informative materials offered to physicians. The information was then compared to that included in the PDR (Physicians Desk Reference) and USP-DI (United States Pharmacopoeia Drug Information for the Health Care Professional) used by prescribers in the United States.
The results showed lack of data in the Brazilian publication (contraindications, side effects, drug interaction) suggesting lack of reliability in prescription quality and thus in the ultimate utilisation of drugs. (www.pubmed.gov).

Murray MD and Deardorff FW (1998) while examining the product cost strategy make the following remarks. Managed care organisations and the pharmaceutical industry have diametrically opposing objectives; though there is hidden common ground. On one hand, most managed-care organisations now want to reduce the cost of drugs or at least maintain drug costs as a hedge against inflation. On the other, the pharmaceutical industry wants to sell more of their often expensive branded drug products in the setting of over expanding managed care. This has sparked a variety of strategy aimed to meet objectives in what could be an endless game. Presently, this exchange is a dynamic process with shifts of momentum between managed-care organisations and the pharmaceutical industry. Forces that now favour the pharmaceutical industry’s growth include movement of prescription payment from out-of-pocket by insurers and number of available innovative drug products. Common ground between managed care and the pharmaceutical industry may be found when more of both of their efforts are invested in investigating the effects of innovative drugs on total health care costs of patients. To date, available marketing data indicate that the pharmaceutical industry is fuelled by managed care, which is a somewhat an ironic twist. (www.pubmed.gov).
Kessler DA et al. (1996) reveal the new drugs approval strategy of United States of Food and Drug Administration (USFDA) comparison with the United Kingdom, Germany and Japan. In a study reported herein, the marketing approval dates of 214 drugs newly introduced into the world market from January 1990 through December 1994 were compared in four countries. The analysis reveals that the United States and United Kingdom have similar patterns of drug availability, although the United States has a number of therapies with significant public health benefits that are not yet available in the United Kingdom. The findings also show that the United States outpaces both Germany and Japan in approving important new drugs. Various strategy adopted by the Food and Drug Administration to expedite its pharmaceutical review process, including the use of industry user fees, are described. (www.pubmed.gov).

Wright R (1996) reveals about novel marketing strategy of making Zantac as the best selling drug. Glaxo’s Zantac began its dominance of the acid/peptic market place with a launch strategy; taking advantages of the established Rouche sales force to rapidly promote the product. Educational symposia for physicians were instrumental in disseminating both disease and product information to primary care physicians and specialists. This technique not only pleased physicians (more referrals) but also increased public awareness of gastro intestinal disease, further expanding the patent market. Several novel marketing strategies contributed to Zantac’s success, including the public-service announcements, celebrity media tours and consumer-awareness bulletins, which brought the drug to the lay public and encouraged individuals to seek advice from their physicians. (www.pubmed.gov).
Telfair T et al. (2006) reveal the method of identifying adverse reaction in estimating post-marketing exposure to pharmaceutical products. The Pharmaceutical industry has an obligation to identify adverse reactions to drug products during all phases of drug development, including the post-marketing period. Estimates of population exposure to pharmaceutical products are important to the post-marketing surveillance of drugs and provide a context for assessing the various risks and benefits, including drug safety, associated with drug treatment. This paper describes a systematic approach to estimating post-marketing drug exposure using ex-factory shipment data to estimate the quantity of medication available and dosage information to convert the quantity of medication to person time exposure. This approach provides estimates whose calculations are explicit, documented and consistent across products and over time. The methods can readily be carried out by an individual or small group specialising in this function and lead themselves to automation. The present estimation approach is practical and relatively uncomplicated to implement. (www.pubmed.gov).

Perck C (2007) suggests about drug safety and prevention of post marketing changes in recommended doses. Recent market withdrawals of prescription drug products have brought attention to pre marketing safety research. Less known but related to some drug withdrawals are post marketing dosage changes of newly marketed drugs, including both dosage reductions and increases. These events have serious effects on patients, manufacturers and regulatory authorities. Most of the harmful events could be avoided by intensive employment of targeted clinical pharmacology investigations to optimise dosage prior to phase III testing and regulatory approval.
In this paper, the frequency and implications of post marketing dosage changes and market withdrawals are considered in the light of approaches to prevent them. (www.pubmed.gov).

**Pricing Strategic Components**

Amit Mukherjee (2007) discusses in detail about pricing practices in India. India is already one of the cheapest markets for drugs. Does it need price controls? Perhaps not”. Indian pharmaceutical market is the fourth largest in the world by volume, but by value Rs.27,000 crore that manufacturer totted up in domestic sales during 2005-06 puts India at a distant 13th in the global stack-up. Drug prices, the industry points out have risen between just one and three per cent a year historically, well below the annual rate of inflation, and that prices of some life-saving drugs are lower in India than in poorer countries such as Pakistan and Bangladesh. According to a YES bank report, 15 per cent of the Rs. 60,000 crore domestic pharmaceutical sales by 2015 could come from patented drugs. Confederation of Indian Industries study estimates that the industry revenues will touch Rs. 1,20,000 crore by 2010. It may still not be large enough to excite Indian drug makers, but it is this base that allows them to reach out to global generic markets.

Government of India published report on price control mechanism for drugs. Ministry of Chemicals and Petrochemicals has finalised the benchmark price of rupees three per tablet for medicines that will be kept outside price control regime in order to encourage producers to price their medicines low to avoid control. If a company sells particular medicine within rupees three per tablet, then it would not have to go through the stringent monitoring mechanism of price control by the regulator.
This is called as “Escape Strategy” by the pharmaceutical companies to get away their product from the price control. (GOI, 2006).

Government of India published report to resolve price control issues in pharmaceutical industry”. The government of India has constituted the Group of Ministers (GoM) to resolve the long pending issue of bringing more drugs under the ambit of cost-based price control. Considering a sharp divide between the pharmaceutical industry and the chemicals department on cost based price control, had referred the matter to Group of Ministers. (GOI, 2006).

Huskamp HA (2006) analyses pricing strategic practices for new drugs. High profits and high drug costs have brought increased scrutiny of the pharmaceutical industry over the issue of whether the drugs they produce are worth the costs. He examined several related complaints, including the proliferation of me-too drugs and product reformulations, which some argue have little value relative to their cost; the baseless promotion of newer drug classes as more effective than existing, less expensive drugs; legal strategy to extend market exclusivity that result in high brand-name drug prices for an extended period of time; and large promotional expenditures that result in higher prices. (www.pubmed.gov).

Hong SH et al. (2005) highlight about pricing strategic practices adopted for drugs facing patent expiration. This study proposed an alternative to brand loyalty as the explanation for the continued price rigidity of patent-expired brand-name prescription drugs despite the increase in market entry of generic drugs facilitated by the 1984 Drug Price Competition and Patent Term Restoration Act.
The design is a retrospective follow-up study for the prescription drug brand that lost their patents between 1987 and 1992. Information on patent expiration, entry of a product extension and market successes were determined from the USFDA’s orange book, First Data Bank and American Druggist respectively. Product line extension was defined as the appearance of another product that a company introduces within the same market after its existing product. Drug prices were average wholesale prices from the Drug Topics Red Book. The relationship between product-line extension and market success was examined using a logistic regression analysis. The price rigidity to entry was tested using a panel regression analysis. This study provided some support for the alternative explanation to brand loyalty that a new-product line extension introduced for an original brand helps the original price be rigid despite the entry of generic drugs facilitated by the 1984 Drug Price Competition and Patent Term Restoration Act. (www.pubmed.gov).

Jeevan SS and Puja Mehra (2006) analyse the process of price control mechanisms. The Union minister of Chemicals and Fertilisers has revised the Maximum Allowable Post-manufacturing Expenses (MAPE) which are now 100 per cent over manufacturing cost to 150 per cent in general and 50 per cent additional MAPE for Research and Development-intensive companies. But even here, for the 74 drugs already under price control MAPE would continue at 100 per cent for another year to prevent any sudden price escalation. On one hand the ministry has to ensure cheap medicines for the poor; on the other hand ministry must provide oxygen for the industry to grow and discover new drugs. Controlling prices may lead to shortages and curtailing profits may sound the death knell for business.
Baker D (2004) examines the efficiency of patent systems in pharmaceutical industry. The cost of prescription drugs is imposing an ever-greater burden on families and varying levels of government. The vast majority of this cost is attributable to patent protection, since most drugs are actually relatively cheap to produce. The temporary monopolies provided by patent protection have been the main mechanism through which corporations have financed their drug research. This article examines the efficiency of publicly supported drug research relative to the current patent system. The author shows that even if publicly funded research were considerably less efficient on a dollar-per-dollar basis than patent-supported research, there would still be enormous gains from switching to a system of publicly supported research. Patent monopolies lead to expensive sales promotion efforts; research into “copy cat drugs”, incentives to conceal unfavourable research findings and other inefficiencies that economic theory predicts would result from a government-created monopoly. (www.pubmed.gov).

Meyer H (1998) analyses about hike in drug cost. It pays to pay attention to drug costs, as prescription outlays rise as much as 20 per cent a year at many health plans. Despite a wave of direct-to-consumer advertisements for pricey new medicines. Health management organisations are fighting back by cutting the number of drugs they will pay for and hiking co-pays, among other strategies. (www.pubmed.gov).

Koserlitz J (1993) reveals that prescription of drug prices in the United States are some of the highest in the world and United States trade officials and the American pharmaceutical industry are doing something about it. They are pressing for trade agreements that could raise drug prices in other countries. (www.pubmed.gov).
Sica JM (2001) reviews prescription drug cost trends, cost versus value, demographic changes, direct-to-consumer advertising, effects of the Internet and disease management. The author also discusses pharmacy benefit managers, as well as various utilisation management strategies like benefit plan design and the use of formularies. (www.pubmed.gov).

