Chapter 2

REVIEW

OF

LITERATURE
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Review of Literature

2.1 Introduction

The review of literature is an important part of the research. The review of available literature helps the researcher to understand the prior research carried out in the field by other researchers. It also helps the researcher to understand the latest developments happening in the field. There are various sources like research papers, research journals, magazines, articles, books and online resources from which the researcher can find out the information about the research which is relevant to the topic of study.

The area of research is marketing orientation of biotechnology and understanding the impact of marketing orientation on consumer behaviour. The aim is to understand how biotechnology companies are oriented for marketing and how does it influence the consumer behaviour. To understand the topic and relevant research carried out earlier, it is imperative to understand marketing, marketing orientation, components of marketing orientation, biotechnology industry, applications and challenges in biotechnology sector, any similar studies carried out in other technology oriented sectors, industrial marketing, consumer behaviour in business marketing, buying behaviour of customers. This is done from the available literature derived from various sources.
2.2 Research Articles

The research articles are the scholarly work of research carried out by researchers and published in national and international journals. The research articles help the researcher to understand the research done by other researchers. This is used as reference for the study as they form a platform for the study.

2.2.1 Biotechnology in India: Public–private partnerships\(^1\) by Viren Konde.

The purpose of this study was a survey of public sector–private industry collaborations of the biotechnology sector in India; so an organizational and functional overview of this sector was needed. Therefore, rather than studying a hypothetical biotechnology sector in India, the focus of the work was to study the public–private partnerships (PPP) that are occurring in India in the area of modern biotechnology. The Indian Government has been playing an important role in the development of the biotechnology sector from the very beginning and there are large numbers of R&D institutions (Scientific, Medical, Industrial and Agricultural) that have been set up by the Government during the past 2–3 decades. The Indian biotechnology industry is advancing towards new heights in alignment with the growth and progression observed globally. The past performance of the industry indicates that it has surpassed the growth rate of many other industries. The paper also highlights the favorable national policies undertaken to strengthen the Indian biotechnology industry. It is in this context that the paper shows that these collaborations are an expression of more general trends towards a changing role of the country in economic production.
2.2.2 Status and Development of Biotechnology in India: An Analytical Overview² by Sachin Chaturvedi.

The paper provides a comprehensive view of various aspects and achievements in biotechnology in India. The developments in biotechnology promise to transform various economic sectors like agriculture, health-care, lifescience industry etc. out of their current state of technology. The paper puts forth the issues like the institutional infrastructure to support R&D in biotechnology, the broad contours of training and human resource development in public sector biotechnology institutions, share of private sector in growth of biotechnology, the role of various financial institutions in India, the various facets of IPR regime and features of bio safety regulations. Lastly the paper focuses on the initiatives taken by the government to promote biotechnology.

2.2.3 Biotechnology marketing: Insider and outsider views³ by Päivi Eriksson and Heidi Rajamäki.

The paper explores biotechnology marketing as defined, performed and organised in small biotechnology companies. The earlier research suggests that the lack of commercial success in biotechnology is either due to marketing related deficiencies or due to the reason that biotechnology marketing is different from marketing in other industries. This raises the question of whether there are deficiencies in biotechnology marketing or whether the meaning of biotechnology marketing remains unexplored with the survey-based research designs used in earlier studies. The paper is based on a novel qualitative methodology combining the insider and outsider views in the study of five cases of biotechnology marketing. The findings do not suggest that there is substantial lack of marketing effort and competence in biotechnology companies. Instead, the findings provide new knowledge on the specific nature of biotechnology marketing produced by a combination of the insider and outsider views.
2.2.4 **Critical success factors for biotechnology industry in Canada**\(^4\) by Sandra Vanderbyl and Sherry Kobelak

The paper discusses the critical success factors and performance indicators which provide the biotechnology industry with a foundation to grow and manage risks. A survey of 247 biotechnology companies in Canada was carried out to understand the elements which are critical for sustainability. The dependence of the industry on intellectual property protection and strategic product development emerged as significant findings and the top five critical factors being entrepreneurial environment, product distribution to target market, product focus, policies to protect intellectual property (IP) and value of the firm’s knowledge assets. The priority of the companies varied with the stage of the company in regards that earlier stage companies, not yet self-sustaining, are more focused on funding from the government. The later stage companies, having access to product-derived funds, are more able to build internal resources with programmes directed at retaining and educating employees. For the companies with divergent interests, irrespective of stage of company, IP and knowledge assets are key elements for success in this research and development rich industry. By understanding critical factors and changing priorities during business development, the industry will service an unmet need, facilitating modification of current marketing and business structure models. The results will promote sustainability in the industry as a whole.

2.2.5 **Market Orientation and R&D Effectiveness in High-Technology Firms: An Empirical Investigation in the Biotechnology Industry**\(^5\) by Luigi M. De Luca, Gianmario Verona and Salvio Vicari.

The paper reviews the existing empirical studies on the relationship between market orientation and innovation performance of high technology firms. It identifies two limitations in the research stream. First, present research often overlooked key innovation outcomes for high-technology firms, such as those related to research and development (R&D) performance. Second, organizational conditions that can ensure an optimal integration of market knowledge in the innovation process have been less
analyzed in the case of these firms. The study contributes to the literature by providing a test of the effect of market orientation on R&D effectiveness and the moderating role of knowledge integration in this relationship, using a sample of Italian biotechnology firms. The study is carried out in two steps, the first being in-depth qualitative study by conducting semi structured interviews in five biotechnology firms and second by follow-up survey of 50 biotechnology firms. The results derived by multiple regression analysis show that the different dimensions of a market orientation have diverse effects on R&D effectiveness of high-technology firms: whereas inter-functional coordination has a positive main effect, the effect of customer orientation is moderated by knowledge integration, and competitor orientation has no effect on R&D effectiveness. Post hoc analyses also show two additional results involving a broader set of dependent variables. First, R&D effectiveness mediates the effects of customer orientation and inter-functional coordination on organizational performance. Second, market orientation does not appear to significantly affect R&D efficiency. The study contributes to current literature in two main respects. First, it adds to previous work on market orientation and innovation by proposing a new dependent variable—R&D effectiveness—which offers a better perspective to understand the impact of market orientation on innovation performance in high-technology contexts. Second, while part of the current debate on the role of market orientation in high-tech markets seems to be polarized by positions that sustain its potential drawbacks or, on the contrary, its advantages, this study’s findings on the moderating role of knowledge integration shed light on important contingency factors, such as organizational capabilities. The authors discuss the study’s limitations and provide directions for future research.

2.2.6 Biotechnology in India: Emerging opportunities by Himanshu Parmar

The global biotechnology and pharmaceutical industry is beleaguered with several challenges such as high R&D costs, increasing regulatory restraints and stagnant product pipelines. Thus, major multinational pharmaceutical and biotechnology companies from the west are increasingly looking for low-cost suitable alternatives. Among the emerging markets, India is seen as a low-cost destination with ample
opportunities available to be capitalised on without compromising on the quality. To complement the interest from international community, India is also liberalising its economy and offering increasing opportunities to invest, along with other several reforms undertaken by the government. After information technology (IT), the focus is now on biotechnology in India, as is evident with the release of recent draft of the Biotechnology Policy 2005. The paper offer insights into India’s biotechnology sector and opportunities. Various ventures such as software development, call centres and business process outsourcing are a success in India; companies are looking for a similar achievement in biotechnology sector. It has been slow to start, with a lot of stories of large investments, successes, failures and barriers to biotech ventures. However, the inherent advantages in India compounded with rising public interest in this sector, growing investments by traditional business houses, favourable government stance and the significantly growing interest of international community are likely to enable India to realise the still-distant dream of a ‘US$5.00bn 2010 biotechnology market’.