Steven Seget (2005) suggests that effective negotiations are essential to obtaining a high price within a reimbursement environment. Employing some level of reference pricing, pharmaceutical companies must provide compelling evidence of their products' benefits in order to justify a specific price. This means that trials conducted during Research and Development must focus on generating data that can be used in pricing negotiations as well as simply showing the safety and efficacy necessary for marketing approval. A products’ launch price is usually the highest price it will receive during its lifecycle and therefore pharmaceutical companies must demonstrate the value of their products during Research and Development to strengthen negotiation positions. The product’s brand position and economic value both have a significant influence on the price. Brand positioning depends on a product’s attributes; unmet needs, innovation and perceived benefits, while its economic value is related to the cost-effectiveness, cost savings and affordability of the drug. Pricing concerns should be a key element of a product’s development strategy. For certain products in some reimbursement and pricing environments, a target price is unlikely to be granted irrespective of the negotiations undertaken. In such a case, a pharmaceutical company is faced with a number of strategic marketing options in order to maximise its returns.
Strategy relating specifically to the optimisation of pharmaceutical prices include the determination of launch order to minimise the detrimental effects of reference pricing, launching outside reimbursement or not at all where the reimbursed price is set prohibitively low and promotional efforts such as Direct To Consumer advertising (DTC) partnering with patient support groups and physician detailing. (www.reuters.edu).

Zara J (2006) highlights about drug price restrictions in the U.S. where pharmaceutical companies operate in an unregulated market, free to charge whatever price the market will bear. The pharmaceutical industry insists that these large profits are justified for investments toward discovering a new life saving medicines. As innovation varies, marketing costs soar and drug profits rise, public interest advocates and state leaders are challenging this justification. This article examines current problems associated with the ability to procure affordable medicines and examines mounting tensions between the federal government and states particularly regarding the states’ ability to negotiate lower prices with drug manufacturers in the light of recent Medicare changes. It provides a brief survey of efforts underway to secure affordable pharmaceuticals for state’s residents, addressing the history and feasibility of using compulsory licensing for producing affordable life-saving drugs with respect to public health, constitutional eminent domain and anti-trust issues.

Ridley DB (2005) highlights that in USA the pharmaceutical manufacturers have increased the availability of their products and sometimes increased their own financial returns by charging lower prices outside of the United States and by discounting to lower income patients in the United States.
The World Health Organisation’s efforts to increase transparency are likely to lead to less price differentiation in pharmaceuticals. An important reason why manufacturers are reluctant to charge lower prices in lower income countries is that they fear that such low prices will undermine the prices they charge to higher-income consumers. International organisations should not facilitate transparency but should dissuade governments from making price comparisons and basing their prices on those of lower-income countries. Further more they should endeavour to keep low-priced and free drugs in the hands of the low-income consumers for which they were intended.

Danzone PM and Ketcham JD (2004) discuss about reference pricing in Germany, the Netherlands and New Zealand”. This paper highlighted three prototypical systems of therapeutic reference pricing (RP) for pharmaceuticals. Germany, the Netherlands and New Zealand examine their effects on the availability of new drugs, reimbursement levels, manufacturer prices and out-of-pocket surcharges to patients. Reference pricing for pharmaceuticals is not simply analogous to a defined contribution approach to subsidising insurance coverage. Although a major purpose of reference pricing is to stimulate competition, theory suggests that the achievement of this goal is unlikely and this is confirmed by the empirical evidence. Other effects of reference pricing differ across countries in predictable ways, reflecting each country’s system design and other cost-control policies. New Zealand’s reference pricing system has reduced reimbursement and limited the availability of new drugs, particularly more expensive drugs, compared to these three countries. If reference pricing were applied in the United States it would likely to have a more negative effect on prices of on patent products because of the more competitive United States generic market.
On research and development and the future supply of new drugs, it is due to the much larger United States share of global pharmaceutical sales.

Henry D and Lexchin J (2002) express concern over pricing strategic practices. Rising prices of medicines are putting them beyond the reach of many people, even in rich countries. In less-developed countries, millions of individuals do not have access to essential drugs. Drug development is failing to address the major health needs of these countries. The prices of patented medicines usually far exceed the marginal costs of their production; the industry maintains that high prices and patent protection are necessary to compensate for high development costs of innovative products. There is controversy over these claims. Concerns about the harmful effects of the international system of intellectual property rights have led the World Trade Organisation to relax the demands placed on least developed countries and to advocate differential pricing of essential drugs. How these actions will help countries that lack domestic production capacity is unclear. Better access to essential drugs may be achieved through voluntary licensing agreements between international pharmaceutical companies and manufacturers in developing countries. (www.pubmed.gov).

Sequal R and Wang F (1999) highlight the influence of price on physician prescribing behaviour. The drug use process suffers from problems related to quality and costs have not responded well to administrative or educational interventions. In many cases, attempts to improve the quality of physician prescribing have been clumsy, often based on intuition. This article begins by describing the drug use process and the role of prescribing in that process. In the following section, authors describe what is known about how physicians make drug choice decisions.
The paper concludes with suggestions, based on evidence, about the design of strategy for influencing prescribing product. (www.pubmed.gov).

Promotional Strategic Components

Castresana L, Mejia R and Aznar M (2005) highlight about the attitude of physicians regarding the promotion strategies. Pharmaceutical companies invest large sums of money promoting their products. They use a multifaceted approach to drug promotion, incorporating techniques such as hospital and office detailing by pharmaceutical representatives. Although these practices are commonly used, little has been published about the attitude of physicians concerning their interaction with the pharmaceutical industry. Researchers performed a cross sectional anonymous survey to identify the extent of and attitudes towards the relationship between the physicians and the pharmaceutical industry and its representatives with its impact on the knowledge, attitude and behaviour of the physicians. Most of the participants consider appropriate receiving these benefits, although thirty five per cent think that they affect the final price of medications. In conclusion, there is a high level of interaction between the pharmaceutical industry and our medical population. Although the latter recognises the influence of these interactions on prescriptions and the elevation of the cost of the final product, they find it appropriate to receive benefits. (www.pubmed.gov).

Gaedeke RM, Tootelian DH and Sanders EE (1999) analyse about value of service provided by pharmaceutical companies: perceptions of physicians and pharmaceutical sales representatives”. Pharmaceutical sales representatives are a key component of pharmaceutical companies’ marketing strategies in that they are the link between the pharmaceutical company and the physician.
Pharmaceutical sales representatives provide various services in order to increase the physician’s prescribing activity of their companies’ products. Given the high cost of recruiting, training and supporting a sales representative, it is important for pharmaceutical sales representatives to understand the relative significance physicians ascribe to services provided. This study examined whether there is a gap in the perceptions of physicians and pharmaceutical sales representatives, regarding the value of specific services provided by pharmaceutical sales representatives. Results of the study indicated that there were significant differences in the perceived value between pharmaceutical sales representatives and physicians. Services which were perceived to be less important to physicians than to pharmaceutical sale representatives were new product detailing, old product detailing, providing product studies and research findings, pharmaceutical sales representatives serving as expert consultants and recruiting physicians to participate in Food Drug Administration approval drug studies. Services for which there were no significant differences of perceived value between the groups included free product samples and promotion luncheons and dinners.

Anadaleeb SS and Tallman RF (1996) analyse about the relationship of physicians with pharmaceutical sales representatives and pharmaceutical companies. Physicians were surveyed in Northwestern Pennsylvania to examine how they viewed their relationships with pharmaceutical sales representatives and the pharmaceutical industry. Physicians viewed the pharmaceutical sales representative as an important source of information, but felt that they could get needed information from other sources without the pharmaceutical sales representative’s assistance.
Physician’s also had friendly relations with pharmaceutical sales representatives and did not disturb them, but they did not view pharmaceutical sales representatives as a vital part of their practice. Samples and gifts provided by the pharmaceutical companies were not viewed as vital to gaining access to physicians. However, the financial support the companies provided for continuing medical education was seen as vital. The selling approach used by pharmaceutical sales representatives was not considered as manipulative, more were pharmaceutical sales representatives thought to be perceived negatively by the medical community. A majority of the physicians said they would accept honoraria for delivering lecturers to pharmaceutical companies. Twenty-five percent of the responding physicians also owned stock in pharmaceutical companies.

Creyer EH and Hristodoula Kis I (1998) explore about promotional activities in marketing pharmaceutical products to physicians. Sales representatives influence physician’s impressions of the industry”. A study conducted at a large Midwest teaching hospital provides a better understanding of how marketing activities influence physician’s impressions of the pharmaceutical industry; in particular, the extent to which physicians believe that the pharmaceutical industry understands their needs and the extent to which it is concerned about improving the overall quality of health in the United States. Also, the authors explore the motivation of the pharmaceutical industry’s concern with patients.
Martin Ahrens (2006) evaluates customer’s need based promotional activities in transform data-driven business decisions. Relevant and authentic data can drive up profits. Successful customer acquisition, retention and new product development—all of these depend upon customer understanding. Customer’s needs, wants, sensitivity of offer details, channel preferences, price sensitivities, risk characteristics and demographics are all important factors in the creation or maintenance of a profitable relationship. Finding all the relevant and correct data is one of marketer’s biggest ongoing challenges. Constant evaluation of customers and prospects should be carried out with respect to new products and services.

Parker RS and Pettijohn CE (2005) highlights about push and pull strategy in pharmaceutical drug marketing. A variety of promotional strategy has been used to stimulate sales of pharmaceutical drugs. Traditionally, push techniques have been the predominant means used to encourage physicians to prescribe drugs and thus increase sales. Recently, the traditional push strategy has been supplemented by all pull strategy. Direct-to-consumer advertising is increasingly used to encourage consumers to request advertised drugs from their physicians. The research compares the attitudes of two of the most affected participants in the prescriptive sales processes; physicians and pharmaceutical sales representatives. The findings indicate differences between physicians and pharmaceutical sales representatives regarding the efficacy and ethical considerations of various promotional strategies.
Tengilimoglu D et al. (2004) evaluate the need for training sales promotional employees in job duties, job qualifications and other performance-related issues. This study examined the perceptions of medical representatives of job related duties, job qualifications needed, motivating factors and tested for differences based on gender, age, years of experience and education using prior research as a base. The author’s findings highlight the need for developing in-service training programs for medical sales representative, especially in the areas related to technical aspects of the product, effective marketing and personal selling strategy and consumer relations. Training in these areas will help sales people to better manage the problems typically encountered in physician- sales representative relations.