2.2.7 Anticipating and managing the challenges of biotechnology marketing
by Heidi Rajamäki.

The biotechnology companies are being evaluated on their profitability and hence they are facing the reality that greater emphasis must be placed on delivering products to markets. Potential risks related to markets and technologies have to be evaluated rationally to avoid mistakes. The paper discusses the features that make biotechnology marketing different from more established industries as well as the key challenges arising from those differences. The paper draws attention to issues that are distinctively important in biotechnology marketing. Immense technological uncertainty is an important characteristic of biotechnology. Also, side effects emerging after the product has been in the market can cause a shutdown of an entire product line or cut down estimated market potential. Thirdly, a biotechnology product’s lifecycle can also face premature death due to challenges originating from market uncertainties. A fourth issue is the threat of obsolescence that is high in a market where new innovations are introduced at a rapid rate. A fifth issue is the capability of protecting intellectual property rights. These challenges make it
difficult to estimate the size of a potential market. Controlling these challenges, however, gives a solid base to make a biotechnology company a profitable business.

2.2.8 The effect of a market orientation, entrepreneurial orientation, and technological capability on innovativeness: A study of young biotechnology ventures in the United States and in Scandinavia by Maija Renko, Alan Carsrud, and Malin Brännback.

Earlier research suggests that in order to excel in innovativeness, a firm should simultaneously be market oriented, proactive, and willing to take risks, as well as have access to superior technological assets and capabilities. However, the contribution of these factors on innovative outcomes has seldom been assessed in one study. This study investigates influences of market orientation, entrepreneurial orientation, and technological capabilities on technology ventures’ innovativeness. Data for this study were collected through personal interviews in biotechnology start-ups in the United States, Finland, and Sweden. As expected, results indicate a significant link between technological capability and product innovativeness. However, neither market orientation nor entrepreneurial orientation is related to product innovativeness in this empirical context where firms typically aim at launching radical, disruptive innovations. The drivers of capital investments, however, are different from the antecedents of product innovativeness. Differences between the Nordic and U.S.-based biotechnology ventures are also identified.

2.2.9 Building market orientation in biotechnology SMEs: Balancing scientific advances and market demands by Maija Renko, Alan Carsrud, Malin Brännback, and Juho Jalkanen.

The paper highlights on the market and science interplay in small and medium sized (SME) biotechnology firms. The construct of behavioural market orientation is the main tool for analyzing science push and market pull in biotechnology SME context.
Market orientation is a set of specific behaviours and activities needed for better understanding of markets (both industrial customers such as large pharmaceutical companies and end users) and responding to their specific needs. The results of the research show the strong science and technology orientation (push) of biotechnology SMEs along with insufficient, or weak, market orientation (pull). Furthermore, the results show that the traditional components of market orientation – market intelligence generation, dissemination, and responsiveness – need to be redefined in the biotechnology context. For biotechnology SMEs, market intelligence generation involves absorbing market intelligence from the surrounding organizational network. Critical for intelligence dissemination is integrating market intelligence into different thought worlds in the organization. Responsiveness to market intelligence in biotechnology SMEs has a strong proactive component in it; firms create new markets and blur the boundaries of existing ones. The findings serve as a basis for future development of a research instrument, which measures market orientation in science based firms.

2.2.10 Achieving the Superiority: The Role of Marketing Orientation in gaining Competitive Advantage-within Jordanian Telecommunication Sector

Although many studies that have been carried out highlighted the importance of firms’ marketing orientation for achieving competitive position, the majority of these researches however have been conducted in western cultures. Also, many of previous efforts have been focused on investigating marketing orientation-organizational performance relationship within industrial contexts rather than services per se. The purpose of the study is to explore the different adopted orientations for the main mobile telecommunication services providers (TSPs) in Jordan which constitute firms’ philosophies in the quest for building competitive position in the market place. Moreover, the research is an attempt to achieve a comprehensive understanding of the adopted levels of Marketing Orientation (MO) for each Mobile telecommunication service Provider (TSP) in Jordan, and to assess
its affects on achieving competitive advantage – through integrated perspective – taking into account the attitudinal and behavioural perspectives.

2.2.11 The Extent of Marketing Capability and Market Orientation in Franchise Business in Malaysia\textsuperscript{11} by Md. Isa F., Hoe C., Othman S. N., Din M. S., Mohd Harif M. A. A., Hussin Z., and Md Jani M. Y.

The purpose of the study is to provide a deeper insight and understanding into issues surrounding that impact the success of franchisors in Malaysia. In this paper, the researchers explore the role and extent of marketing capability and market orientation concept applied by Malaysian franchisors especially the muslim entrepreneurs, in developing and operating their franchise businesses. In doing so, the critical success factors (CSFs) of franchisors will be identified and then confirmed using three methods of qualitative study: convergent interview, confirmatory workshop and secondary information. The case study approach involves a series of in-depth interviews with several predetermined local franchise entrepreneurs (franchisors) who have proved to be successful in their business operations and who actively play a dominant role in the industry. The information gathered from the study is useful in forming guidelines for the success of business operators in franchising.

2.2.12 An Empirical Study on Marketing Orientation Employed by Life Insurance Companies in Kerala, India\textsuperscript{12} by Reshmi Augustine and Dr. K. S. Chandrasekar.

The paper examines the holistic marketing orientation of life insurance companies in marketing their products in Kerala, India. A probability sampling method was used to select 200 respondents from selected life insurance companies in Kerala. The data was analysed using factor analysis. The study reveals the key fact that the marketing orientation of life insurance companies in (Kerala) India follows the international framework model of value exploration, value creation and value delivery through cognitive space, competency space and resource space; customer benefit, business
domain and business partners and finally customer relationship management, internal resource management and business partner management respectively. The important conclusions of the study are as follows. Kerala is one of the most potential markets in India with aggressive growth path. Life insurance companies are expanding its footprints all over Kerala. The relevance of this study is projected by reinforcing the fact that the state has come out from the traditional marketing framework to an international perspective in terms of marketing orientation. From the analysis, it is derived that the three components value exploration; value creation and value delivery form the major holistic marketing orientation for providing customer value in the life insurance space. Also, companies with these holistic approaches can help in creating, maintaining and renewing customer value.

2.2.13 A Methodological Approach to the Marketing Process in the Biotechnology based Companies by Carla Costa, Margarida Fontes and Manuel V. Heitor.

The paper addresses the commercialisation activities of biotechnology based companies in a European context and discusses whether these companies are able to gain adequate market perceptions and set adequate marketing processes, taking into account three analytical steps: strategic marketing definition, marketing implementation, and evolution of strategy and implementation. A methodological approach was developed, considering the specific nature of the technology and the companies. The case of Portuguese companies was used to test this methodology. The findings support the hypothesis that marketing issues constitute a problem for these companies, since most of them had serious difficulties in going through the marketing process. Marketing deficiencies were largely connected to the access to human resources with relevant management and marketing capabilities and were particularly felt by companies introducing discontinuous innovations. The research confirms that this methodology is useful in the assessment of the marketing management process in biotechnology based companies.
2.2.14 The Marketing Mix Revisited: Towards the 21st Century Marketing\textsuperscript{14} by E. Constantinidesi.

The paper assesses the current standing of the 4Ps Marketing Mix framework as the dominant marketing management paradigm and identifies market developments, environmental changes, and trends, as well as changing academic attitudes likely to affect the future of the mix as theoretical concept and also the favourite management tool of marketing practitioners. It reviews the criticism on the 4P's emanating from five traditional marketing areas – Consumer Marketing, Relationship Marketing, Services Marketing, Retail Marketing, Industrial Marketing -and the emerging field of Electronic Marketing. The paper identifies two main limitations of the Marketing Mix as management tool, common in all examined domains, namely the model's internal orientation and lack of personalisation. It also identifies several area-specific limitations and underlines the need for further research on the issue. The weaknesses identified in the study seem to support the frequently expressed suggestion that marketing scholars should focus their efforts in formulating the conceptual foundations and marketing methodologies that better address the needs of today's and tomorrow's marketer.