Spiller LD and Wymer WW Jr. (2001) analyse about promotional strategic activities in pharmaceutical marketing to physicians. Data were collected from physicians attending a medical conference. This exploratory study was primarily interested in two areas. First, the investigators were interested in better understandings physicians’ responses to different promotional tactics typically used by the pharmaceutical industry. Pharmaceutical representatives were most useful, followed by drug samples and information in medical journals. Direct mail, promotional faxes, and promotional products were used less by physicians. Second the investigators were interested in learning what information sources influenced physician’s drug choices. Physicians were primarily influenced by their prior experience with a drug then by drug compendiums and journal articles. Physicians were also influenced by information provided by the industry and other factors like the drug’s price and their patients’ financial situations. Managerial implications for marketing to physicians and ideas for future research are discussed.
Evans KR and Beltramini RF (1986) evaluate promotional strategic activities of pharmaceutical companies. This study reports the finding of an investigation designed to explore the importance of prescription drug information source characteristics among physicians. Differences were found to exist among the importance-ratings both in aggregate and between categories of physician speciality and years in practice.

Kumar Sharma E (2006) reveals about promotional strategic activities to gear itself up for the new challenges. It is spending an impressive Rupees fifteen crore in an initiative called “MY DREEM” (for Dr. Reddy’s Execution Excellence Model) using SAP business suite to wire up the organisation with its 1,750 strong field force (comprising medical representatives and their field managers) to improve operational efficiency, speed up process and lower execution risks across the organisation. It is the best strategy resulted with increased output and better job satisfaction for all employees.

Williams JR and Hensel PJ (1991) review and analyse promotional strategic activities. Since 1952, twenty data sets have been generated through seventeen studies in an attempt to describe the sources and importance and use of information about pharmaceuticals by physicians. The authors review these findings of the studies and subject them to three sequentially relevant, but different, meta-analytic procedures. The results of these analyses indicate significant changes in the sources and importance of various commercial/non-commercial and personal/non-personal information as they relate to physicians’ prescribing behaviour. Those changes over time have specific implications for marketers of pharmaceuticals.
Evans KR and Beltramini RF (1986) reveal about physician acquisition of prescription drug information. The authors explore how the characteristics of prescription drug information sources influence the perceived usefulness of those sources. Physicians were asked in a survey to assess several prescription drug information sources and source characteristics. Their perceptions were examined statistically to determine whether they vary among physician subgroups (general practitioners versus specialists and younger versus older physicians). The results show that physician subgroups differ not only in their likelihood by using prescription drug information sources, but also in the importance they attribute to the information source characteristics. A situationally derived model of physician prescription drug information acquisition is advanced and a variety of academic and practitioner implications are discussed.

Chren MM, Landefeld CS and Marrv TH (1989) analyse the impact of doctors accepting gifts from drug companies. They conclude that such a practice has complex practical and ethical repercussions. Gifts cost patients money and they may change society’s perception of the profession as serving the best interests of patients. Also, accepting a gift establishes a relationship between the physician and drug company that obliges a response from the physician. Accepting gifts and the resulting relationship have ethical implications as well. First, the use of patient’s money to pay for gifts can be injustice. Second, the fiduciary relationship between the physician and patient may be threatened if prescribing practices are affected (as intended by the drug company). Third, physicians’ characters may be altered by a practice that fosters self-interests at patients’ expense. We discuss the need for guidelines for the profession to help physicians promote their patients’ wellbeing.
Brett AS, Burr W and Moloo J (2003) analyse about ethical problem due to physicians accepting gifts from pharmaceutical companies. Personalised pharmaceutical marketing to physicians, including the provision of gifts and sponsorship of educational and recreational activities, raises ethical issues. Most marketing activities were not thought to pose major ethical problems. Respondents tend to make distinctions about the ethical appropriateness of gifts on the basis of the monetary value and type of gift. Some respondents’ views would be in violation of recent professional guidelines that address interactions between physicians and pharmaceutical companies. However, some respondents were troubled by activities that are permitted by professional guidelines. Despite the recent publicity about ethical problems in relationships between physicians and the pharmaceutical industry, inexperienced and experienced physicians at a single institution continue to have a rather permissive view about a variety of marketing activities.

Agarwal S, Saluja I and Kaczorowski J (2004) highlight about promotional strategic intervention about pharmaceutical marketing. There is increasing evidence that physicians may be compromised by their interactions with the pharmaceutical industry. The authors aimed to develop and determine the effect of an educational intervention to inform family medicine residents about pharmaceutical marketing. The curriculum consisted of (1) a faculty-led debate and discussion of a systematic review of physician-pharmaceutical industry interactions and (2) an interactive workshop that included a presentation highlighting key empirical findings, a video illustrating techniques to optimise pharmaceutical sales representatives’ visits and small-and-large-group problem based discussions.
Residents were asked about their attitudes toward five marketing strategies: drug samples, industry-sponsored continuing medical education, one-on-one interactions with sales representatives, free meals and gifts worth less than CAN $ 10. After the intervention residents had more cautious attitudes, rating marketing strategies on a five-point Likert scale as less ethically appropriate (-0.41, p<.05) and less valuable to patients or useful to the residents (-0.39, p<.05) and reporting less intention to use them in future (-0.44, p<.01). This intervention appears to have promoted more cautious attitudes toward pharmaceutical marketing. Its long-term sustainability and effect on behaviour remain unknown.

Marco CA et al. (2006) state that gifts to physicians by the pharmaceutical industry pose numerous ethical questions. Although individual patients and physicians may benefit financially and educationally from certain gifts, the risk of bias resulting from such gifts makes them ethically challenging. After a brief description of the nature and scope of the practice of gift giving, this article examines major arguments for and against this practice. We then review the development of guidelines by professional societies, trade organisations and government agencies. We conclude with a list of summary recommendations designed to help individual physicians, educators and administrators engage in careful reflection and analysis and make sound ethical decisions about acceptance of gifts.

Lee PR et al. (1991) reveal about drug promotion and labeling in developing countries. Recent studies of drug promotion and labeling in third world countries since 1972 have observed important changes in the policies of multinational corporations.
Earlier studies found that multinational and national drug companies often grossly exaggerated the indications for the drugs and minimised or ignored the hazards. In the latest study, initiated in 1987 a considerable improvement in promotional practices of the multinational corporations has been found, but little or no improvement on the past of the national companies. As a result, physicians are still provided with grossly exaggerated claims and the hazards of prescription drugs are covered up or glossed over. A very serious problem—the marketing of fraudulent drug products has been identified in a number of third world countries. Drug products are shaped and coloured to resemble the original multinational company product, but contain only a small percentage of the active ingredient stated on the label or perhaps none to all. In Indonesia fraudulent drug products may represent twenty to thirty per cent of all drug products in the market. Similar fraudulent products have been reported in Brazil, Thailand, Bangladesh and Malaysia. (www.pubmed.gov).

Lyles A (2002) highlights about marketing of pharmaceuticals directly to consumers. Revised Food Drug Administration regulations governing pharmaceutical companies broadcast advertisements directed to consumers produced substantial increase in direct-to-consumer advertising (DTCA) expenditures. Proponents of direct to consumer advertising claim, it supports patient autonomy in the patient-physician relationship and has motivated some consumers to seek a physician’s care for conditions they previously had not discussed with a doctor. However, direct to consumer advertising’s blend of promotion and information has produced more prescription drug awareness than knowledge it has been largely ineffective in educating patients with medical conditions about the medications for those conditions.
The evidence for direct-to-consumer advertising’s increase in pharmaceutical sales is as impressive as is the lack of evidence concerning its impact on the health of the public. Broadcast advertisements are too brief to include extensive technical information; consequently the impact of food and drug administration regulations to assure a fair balance of risk and benefit in direct to consumer advertising is still being assessed. (www.pubmed.gov).

Ma J et al. (2003) provide a statistical analysis of drug promotion in the United States in 1998”. The aims of this study were to determine the magnitude of expenditures for common modes of promotion and to delineate patterns of promotional strategy for particular classes of medications. Nationally representative data on expenditures (in US $) for the 250 most promoted medications in the US in 1998 were available from pharmaceutical market company for the five most commonly used modes of promotion. Key patterns of drug promotion were identified by descriptive statistics, a cluster analysis of expenditure by class and analysis of expenditure concentration. In 1998, the pharmaceutical industry spent US $ 12,724 million promoting its product in the United States, of which 85.9 per cent was accounted for by the top 250 drugs and 51.6 per cent by the top 50 drugs. Direct-to-consumer advertising was more concentrated on a small subset of medications than was promotion to professionals. Over all 1998, expenditures were dominated by free drug samples provided by physicians and office promotion followed by direct-to-consumer advertising, hospital promotion and advertising in medicinal journals. The present findings reinforce the perception that the pharmaceutical industry invests heavily in promoting its products and demonstrate that promotional expenditures are concentrated on a small number of medications.
Although promotion to professionals remains dominant, direct to consumer advertising has become a key for a subset of common medications. (www.pubmed.gov).

Vogel RJ, Ramachandran S and Zachry WM (2003) evaluate about economic effects of direct-to-consumer advertising of pharmaceuticals”. The Pharmaceutical industry employs a variety of marketing strategy that has previously been directed primarily toward physicians. However, mass media direct-to-consumer advertising of prescription drugs has emerged as ubiquitous promotional strategy. This article explores the economics of direct to consumer advertising in greater depth than has been done in the past by using a 3-stage economic model to assess the pertinent literature and to show the probable effects of direct-to-advertising in the United States. Spending on direct-to-consumer advertising in the United States increased from US $ 17 million in 1985 to $ 2.5 billion in 2000. Proponents of direct-to-consumer advertising claim that it provides valuable product-related information to health care professionals and patients may contribute to better use of medications and helps patients take charge of their own health care. Opponents argue that direct-to-consumer advertising provides misleading messages rather than well-balanced, evidence-based information. The literature is replete with opinions about the effects of prescription drug advertising on pharmaceutical drug prices and physician prescribing patterns, but few studies have addressed the issues beyond opinion surveys. The economic literature on advertising effects in other markets, however, may provide insight. Direct-to-consumer advertising indirectly affects the price and the quantity of production of pharmaceuticals via its effect on changes in consumer demand. (www.pubmed.gov).
Atherton E and Kleiner BH (1998) report about health care quality assurance in health services”. This report contains information about three of the top medical manufacturing companies in the world Baxter Health Care Corporation, Johnson & Johnson and Medtronic Inc. Resources have been gathered and employees in key positions from each company have been interviewed to obtain the most current and accurate information. Interviewees were asked what factors contribute to their company’s’ success. These factors were then explored more explicitly through a variety of publications and the results were included in this report. In today’s competitive market, companies must keep current with the market trends and be flexible and open to changing and improving their practices in order to remain successful. It has been found that although the main focuses of each company may be similar, the processes by which they strive to meet their goals are quite unique.