2.2.15 Development of Marketing Orientation in Small and Medium sized Enterprises evidence from Eastern Europe\textsuperscript{15} by Andrzej Kobylanski and Radoslaw Szulc.

One of the most important aspects that determine an organization’s market position is the entrepreneurs’ approach to market orientation and marketing actions. The focus of the study was to investigate the process of marketing orientation development in SMEs in the country of Eastern Europe, where the economy changed from one of a central planning system to a free market economy. The study investigated to what extent small firms that have survived long enough on the market are competitive because of their adoption of a marketing orientation. For research purposes, authors used theoretical concepts that characterize marketing orientation using five attributes: customer orientation, integrated marketing functions, marketing information, strategic marketing planning and operational effectiveness. The
empirical evidence presented in this article suggests that customer orientation is
critical for SMEs. However, investigated SMEs often focus on the sales level, which
is characteristic for organizations with sales instead of marketing orientation.

2.2.16 Market Orientation: Toward an Integrated Framework\textsuperscript{16} by Richard A.
Heiens.

Market orientation, may actually encompass several different approaches to the
strategic alignment of the organization with the external environment. The article
develops a market orientation typology matrix as a pedagogical and heuristic tool to
summarize these distinct approaches. Specifically, firms can decide to focus
primarily on either competitors or customers as the situation dictates, or perhaps
attempt the difficult task of simultaneously monitoring both with equal emphasis.
The proposed matrix includes four distinct approaches to market orientation:
customer preoccupied, marketing warriors, strategically integrated, and strategically
inept. Firms which emphasize customer-focused intelligence gathering activities at
the expense of competitor information may be classified as customer preoccupied.
Because the marketing concept promotes putting the interests of customers first,
many researchers consider a customer-focus to be the most fundamental aspect of
market orientation. Because the marketing concept encourages a business to be
forward looking, a customer-focused business is likely to be more interested in long-
term business success as opposed to short-term profits. Firms that emphasize
competitors in their external market analyses have been labelled marketing warriors.
Using target rivals as a frame of reference, competitor-focused firms seek to identify
their own strengths and weaknesses and to keep pace with or stay ahead of the rest of
the field. Because such competitors may frequently alter their strategic emphasis, a
close monitoring of competitors is difficult yet important in a hostile environment.
Firms characterized as strategically integrated assign equal emphasis to the
collection, dissemination, and use of both customer and competitor intelligence.
Many researchers suggest a balance between the two perspectives is most desirable,
and firms should seek to remain sufficiently flexible to shift resources between
customer and competitor emphasis as market conditions change in the short run.
Failure to develop a market orientation, either customer or competitor-focused, may adversely affect business performance. Consequently, firms that fail to orient their strategic decision making to the market environment may appropriately be labelled as strategically inept.

2.2.17 Market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages by Janet Y. Murray, Gerald Yong Gao and Masaaki Kotabe.

The study focuses on the internal process through which market orientation influences performance in export markets, and develops a model of market orientation – marketing capabilities – competitive advantages – performance relationships. Using survey data of 491 export ventures based in China, the study finds that marketing capabilities mediate the market orientation–performance relationship, while competitive advantages partially mediate the marketing capabilities–performance relationship. Moreover, coordination mechanism strengthens, and cost leadership strategy weakens, the effects of market orientation on new product development and marketing communication capabilities, respectively. Market turbulence attenuates the effect of market orientation on new product development capability while competitive intensity strengthens this effect.