Wilkes MS, Bell RA and Kravitz RL (2000) evaluate about prescription drug advertising trends, impact and implications”. Authors provide an overview of what is known about the impact of direct-to-consumer (DTC) advertising of prescription drugs. Specifically, they explore the historical trends that lead to the industry’s increasing use of this form of promotion. Then, using the published literature to date, they review the impact of direct to consumer advertising on the consumer, the medical profession and the health care system. They conclude by offering policy suggestions for how the pharmaceutical industry can promote its products more responsibly, how the Food and Drug Administration (FDA) can regulate direct to consumer advertising more effectively and how the medical and public health communities can educate the public about drug therapies more constructively.
Wilkes MS, Doblin BH and Shapiro MF (1992) evaluate the impact of pharmaceutical advertisements in leading medical journals. To assess both the accuracy of scientific data presented to print pharmaceutical advertisements and the compliance of these advertisements with current Food and Drug Administration (FDA) standards by cross-sectional survey. Each full-page pharmaceutical advertisement (n=100) appearing in ten leading medical journals along with all-available references cited in the advertisement were sent to reviewers. Respondents were asked to evaluate the advertisements using criteria based on Food and Drug Administration guidelines, to judge the educational value and overall quality of the advertisements and to make a recommendation regarding publication. In the opinion of the reviewers, many advertisements contained deficiencies in areas in which the Food and Drug Administration has established explicit standards of quality. New strategies are needed to ensure that advertisements comply with standards intended to promote proper use of the products and to protect the consumer. (www.pubmed.gov).

Bell RW and Osterman JW (1983) analyse about pharmaceuticals and specialities. The compendium of pharmaceuticals and specialities (CPS) is the most widely used source by drug information in Canada and is heavily financed by the pharmaceutical industry. A close examination of its contents comparing a computer-drawn, randomised sample of monographs from its “white pages” to standard pharmacological reference works demonstrates certain of its characteristics; it uncritically includes many inadequate preparations it overstates the benefits and understates the adverse qualities of many preparations; and it contains little or no information on relative indications, efficiency or price.
Their characteristics serve to promote the marketing goals of the drug manufacturers and severely limit the volume’s usefulness as an objective source of drug information. The role of the compendium of pharmaceuticals and specialties and similar publications in the overall context of current drug company marketing strategy is discussed. Finally suggestions for improvements are made involving the examination of direct manufacturer financing and the creation of an objective, independent, nonprofit publishing agency supported by professional and governmental organisations.

Maggie Somerset et al. (2001) examine the interaction between general practitioners and pharmaceutical company representatives. Encounters between general practitioners and pharmaceutical representatives follow a consistent format that is implicitly understood by each player. It is naïve to suppose that pharmaceutical representatives are passive resources for drug information. General practitioners might benefit from someone who can provide unbiased information about prescribing in a manner that is supportive and sympathetic to the demands of practice.

Shapiro M F (1997) analyse about pharmaceutical advertising. Financial sanctions against improper advertising are likely to be regarded by manufacturers as the cost of doing business and any regulatory body that includes drug industry representatives or individuals receiving financial support from the drug industry cannot be genuinely independent. Moreover, manufacturers are now using promotional strategy that is particularly difficult to regulate. These include providing drugs at lower than the usual cost to ensure their inclusion in managed-care formularies and using direct to consumer advertising to take advantage of the public’s lack of sophistication in interpreting evidence.
Our best hope of counteracting the power and influence of the drug industry lies in regulation by government agencies, whose interest is the protection of the public.

Comphell EG et al. (2007) analyse physician-industry relationships which has received considerable attention in recent years. Researchers surveyed physicians to collect information about their financial association with industry and the factors that predict those associations. Most physicians reported some type of relationships with the pharmaceutical industry and most of these relationships involved receiving food in the workplace on receiving drug samples. More than one third of the respondents received reimbursement for costs associated with professional meetings or continuing medical education and more than one quarter received payments for consulting, giving lecturers, enrolling patients in trials. The results of this national survey indicate that relationships between physicians and industry that are common and underscore the variation among such relationships according to speciality, practice type and professional activities.

Moffatt B and Elliott C (2007) highlight about hiring the service of unknown source for pharmaceutical promotional practice. This article addresses the practice and ethics of scientific ghost writing. This article focuses on the type of ghost writing that involves pharmaceutical company hiring a medical education and Communications Company to write a paper favourable of their product, which then hires a well-known academic to publish it under his or her name without disclosing the papers’ true origin. Authors argue that this practice is harmful both to the public and to the institutions of science. This is not justified by an analogy to accepted scientific authorship practices. Finally the authors consider ways to discourage this practice. (www.pubmed.gov).
Weber LJ and Bissell MG (2006) highlight the impact of providing gifts to physicians by pharmaceutical companies. For many years, it has been standard practice with the United States to allow pharmaceutical representatives to provide drug samples, pens, note pads, visual aids, t-shirts, etc., and pay for attendee meals in conjunction with teaching conferences for hospital physicians. The “gifts” typically are not as luxurious in the clinical laboratory, but even so, is any vendor freebie too much?

Schramm J et al. (2007) examine the extent and composition of pharmaceutical industry representatives’ marketing techniques with a particular focus on drug sampling in relation to drug age. A group of forty-seven General Practitioners prospectively collected data on drug promotional activities during a six-month period, and sub-sample of ten General Practitioners further more recorded the representatives’ marketing techniques in detail. There was a statistically significant decline in the proportion of visits, where drug samples were offered with drug age, but the decline was small. Leaflets, suggestions on how to improve therapy for specific patient registered with the practice, drug samples and gifts were the most frequently used marketing techniques. Drug industry representatives use a variety of promotional methods. The tendency to hand out drug samples was statistically significantly associated with drug age, but the decline was small. (www.pubmed.gov).

McFadden DW, Calvario E and GravesO (2007) evaluate about use of gifts to physicians as marketing strategy”. Marketing costs exceed thirty per cent of revenues for the pharmaceutical industry, with over ninety percent of the effort aimed at physicians.
Although they are currently unprecedented numbers of regulatory activities focusing on relationships between the pharmaceuticals industry and the medical profession, such legislation is often unrecognised or flouted. The potential influence, although minimized by both parties must be ignored. Physicians and drug companies will need to reevaluate their responsibilities to their patients and their shareholders and both groups should assume proactive and guidance roles in the transformation.

Garcia J, Datol-Barrett E and Dizon M (2005) explain about an industry experience in promoting medicines. United Laboratories (UNILAB) the Philippines’ largest private pharmaceutical company, decided in April 2002 to launch a weekly iron-folic acid supplement for pregnant and non-pregnant women under the brand name Femina. The business objective set for the Femina brand was to build the category of preventive iron-folic acid supplements in line with the Philippine Department of Health’s advocacy on weekly supplementation as an alternative to daily dosing to reduce the prevalence of anaemia in the country. The brand was supported with an integrated mix of traditional advertising media with complementary direct-to-consumer educational programs that aimed to create awareness of iron deficiency anaemia, its causes and effects and the role of weekly intake the iron-folic acid in preventing the condition. Aggressive marketing support for one year was successful in creating awareness among the target women. Significant lessons derived from consumers identified opportunity areas that can be further addressed in developing advocacy programs on weekly iron supplementation implemented on a nationwide scale in the future.
Caprino L and Russo P (2006) analyse about drug innovation. Assessment of drug innovation is a burning issue because it involves so many perspectives, mainly those of patients, regulatory authorities and pharmaceutical companies. Moreover, the innovative value of a new medicine is usually an intrinsic property of the compound, but it also depends on the specific context in which the medicine is introduced and the availability of other medicines for treating the same clinical condition. Thus, a model designed to assess drug innovation should be able to capture the intrinsic properties of a compound (which usually emerges during Research and Development) and modification of its innovative value with time. Here we describe the innovation assessment algorithm (IAA), a simulation model for assessing drug innovation. IAA provides a score of drug innovation by assessing information generated during both the pre-marketing and the post-marketing authorisation phase.

Mansfield PR (2005) states that drug promotion should be evaluated according to its impact on health, access to information, informed consent and wealth. Drug promotion currently does more harm than good to each of those objectives because it is usually misleading. This is a systemic problem. Whilst improved regulation and education will address it to some degree, major reforms to payment systems for drug companies and doctors are also required. Until all these systemic reforms can be put in place, the best policy option is to ban the promotion of drugs to doctors and public. Consequently, pending major reforms is appropriate for governments to restrict drug promotion as much as is politically achievable.
Brekke KR and Kuhn M (2005) evaluate about direct to consumer advertising in pharmaceutical markets. Researchers studied the effects of direct-to-consumer advertising (DTCA) in the prescription drug market. There are two pharmaceutical firms providing horizontally differentiated (branded) drugs. Patients differ in their susceptibility to the drugs. If direct consumer advertising is allowed, this can be employed to induce patient visits. Physicians perfectly observe the patient’s type (of illness) but rely on information to prescribe the correct drug. Drug information is conveyed by marketing (detailing) creating a captive and a selective segment of physicians. Detailing direct consumer advertising and price (if not regulated) are complementary strategy for the firms. Thus, allowing direct consumer advertising induces more detailing and higher prices. Secondly, firms benefit from direct consumer advertising if detailing competition is not too fierce, which is true if investing in detailing is sufficiently costly. Otherwise, firms are better off with a ban on direct consumer advertising. Finally, direct consumer advertising tends to lower the welfare if insurance is generous (low co-payments) and a price regulation is lenient. The desirability of direct consumer advertising also depends on whether or not the regulator is concerned with firms’ profit.