2.2.18 Collaboration between sales and marketing, market orientation and business performance in business-to-business organisations by Kenneth Le Meunier-FitzHugh and Nikala Lane.

The study considers whether improving collaboration between sales and marketing may provide benefits to organisations through greater market orientation and improved business performance. The influence of market intelligence systems and management attitudes towards coordination on market orientation and collaboration between sales and marketing are also explored. The primary aim of the paper was to discover whether improvements in collaboration between sales and marketing have an impact on market orientation and/or business performance, as well as to discover
the roles that an effective market intelligence system and management attitudes towards coordination have on the other elements in the interface. The research expected to find a positive relationship between market intelligence system and market orientation. Further, it was expected that there would be a positive relationship between management attitudes towards coordination and market orientation. These expected relationships were confirmed by the findings from this research. The two variables had a positive and significant effect on collaboration between sales and marketing. This is an important finding because the same variables that impact on market orientation also influence collaboration between sales and marketing and may therefore be used to improve this relationship. The study was carried out through a survey of senior executives in large, UK, business-to-business organisations from a number of industries and the results indicate that there is an interrelationship between market intelligence systems, management attitude towards coordination, and collaboration between sales and marketing. The results also confirm that collaboration between sales and marketing has a positive and significant impact on both market orientation and business performance.

2.2.19 Planning Marketing-Mix Strategies in the Presence of Interaction Effects by Prasad A. Naik, Kalyan Raman and Russell S. Winer.

Companies spend millions of dollars on advertising to boost a brand’s image and simultaneously spend millions of dollars on promotion that many believe calls attention to price and erodes brand equity. The researchers believe this paradoxical situation exists because both advertising and promotion are necessary to compete effectively in dynamic markets. Consequently, brand managers need to account for interactions between marketing activities and interactions among competing brands. By recognizing interaction effects between activities, managers can consider interactivity trade-offs in planning the marketing-mix strategies. On the other hand, by recognizing interactions with competitors, managers can incorporate strategic foresight in their planning, which requires them to look forward and reason backward in making optimal decisions. Looking forward means that each brand
manager anticipates how other competing brands are likely to make future decisions and then by reasoning backward deduces one’s own optimal decisions in response to the best decisions to be made by all other brands. The joint consideration of interaction effects and strategic foresight in planning marketing-mix strategies is a challenging and unsolved marketing problem, which motivates the paper. The paper investigates the problem of planning marketing mix in dynamic competitive markets. The researchers extend the Lanchester model by incorporating interaction effects, constructing the marketing-mix algorithm that yields marketing-mix plans with strategic foresight, and developing the continuous-discrete estimation method to calibrate dynamic models of oligopoly using market data. Both the marketing-mix algorithm and the estimation method are general, so they can be applied to any other alternative model specifications for dynamic oligopoly markets. Thus, this dual methodology augments the decision-making toolkit of managers, empowering them to tackle realistic marketing problems in dynamic oligopoly markets. The researchers illustrate the application of this dual methodology by studying the dynamic Lanchester competition across five brands in the detergents market, where each brand uses advertising and promotion to influence its own market share and the shares of competing brands. Empirically, it is found that advertising and promotion not only affect the brand shares (own and competitors’) but also exert interaction effects, i.e., each activity amplifies or attenuates the effectiveness of the other activity. Normatively, the researchers find that large brands under advertise and overspend on promotion, while small brands under advertise and under promote. Finally, comparative statics reveal managerial insights into how a specific brand should respond optimally to the changes in a competing brand’s situation.

2.2.20 Exploring the Relationship between Market Orientation and Sales and Marketing Collaboration

by Kenneth Le Meunier-FitzHugh and Nigel F. Piercy.