Grant DC and Iserson KV (2005) analyse about the influence of gifts in the medical marketplace. It provides a sales advantage in a competitive marketplace by establishing crucial relationships with the patients’ fiduciary: the physician and surgeon. Do gifts to physicians from industry harm patients? One can cite mountains of indirect evidences that they do and may be in the case of recalled devices and drugs there are actual corpses, but these examples are retrospective and it is impossible to prove that removing detailing eliminates the harm.
Banning gifts to surgeons would not completely fix the ethical problem of pharmaceutical marketing. Gifts are important because they buy access and foster relationships, but inherent bias in research and medical literatures makes it very difficult to remain objective. It is a race and education has not kept pace with advertising. Detailing exists because there is a market for it, empowering surgeons with ethical training reduces the demand for goodies and at some point the popular choice will be bought their own lunch. Business ethics are not medical ethics. Industry is behaving exactly as it must to maximise profits. It is every surgeon’s responsibility to consider whether their dealings with the pharmaceutical industries withstand the harsh light of realities presented herein. (www.pubmed.gov).

Pazalla E (2005) evaluates adverse drug reactions in the general population. In 2000, the number of patient deaths attributable to adverse drug reactions (ADRs) was estimated to be 2,18,000 annually. More than fifty one per cent of approved drugs in the market today may have serious side effects not detected before marketing approval. The causes of adverse drug reactions are many ranging from drug-drug interactions to simple patient noncompliance. Until the use of electronic medical records becomes ubiquitous, other partnerships must be undertaken to lower the incidence of adverse drug reactions. Health plans and pharmacy benefit managers must work together to take effective steps to increase adverse drug reaction monitoring and reporting and to proactively avoid adverse drug reactions through pharmacy management tools.

Gianfrate F (1999) analyses about marketing lifestyle drugs-to consumers-increased market share. The lifestyle area is the fastest growing area in pharmaceuticals, driven by drugs.
The aging population in developed countries has a new perception of health, which is an improvement of wellness. Patients are more informed and conscious about their own health and the higher involvement in co-payment and decision-making are changing pharmaceutical markets and consequently, pharmaceutical industry’s business and research and development strategies. Successful marketing of life style drugs requires taking into account the above scenario, using new communication tools and being able to re-think the conventional marketing strategy adopted so far.

Rivera Casares F et al. (2005) observe that the informations provided by pharmaceutical industry to family doctors are really based on the scientific studies. Over a year, all the scientific studies that laboratory representatives gave family doctors along with the advertising for medicines were collected. A total sixty-three paired studies and advertising pieces were obtained. One to three advertising messages with each supported study were selected and reviewed in a structured fashion. Then whether or not the messages selected were based on the study was appraised. Forty four point five per cent of the advertising messages were not based on the accompanying study; 29.9 per cent clearly were based on the study; and in the rest there was a half-and-half relationship. There was a significant relationship between the evaluation of the advertising messages and the kind of study marketing and the kind of result variable. A high proportion of advertising messages are not based on the study that is reputed to support them. A critique of these studies has to be undertaken before the advertising messages can be looked at. (www.pubmed.gov).
Harvey KJ et al. (2005) analyse about pharmaceutical advertisements in prescribing software. To access pharmaceutical advertisements in prescribing software, their adherence to code standards and the opinion of general practitioners regarding the advertisements. Content analysis of advertisements displayed by Medical Director Version 2.81 in early 2005, thematic analysis of a debate on this topic held on the General Practice Computer Group email forum (GPCG_talk) during December 2004. Placement, frequency and type of advertisements, their compliance with the Medicines Australia code of conduct and views of General Practitioners. Researchers suggested that pharmaceutical promotion in prescribing software should be banned and inclusion of independent therapeutic information be mandated.

Almarsdottir AB and Traulsen JM (2005) discuss about rational use of medicines in pharmaceutical policy. In this analysis, the authors deal with drug utilisation from the clinical and policy perspective. They address the difficulties of managing drug therapy on a population level, which is known among professionals, as the problem of rational use of medicines. Presentation of the concerns associated with pharmaceutical marketing from a policy perspective, including the fear that the dominance of information produced by industry may lead to irrational drug use. Authors conclude that pharmacy needs to adopt its way of thinking to include the issue of context. They point out that clinical pharmacists today already adopt their decisions to each patient and patient group. Policy-makers are encouraged to adopt a similar approach because populations as well as particular market situations vary and therefore policy solutions cannot be considered universal.
Rieger HJ (2005) examines the sponsoring of physicians in private practice. The financing of advanced medical training for physician by the pharmaceutical industry has been the subject of legal discussions for more than two decades. Recent legal changes have received the importance of industry sponsoring. At the 106th national convention of the German physicians, the model ordinance for the German medical profession has been formed and for the first time individual physicians are now permitted, under certain circumstances to receive financial support from sponsors to participate in medical-training events. A recent legal reform to modernise the health care system obliges physicians to observe the law that regulates advertising of medicinal products; consequently, the physicians can commit a misdemeanor, when accepting prohibited financial support. This article discusses the implications of this legal reform for the most important types of commercially sponsored medical training. This reform has introduced an obligation for physicians to absolve continuous medical training; however the resulting legal situation has not changed the requirement that this training remain free to commercial interests. (www.pubmed.gov).

Windmeijer F et al. (2006) analyse about the responses by general practitioners to promotional activities for ethical drugs by pharmaceutical companies. Promotion can be beneficial as a means of providing information but it can also be harmful in the sense that it lowers price sensitivity of doctors and it merely is a means of maintaining market share, even when cheaper, therapeutically equivalent drugs are available. A model is estimated that includes interactions of promotion expenditure and prices and that explicitly exploits the panel structures of the data, allowing the drug specific effects and dynamic adjustments or habit persistence.
The data used are aggregate monthly General Practitioner prescriptions per drug together with monthly outlays on drug promotion for the period 1994-1999 for 11 therapeutic markets, covering more than half of the total prescription drug market in the Netherlands. Identification of price effects is aided by the introduction of the pharmaceutical prices act, which established that Dutch drugs prices become a weighted average of the prices, after June 1996. Researchers concluded that General Practitioners drug price sensitivity is small, but adversely affected by promotion.

Lohiya S (2005) evaluates about pharmaceutical advertisements in medical journals. A convenience sample of all medical journal found in a medical clinic was reviewed for pharmaceutical advertisements. Advertisements were present in 25 (96 per cent) of the 26 journals. Advertisements space varied from 0-34 per cent (mean: 12) in research, and 9-48 per cent (mean: 36) in non-research journals. In 23 (88 per cent) journals, individual advertisements consisted of more than one page; colourful glossy insert-advertisements of up to nine pages were seen in 18 (69 per cent) journals. Six (23 per cent) journals contained more advertising than editorial pages. Many advertisements were longer than the longest article in that journal. Medicinal journals devote considerable space to pharmaceuticals advertisements. Excessive pharmaceutical advertising may bias the journals owners and readers and may be distracting and annoying.

Srivatsava R, Chandra A and Kumar G (2004) analyse about strategic imperatives of globalisation of industries in developing countries. The annual global pharmaceutical sales have grown over 466 billion dollars, almost 50 per cent of which comes from North America.
Among developing countries, India with 16 per cent of the world population accounts for only a small percentage of the global pharmaceutical industry. Until recently, India has had virtually no pharmaceutical industry worth the name producing drugs from basic raw materials and it used to rely mostly on the imports from countries like the United States of America and the England for all its requirement of drugs. On the other hand, India has seen a plethora of multinational pharmaceutical companies come and do business in India. This paper develops a matrix which provides a broad guidance to the mid-to large-size Indian pharmaceutical domestic companies, which should embark on the path to global expansion to establish their might as well.

Gough S (2005) reveals about post-marketing surveillance in United Kingdom/Europe. The granting of regulatory approval allows medical practitioners to prescribe a drug in a controlled way to a group of patients defined within the licence. Prior to this, a new product may have been evaluated often in less than 5000 patients and usually in a selected environment in which many patients have been excluded including for example women of child bearing potential, the elderly and children. Co-existent disease and the concomitant use of a number of common drug treatments also frequently exclude patients from pre-licensing trials. It is hardly surprising; therefore that many adverse drug reactions are only detected once the product has been prescribed to the general population. National and international regulatory bodies, therefore provide systems for post-marketing pharmacosurveillance, although participation in these by clinician is generally voluntary and under-reporting is widespread.
Post marketing surveillance studies are not generally an integral component to launching a new drug and many clinicians are sceptical over data generated in trials, which do not conform to the ‘gold standard’, randomised control trial design. However, in dismissing such studies, a great opportunity to obtain information, often from many thousands of subjects is being missed. This article discusses post marketing pharmacovigilance and the role of post-marketing surveillance studies in the context of current United Kingdom and European legislation.

Holford DA (2004) explains about buzz marketing to promote ideas, services and products. It discussed buzz marketing, contrast with traditional forms of promotional communications and provides guidelines for use. Buzz marketing is an indirect communications method that has been used successfully in the promotion of a wide variety of products, services and ideas. By identifying and cultivating non-media opinion leaders, the technique generates word-of-mouth communications between these early adopters of products and services. The early and late majority of people who tend to follow their lead opinion leaders can be categorised as ordinary or extraordinary, technical or social and specialist or generalist depending on the nature of their communications, expertise and range of knowledge. Buzz marketing is most useful for ideas that are memorable, produce small changes in behaviour that have big effects overtime and potential to reach a “tipping point” in terms of momentum among a target population. Buzz marketing is a potent force in the promotion of pharmaceuticals and can be used by pharmacists. It works the best when patients perceive the benefits of innovations. Providing samples and demonstrations of the innovation will foster positive perceptions.
Innovations also spread better when they are compatible with the needs, desires and preferences of individuals and can be adapted to the unique situation of the adopter.

Watkins RS and Kimberly J Jr. (2004) reveal about physician-pharmaceutical industry interactions. Two-page questionnaire using five point ordinal scale was mailed to all internal medicine residents and faculty at one institution. Analysis included use of Wilcoxon two-sample test. Residents and faculty’s knowledge about formal position statements or literatures on the impact of marketing strategy on prescribing patterns, drug marketing costs or how pharmaceutical representatives are trained to interact with physicians was very limited. Most responders felt that residents should learn to critically interpret promotional materials, recognise potential for conflict of interest and consider how patients perceive the physician pharmaceutical industry relationship. More faculty than residents valued including position statements and literature exploring the impact of marketing on prescribing patterns in education, only one-half or fewer favoured small-group discussions, lecture series, critical-reading skills, seminars or panel discussions. Internal medicine residents and faculty reported low levels of knowledge about physician-pharmaceutical industry relationships.

Batchlor E and Laouri M (2003) analyse about pharmaceutical promotion, advertising and consumers. Proponents of drug promotion and advertising claim that it is informative and educational; opponents are concerned that the information conveyed encourages inappropriate and unnecessary use-Health Affairs papers by Joel Weissman and colleagues.
Robert Dubois provides some validation for the views of both sides of this debate; but do not allow us to draw definitive conclusions about key issues involving inappropriate use of expensive medications; and their substitution for cheaper medications that are just as effective. The extent to which consumers have been protected from the rising cost of pharmaceuticals further muddles the picture. However, new insurance benefit designs that threaten to shift more costs to consumers may fuel demand for more comprehensive and balanced information. (www.pubmed.gov).

Fisher MA (2003) evaluates relationship between physicians and the pharmaceutical industry. The pharmaceutical industry is one of the largest and most profitable industries in the world. In the United States, the industry has a particularly privileged economic position. Yet the cost of drugs in the United States is higher than anywhere else, due largely to the fact that the industry is focusing increasingly on marketing rather than on the development of meaningful new medications: available evidence does not support claims of great expense for the development of new drugs. The pharmaceutical industry has acted to maximise its profits in ways that frequently conflict with medicines need for truth and full disclosure charges are suggested to make the pharmaceutical industry more responsive to the needs of patients and physicians. (www.pubmed.gov).

Distribution Strategic Components

Kumar Sharma E (2007) analyses about drug retail industry. The Domestic Drug Retail Industry is highly complex and fragmented. There are an estimated over 5-lakh retailers and about 1-lakh stockists/sub-stockists and distributors.
The domestic pharma retail market is today valued at close of Rupees 50,000 crore and could well double in the next 5 years. A variety of big corporations have plans of setting up pharmacy chains. Fortis health world, set up by promoters of India’s highest pharmaceutical company. Ranbaxy is talking of opening 1,000 drug stores at a cost of Rupees 800 crore and 200 of these are to be launched by 2008. The idea is to gauge the response to our new age drug retail outlets and then expand it to other cities says Shivender Mohan Singh, Chief Executive Officer and Managing Director of Fortis Health Care. Reliance-Anil Dhirubhani Ambani Group and Kishore Biyani’s Future group are going to enter into pharma retail segment. In August 2007, Pantaloon Retail a part of the Future group and Manipal health systems signed a deal to jointly operate pharmacies and provide medical services.

Vaidya SR (2007) analyses about small scale pharmaceutical units look at overseas markets for growth and survival. Small-scale industries manufacturers are now looking at less-regulated markets in African countries for exporting drugs. Earlier our small-scale industries manufacturers were not even thinking of drug exports. With the change in business environment, the small scale industries manufacturers also will have to explore export markets for survival as it will be difficult to survive only by depending on the domestic market. Confederation of Indian Pharmaceutical Industries (CIPI) is also discussing with Pharmaceuticals Exports Promotion Council (Pharmexcil) to avail incentives of the Market Development Access (MDA) scheme for its members. The six thousand odd small scale pharmaceuticals which employ about one lakh people and with an annual production of about Rupees seven thousand crore were mainly surviving by working as loan licensee contract manufacturers for the major domestic companies and through government hospital supply orders.
About half of the units have either closed down or migrated to the excise-free zones in Himachel Pradesh, Uttranchal and Jammu and Kashmir in the last two years. The existing units are fighting for survival due to policy initiatives such as mandatory Good Manufacturing Practice Standards (GMP) compliance and the price advantage enjoyed by units operating from the excise-free zones. With majority of the major pharmaceutical companies setting up large units for domestic production in excise-free zones, job work manufacturing opportunities have dried-up for small-scale players. According to recent official data, of 41,772 registered small-scale drug units in India, only 1,672 units have upgraded their facilities as per the Good Manufacturing Practices norms and 1,797 units are in the process of upgrading their facilities.

Hiremath (2006) discusses about how Hikal is re-aligning its strategy for pharmaceutical segment. It will focus more on contract manufacturing products for innovator companies, instead of focusing on generic drug-makers. Uncertainty is the main factor associated with generic business. In the last few years, the need to outsource for the global life science majors has increased considerably and out sourcing is moving from being just a tactical option to a more strategic one. Hikal will continue to expand and strengthen capabilities to achieve larger pie of the multi-billion dollar opportunity.

Kumar Sharma (2007) analyses marketing strategies of Indian pharmaceutical companies. In early 2000, Ranbaxy Laboratories had generic exports of Rs.1,209.6 crore. Today 79 per cent of its revenues or Rs.4,795.30 crore comes from international operations, most of which is generic version.
On the whole, generic drugs have increased their share in global markets from 8–10 per cent three years ago to 12-14 per cent now. Over the next three years 2007 to 2010, some $50 billion worth of generics will go off patent, creating a huge market for generic drugs. Indian players, who have the twin advantage of low-cost manufacturing and research, are among the best placed to tap this opportunity. Ranbaxy has been the most active, making six acquisitions in the market outside India such as United States and Europe in 2006 alone. One way the Indian manufacturers have tried to beat the profit pressure is by diversifying into three markets such as Europe. Here, key markets like Germany and France are going in value terms between 6 and 20 per cent annually, creating new opportunities. That’s one reason why some analysts say, in retrospect that companies like Dr. Reddy’s Laboratories may have overpaid for their European acquisition.

Subba Rao Chaganti (2005) views that the institutional market in India is considerably large and can be estimated as about 10 per cent of the total market. Director General of Supplies and Disposals (DGS & D), Medical Stores Depots (MSD), Railway Hospitals, Employees State Insurance Corporation (ESIC), Armed Forces Medical Stores Depots (AFMSD), Central Government Health Scheme (CGHS), Hospitals in public sector undertakings like BHEL, NLC, HAL, etc., are the major hospitals in India. These hospitals have been purchasing medicines every year on the basis of rate contract. The options available to reach this vast institutional market are similar to those existing in the trade channels. The only difference is that a wholesaler, instead of supplying to a retailer, supplies to a hospital, which in turn, dispenses the drug to the patient as per the prescription of a doctor. The manufacturer has two choices regarding the distribution channels of the institutional market.
One is directly supplying to the institutions. Another is supplying through a hospital distributor or stockist to institutions. Most of the pharmaceutical companies in India appoint a special hospital distributor to sell their products to institutions. The main reason for this seems to be the enormous delay in receiving payments from institutions in general. By supplying goods directly, the company can to that extent, be more competitive in its quotation.

Mickey Charles Smith (1991) highlights about distribution strategic practices in pharmaceutical Marketing, strategy and cases. The marketing of pharmaceuticals to hospitals differed little from the approach taken in the office-based physician. The hospital market today and of the future represents a change as well as a major challenge to the pharmaceutical marketer. Factors such a drug selection, purchasing type of packaging required, the change to more clinically oriented services and the movement of the practice to the hospital pharmacy in the direction of specialisation have all increased the complexity of marketing to hospitals. Other than retailers, hospitals are by far, the largest dispensers of drugs. As they evolve into combinations of the inpatient treatment and outpatient centers for ambulatory health care, hospital outpatient pharmacies are becoming a significant source of drug dispensing. In some cases, hospitals are competitive with retail pharmacies.

Lutz S (2000) analyses about the impact of E-business in health care organisations in 2010. Within the next five years, most health care organisations will communicate with suppliers, other providers, payers, regulators and patients through Internet.
The internet will recalibrate expectations of speed and service for patients and providers, but it also will increase accountability in which digitalized information is tracked and analysed. The rate at which health care organisations are developing web-based solutions is neck snapping in the United States. As individual product lines, departments and subsidiaries grow their own e-health businesses, organisations must decide which initiatives they must fund, which are essential to survival and which could be financial black holes.

Kumar Sharma (2006) reveals about the entry of Reliance in pharmaceutical retail business. The fragmented pharmaceutical retailing is the next big thing. The Reliance-Anil Dhirubhai Ambani Group (R-ADAG) is said to be having talks with the All India Organisation of Chemists and Druggists (AIOCD) could well end up creating a unique nationwide pharmacy distribution setup. Three out of five (which include another Indian corporate and a Multi-National Company) have expressed interest in forming a joint venture with Reliance. Including some banks expressed their interest in forming an alliance with Reliance. “After Fast Moving Consumer Goods (FMCG), Food and Entertainment, Pharma retailing could well be the next big hope in retail”.

Subba Rao Changanti (2005) discusses about changing complexion and changing dimensions in pharmaceutical distribution. Distribution activity is concerned with “placing” goods and services when they are needed and where they are wanted. That is why distribution traditionally has been referred to as one of the four Ps, the vital “P” that is place. The dimensions of the marketing channels have been changing.
The complexion of the trade channels too have undergone a significant change, thus adding to the complexities of the distribution of pharmaceuticals in India and making it more challenging than ever before. India is a vast country that measures over 3000 kms from Kashmir to Kanyakumari, with different climatic conditions and terrain. Transportation and storage of certain essential drugs indeed are challenging tasks, particularly during summer, when it becomes very hot, in fact, as hot as 43 to 45 degree Celsius. Even today about 80 per cent of the population lives in rural areas, almost half of these villages with a population of less than one thousand. Modern medicine has not been able to reach them. The severe power shortages in a number of states make it difficult for retail chemists even in urban areas, to store certain essential drugs under prescribed temperature conditions. Consequently, the refrigerator (meant for cold storage) has become merely ornamental particularly during the summer months, when temperature control is most needed. The ever-increasing costs of distribution in the absence of appropriate price increases have been constantly eroding into the profitability of manufactures. The growing power of trade associations and their not-so-gentle demands for increased margins make the pharmaceutical marketer’s task even more formidable.

Wild C and Puig S (2004) analyse about marketing strategy of drug producers and drug purchasers. In the context of increasing economic pressure upon hospital budgets, it is inevitable that central and standardised purchasing of pharmaceuticals must be considered. It was the aim of this assessment to analyse the many different non-ionic contrast media products on the actual “clinical relevance of the differences” in order to give advice for a more concerted purchasing of contrast media.
An optimisation of purchasing pharmaceuticals by standardisation of the range of products takes place in the context of common strategies of producers and buying agents in marketing-economies. The strategy of the pharmaceutical industry (patent protection of me-too-drugs, high-price-policy, extensive marketing of up to 40 per cent of revenue) and the counter-strategies of the central hospital purchasers (market concentration, drug commissions, institutional measures to disentangle interests) are presented-exemplified by contrast media-in this article. (www.pubmed.gov).

Subba Rao Chaganti (2005) highlights about combination strategy in distribution components. Some of the more successful companies in the Indian pharmaceutical industry have been practicing a combination strategy: a combination of the companies’ own depots and C and F agents. The company’s depots are situated in all strategic locations catering to areas with very large-scale volume and C and F agents in other locations. There are, however, some companies like Glaxo, Sandoz etc., who have a number of depots spread out all over the country and sell directly to stockists. Glaxo despite having as many as nineteen sales depots has decided to appoint C and F agents. Glaxo has been following a direct stockist system for a long time for its pharmaceutical divisions. For a medium-size companies and new entrants a combination of own depots and C and F agents seem to be more appropriate, for it not only helps in balancing the distribution costs but also gives the necessary control to achieve the required market penetration through a stockist network directly under the company.
Francis Gnanasekar I and Krishnaraj R (2005) highlight about distribution strategic components in pharmaceutical marketing. Distribution plays a very vital role in reaching the right kind of product mix at a right time to a right place in a right quantity and a right manner. Indian companies are very strong in domestic market than Multi National Companies. Indian companies should concentrate in global market, by making their presence on their own or by Co-marketing with Multi National Companies. Already few companies associated with Multi National firms and established their strong presence in global market.

Veeraiah P and Shivanaga Sreenu I (2006) discuss about marketing innovations through information technology. Retailers and stockists are an important link between the customer and manufacturer. They play an important role in the success of any company. Sandoz adopted the consumer industry idea in pharmaceutical promotion and appointed clinical specialists under stockist to promote their product. It sets a trend in pharmaceutical marketing. Special booking contest among stockist’s representatives can be exploited to improve the penetration among retailers. Today rural market is fast emerging as a potential segment. Dealers’ meeting has been arranged in pharmaceutical industry to encourage stockist salesman to increase personal order booking.

Kamat VR and Nichter M (1998) analyse about pharmacies, self-medication and pharmaceutical marketing in India. Studies of pharmaceutical practice have called attention to the role played by pharmacists and pharmacy attendants in fostering self-medication and medicine experimentation among the public.
This article highlights the context in which pharmacy attendants engage in “prescribing medicines” to the public in Bombay, India. An ethnographic description of pharmacies and pharmaceutical-related behaviour in Bombay is provided to demonstrate how reciprocal relationships between pharmacy owners, medicine wholesalers and pharmaceutical sales representatives influence the actions of pharmacy staff. Attention is focused on the role of the medicine marketing and distribution system in fostering prescription practice, pharmacy “counter-push ing” and self-medication. In documenting the profit motives of different players located on the drug sales continuum, it is argued that the economic rationale and the symbiotic relations that exist between doctor, medical representatives, medicine wholesalers and retailers need to be more closely scrutinised by those advocating “rational drug use”.

Montanari L, Minghetti P and Giudici EM (1997) evaluate presentation and distribution of medicinal products after the new European Union marketing procedures. In this paper the new procedures for the marketing authorisation are considered from the point of the view of their influence on the medicinal product presentation (labeling and package leaflet) dispensing and distribution. The legal statuses of some active ingredients in different countries have been analysed. Even if the European directive is completely implemented, the harmonization process appears difficult in consideration of the different social, political and economical characteristics of the different countries and is going to cover many years.
Other Marketing Strategic Components

Patent

Deshmukh (2006) highlights about how patent battle gets favourable judgement for Ranbaxy in two key Lipitor patent challenges in United States. Ranbaxy pleased by the courts decision on ‘995 patent and evaluating options with respect to the ‘883 patent subject to the appellate process and market authorisation by the United States Food and Drug Administration. Ranbaxy now has the opportunity to bring the launch date forward to March 2010 from June 2011 with 180-days exclusivity in the United States market with the marketing strategy of challenge the innovators’ patents in court ahead of its expiry.

BDMA (2006) Bulk Drugs Manufacturers Association highlight about selection patent in pharmaceutical industry. Bulk Drugs Manufacturers Association urges government to draft tight laws to prevent evergreen of patents by multinational corporations. A selection patent’ is a patent under which a single element or a small segment within a large generic group is “selected” and independently claimed based on particular feature not mentioned in the large group. The main basic patent is termed as “generic patent” and the “selection patent” applied for subsequently is called a “species patent”. Bulk Drugs Manufacturers Association came out with the strategy urges Indian government to disallow “selection patent” to prevent exploitation of poor Indians.
Merger and Acquisition

B&E research bureau (2006) Business & Economy-Research Bureau evaluate about Dr.Reddy’s lab acquisition of Betapharm. It provided benefit worth of Rupees two billion revenues and got an opportunity of 180 days exclusive market rights for two products contributed to Rupees 3.35 billion in revenues. Now German government has taken a decision to decrease the prices of generic firms by about 30 per cent and product promotions of generic firms have also been barred, so expectations of Dr.Reddy’s lab could be fulfilled only in the long run. Dr.Reddy’s lab must be careful in its future acquisitions abroad. Dr.Reddy’s lab will increasingly feel the need to exercise extra caution with respect to all of their future acquisitions overseas.

Scheur BS (1994) reveals about redistribution of risk throughout the pharmaceutical industry. When the pharmaceutical industry awoke to the reality of managed care, they found themselves spending millions of dollars on customer they did not know or understand. Those companies did not realise that insurers and managed care organisations would be changing the entire face of the pharmaceutical industry. Non-aggressiveness by pharmaceutical manufacturers has meant loss of control by an industry that for many years existed in an unchallenged state. Partnerships are now tantamount to survival.

Krishna Gopalan (2006) analyses cross-border-acquisition in pharmaceutical industry. Between January and July 2006, the Indian pharmaceutical industry pulled off 14 out bound acquisitions. Three of the transactions had Ranbaxy as the acquirer; whist the largest deal of the lot would be Dr.Reddy’s buyout of Betapharm for US $ 602 million.
Ernst & Young (E&Y), in its latest report points out this level of merger and acquisition activity is aimed at combining core strengths, generating scales of economy, integrating manufacturing capacity and finally ensuring diversified revenue streams. According to Saion Mukerjee, pharmaceutical analyst at Brics Securities, the key drivers have been the need to expand geographically and have a larger product portfolio. Indian companies are poised to play an increasingly active role globally, with the strategy of acquisition.

Archna Shukla (2006) reveals about yet another acquisition of Ranbaxy. Mr. Singh seems to have spent US $ 400 million; he had collected from an FCCB issue on the five purchases. He still has shareholder’s approval to raise US $ 1.5 billion (Rupees 6900 crore) in equity and US $ 1.2 billion in debt. Sources say he could be looking at joint bids with private equity players. Consolidation strategy is the way forward in global generics. Ranbaxy is keen more on Europe than the United States.

Manish K Pandey (2006) reveals about Ranbaxy’s acquisition drive in Europe shelling out around US $ 400 million to take over Allen spa (GSK division in Italy) in March 2006 was the latest in series. According to a Ranbaxy spokesperson “We will look for acquisitions in United States, Europe and India”. If there is an opportunity which provides us the right strategic fit at the right price, we will pursue it actively”. Dr. Reddy’s Lab recently acquired Betapharm of Germany for around US $ 580 million. Recent take over of CP Pharma of United Kingdom and Esparma of Germany by Wockhardt and Al Pharma of France by Zydus Cadilla are just a part of such deals during the last two years.
Riding on the back of a booming economy, Indian Pharmaceutical majors are now better equipped for these alliances which enable them to gain expertise in drug discovery and development as well as maximizing revenues.

Francis Gnanasekar I and Krishnaraj R (2006) analyse about India’s growth and challenges in global pharmaceutical industry. Indian companies adopt a strategy of tie-up partnerships with other Multi National Companies. Already few companies associated with MNC’s; Cipla with Novopharm, Medpro; Dr.Reddy’s with Biomed; IPCA with SmithKlineBeecham; Lupin labs with Merck, Fujisavara; Max Pharma with Gist Broacades; Nicholes with Reckitt & Coloman; Piramal with Cytran, Allergan; Ranbaxy with Eli lilly, Hoechst; SmithKlineBeecham with Knoll, Glaxo. Glenmark with Apotex, Eon Labs, KV Pharma. These are other several Indian companies Zydus Cadila, Matrix, Biocon, Devi’s Labs, Hikal, Aurobindo, Orchid, Unichem, Emcure-that have adopted this strategy of tie-up partnerships with other companies.

**Research and Development**

Rashmi Barbhaiya (2006) reveals about research facility in Advinus Therapeutics. Advinus Therapeutics offers end-to-end pharmaceutical Research and Development services in the pre-clinical and early clinical part of the Research and Development value chain. This end-to-end platform is one-of-its kind of unique strategy in Indian pharmaceutical research.
Malvinder Singh (2007) reveals about partnership in Ranbaxy. Ranbaxy signs a new Research and Development agreement with Glaxo Smith Kline (GSK). Ranbaxy Laboratories Limited has announced that the company and Glaxo Smith Kline have signed a new multiyear Research and Development agreement that modifies and expands the terms of their strategic alliance established in 2003 to provide Ranbaxy expanded drug-development responsibilities and further financial opportunities. Ranbaxy could receive over US $ 100 million in potential milestone payments for a product developed by Ranbaxy and subsequently launched by Glaxo Smith Kline in multiple indications and up to double-digit royalties on worldwide net sales.

Sheikh AL (2006) reveals about the importance of pharmaceutical research. A great deal of pharmaceutical research is now a day carried out in developing countries such as Pakistan. Is it however, beneficial for the country and the participants, often the poorly educated and illiterate? Pharmaceutical research in Pakistan can bring benefits to both patients and the country. Promotion of good clinical practice and development of national guidelines are advocated. Government and industry both have a role to play to maintain the right balance. (www.pubmed.gov).

Mahesh Nayak (2006) discusses the cost of medicines in pharmaceutical industry. In 2005, the world’s 15 big pharmaceutical giants including names such as Pfizer, GSK, Merck, Roche and Novartis-spent a little under US $ 57 billion (Rs. 2,56,500 crore) on Research and Development (R&D) a marginal rise over 2004’s US $ 55.65 billion. The Research and Development expenditure of India’s top 15 drug majors shot up by 28 per cent. The absolute numbers are, of course, modest: Rs.1936.5 crore in 2005-06 against Rs.1509 crore in the previous year.
Ranbaxy topped the list with a Research and Development expenditure of around Rs. 639.4 crore for the year ended December 2005 against the previous years’ figure of Rs. 400 crore. As a percentage of sales, Ranbaxy’s research spent almost doubled from 9.3 in 2004 to 17.8 per cent last year. Other leading companies include Dr. Reddy’s (Rs. 254 crore last year, though lower than the previous years’ Rs. 298 crore), Sun Pharma (Rs. 161.5 crore), Cipla (Rs. 155.4 crore), Cadila Health Care (Rs. 119 crore), Lupin (Rs. 108 crore) and Nicholas Piramal (Rs. 91 crore). Indian pharmaceutical firms may look at the financial muscle power of a Pfizer or a Merck (Pfizer spent US $ 7.44 billion-Rs. 334.8 crore in Research and Development for last year). It is a high risk, high return game, which can make or break a company.

Durrant C (2001) mentions that the pharmaceutical industry plays an active role in policy surrounding the research, discovery and development of new medicines. Along with this commitment, the pharmaceutical industry must also take an active role in helping to ensure that appropriate patients receive access to state-of-the-art scientific advancements. The various players involved in drug development and introduction, including the pharmaceutical industry, clinicians, advocacy groups and regulatory bodies, need to work together to ensure patient access to quality care. While issues such as drug acquisition costs and marketing are often given a high profile, this may cloud perceptions of the industry’s commitment to deliver important new medicines to the patients and health care systems that need them. (www.pubmed.gov).
Carter T (2003) reveals about Pfizer and its competitive marketing challenges. Pfizer has been the preeminent global pharmaceutical company in recent years and much of their success can be attributed to their marketing responsiveness and innovation. Pfizer is committed to patients, the community and quality product development. As a model in marketing effectiveness they also show how to lead internal resources efficiently to maximize market place opportunities.

Calfee JE (2002) evaluates about the role of marketing in pharmaceutical research and development. Pharmaceutical marketing, which is primarily targeted at physicians, has been criticised because it may distort physician prescribing and thus potentially raise costs and/or worsen health. An alternative view presented in this paper is that successful marketing of pharmaceutical can improve consumer welfare by increasing incentives for research and development (R&D) investment and by providing guidance to Research and Development to make it more consistent with consumer preferences. Pharmaceutical promotion is likely to be particularly valuable because information plays a key role is highly technical and can change rapidly. In addition to disseminating information about the benefits of new therapies, an essential role for pharmaceutical promotion is to encourage physicians and prayers to pay closer attention to consumer needs for new medical technology. More over successful marketing of pharmaceuticals increases the returns from Research and Development thus increasing incentives to explore consumer demand and to contribute to basic research on the role of drug therapy. Consumer benefits from this process may be very large.
Caulin C (2002) observes that a great numbers of highly qualified specialists are involved in the drug development process, mainly chemists, pharmacokinetic experts, pharmacologists and toxicologists. The seven to fifteen years’ development process implies preclinical studies in thousands of animals as well as clinical studies in about 3000 patients. Various mandatory studies, regulatory requirements as well as a drug assessment process lead to the possible marketing authorisation approval. The drug assessment process usually leads to a sound assessment of pharmaceutical quality of clinical benefit in each indication proposed; yet, occasionally, the assessment of safety is incomplete. Performing phase four studies, collecting pharmacovigilance data is a requirement in the future. The prescriber of a newly approved drug must remain highly watchful. (www.pubmed.gov).

DiMasi JA, Hansen RW and Grabowski HG (2003) discuss about new estimates of drug development costs. The research and development costs of 68 randomly selected new drugs were obtained from a survey of 10 pharmaceutical firms. These data were used to estimate the average pre-tax cost of new drug development. The costs of compounds abandoned during testing were linked to the costs of compounds that obtained marketing approval. The estimated average out-of-pocket cost per new drug is 403 million US dollars (2000 dollars). Captalising out-of-pocket costs to the point of marketing approval at a real discount rate of 11 per cent yields a total pre-approval cost estimate of 802 million US dollars (2000 dollars). When compared to the results of an earlier study with a similar methodology, total capitalised costs were shown to have increased at an annual rate of seven point four per cent have general price inflation.
Information Technology-Internet

Lerner L (2002) reveals about pharmaceutical marketing segmentation in the age of internet. Faced with an increasingly difficult operating environment, pharmaceutical companies are seeking ways to establish close and sustainable relationships with customers. Market segmentation is the tool of choice for identifying and influencing target groups and this paper explores the implications of the Internet for segmentation. This paper highlights the benefits of small group or micro-segmentation as an approach to individualised marketing and examines its application in developing deeper customer understanding. The lessons to be learnt from the internet in terms of fine-grained segmentation, personalisation, knowledge sharing and experimentation can be applied in ‘convention’ pharmaceutical marketing today.

Raghupathi W and Tanj (1999) discuss about strategic uses of information technology in health care. A revolution is taking place in the health care industry, with information technology playing an increasingly important role in its delivery. Along with these drastic changes and the new approach to health care, the file of health/medical informatics and telematics has also experienced significant growth in last few years. This article identifies and surveys the critical information technologies that are being adopted to provide strategic benefits to the various health care constituencies.

Shani S (2003) reveals about the role of E-Commerce in pharmaceuticals. The emergence of the internet as a new communication and information technology caused major social and cultural changes.
The dramatic increase in accessibility and availability of information empowered the consumer by closing the information gap between the consumer and different suppliers. The objective of this article is to review many new internet-supported applications related to the pharmaceutical market. E-commerce is divided into two major components; Business to consumer (B to C) and Business to Business (B to B). The main applications in B to C are dissemination of medical and drug information and the sale of drugs through the Internet. Medical information on the internet is vast and very helpful for patients, however its reliability is not guaranteed. Online pharmacies increase the accessibility and availability of drugs. Nevertheless, several obstacles such as security of the data provided prevent the widespread use of online pharmacies. Another risk is health authorities’ inability to regulate internet sites effectively. Therefore unregulated sale of prescription drugs, fake or substandard, often occurs on the internet. B-to-B related to physicians, clinics, hospitals and pharmaceutical companies. There is a vast number of applications ranging from clinical research, marketing and sales promotion to drug distribution and logistics. In conclusion, the internet is dynamic and has contributed to the development of numerous new applications in the field of pharmaceuticals. Regulatory authorities should be active in developing new policies that deal with those new Internet-based applications. (www.pubmed.gov).

Yang Z, Peterson RT and Huang L (2001) observe that the online pharmacy companies will only be successful if they make sure customers are satisfied with the service they receive. But what attributes of service quality lead to satisfaction and dissatisfaction?
This study identified 19 internet pharmacy service quality dimensions in three categories, such as Product cost and availability, Customer service and the online information system analysis.

Kihlstrom LC (2001) reveals that a wealth of health information is available on the internet today. However, little is known about how to evaluate its quality and content. This exploratory analysis examined the internet sites of 71 pharmacy benefit management firms that were operational in late 1999 by using components of several existing evaluation tools. Variables were used that incorporated interactive marketing strategy, technology features, and content. The principal finding suggests that health information on the internet can and should be evaluated by users on dimensions such as purpose, structure, technology and content. However, further work will be required to develop and test criteria.

Frank SR (2000) believes that interactive media and associated applications used to access those media will result in a substantial, positive and measurable impact on medical care faster than any previous information technology or communications tool. Acknowledging the dynamic environment, the author classifies “pure” digital health care companies into three business service areas: content, connectivity and commerce. Companies offering these services are attempting to tap into a host of different markets within the health care industry including providers’ payers, pharmaceutical and medical product companies, employers, distributors and consumers.
From the medical consumer’s stand point (ie., the patient) the author sees the internet as performing five critical functions. (1) Disseminate information (2) Aid informed decision-making (3) Promote health (4) Provide a means for information exchange and support—the community concept and (5) Increase self-care and manage demand for health services, lowering direct medical costs. The author firmly submits that the web will provide overall benefits to the health care economy as health information consumers’ manage their own health problems that might not directly benefit from an encounter with health professionals. Marrying the internet to other interactive technologies, including voice recognition systems and telephone based triage lines among other holds the promise of reducing unnecessary medical services.

Levy R (1994) views that the pharmaceutical marketing is the last element of an information continuum, where research concepts are transformed into practical therapeutic tools and where information is progressively layered and made more useful to the health care system. Thus, transfer of information to physicians through marketing is a crucial element of pharmaceutical innovation. By providing an informed choice of carefully characterized agents, marketing assists physicians in matching drug therapy to individual patient needs pharmaceutical marketing is presently the most organized and comprehensive information system for updating physicians about the availability, safety, efficacy, hazards and techniques of using medicines. The costs of pharmaceutical marketing are substantial, but they are typical of high-technology industries that must communicate important and complex information to sophisticated users. These costs are offset by savings resulting from proper use of medicines and from lower drug costs owing to price competition.
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