The relationship between sales and marketing has generated considerable academic interest in recent years, with studies focusing on how the interface can be improved. However, prior research has neglected an important aspect of this interface: the relationship between market orientation and collaboration between sales and marketing. The study considers this relationship and was carried out through a
survey of managing directors/chief executives. The results indicate that collaboration between sales and marketing has a positive relationship with market orientation and that collaboration between sales and marketing as well as market orientation have a combined positive effect on business performance. The study addresses the call for more research into the relationship between sales and marketing and also aims to explore how collaboration between sales and marketing relates to market orientation. It would appear to be logical that if a market oriented approach is adopted by an organization then the sales and marketing departments would be aligned to ensure that they are responding to the market efficiently. Evidence indicates, however, that these two functional groups are still operating independently of each other, in some cases competing for resources and focusing on their own agenda rather than those of the organization or the customer. Direct intervention to improve the relationship may be ineffective as sales and marketing need to maintain independent functionality and have differing perspectives and objectives, but it is still imperative that they coordinate their efforts and collaborate to maximize the return on their activities. The main finding of the research is that collaboration between sales and marketing has a significant and positive effect on both market orientation and business performance. This indicates that collaboration between sales and marketing has an additional positive effect on business performance other than the general benefit of interdepartmental cooperation engendered by a market orientation. Further, collaboration between sales and marketing has a direct and separate beneficial influence on business performance. Based on this research, organizations of whichever orientation should evaluate their sales and marketing functions to establish if they are operating collaboratively or not. A market-oriented organization should encourage greater cooperation between sales and marketing than its competitors, but all organizations should generally consider improving the relationship between sales and marketing to increase business performance. The indications are that organizations should not only work to establish a market orientation through collecting and disseminating market information internally and developing competitive information (and on the customer), but also need to engender a positive attitude toward collaboration in senior managers to improve interfunctional cooperation, particularly between sales and marketing to enable them to focus on their customers’ needs. This is important as the smooth operation of the sales and marketing interface directly affects business performance in business-to-
business organizations. For too long, managers have allowed separate sales and marketing departments to maintain fiefdoms, developing their own specialist skills and routines without developing sufficient links to share and develop joint competences.

2.2.21 Measuring Market Orientation: A Multi-factor, Multi-item Approach

by Shengliang Deng and Jack Dart.

The marketing literature reflects remarkable inconsistency in defining two of its most frequently used terms, the marketing concept and market orientation. Through a critical review of the marketing literature and an empirical analysis of data collected from 248 Canadian firms, the authors established a four component measure of market orientation. The resulting multi-factor, multi-item instrument provides a foundation for future studies. Many researchers have dealt with the measurement of market orientation; however, no previously-published research has presented a comprehensive set of measures that span the literature. The paper offers a four-component market orientation construct based on a synthesis of the work of various authors plus the addition of items unique to this study. The resulting instrument is relatively concise and was developed with the assistance of marketing managers from a broad array of business operations. The study departs from previous studies in several ways. First and foremost, it encompasses a more comprehensive variable set than the ones employed by other researchers. Furthermore, the study is the only one that has so far achieved an operationally-validated four component construct. At a minimum, it would appear to have sufficient and adequate psychometric properties to serve as a starting point for the more directed research needs of academics and business practitioners.
2.2.22 The Measurement of Market Orientation Efficiency by L. Jean Harrison-Walker.

Market orientation efficiency is conceptualized as the speed by which a company gathers information about customers and competitors, disseminates the information throughout the organization, arrives at a shared meaning and implements a response. A reliable scale with demonstrated content and convergent validity is developed and the impact of market orientation efficiency on business performance is assessed based on multiple informant data drawn from two industries. From a managerial perspective, the scale can be used to evaluate a given firm's level of market orientation efficiency as a baseline measure and again as a measure of success once strategies designed to improve market orientation efficiency are set into motion.


The purpose of the study was to empirically test several hypotheses advanced in the literature regarding antecedents and consequences of a market orientation. The finds of the study suggest that the market orientation of a business is an important determinant of its performance, regardless of the market turbulence, competitive intensity or the technological turbulence of the environment in which it operates. As such, it appears from the study that the managers should strive to improve the market orientation of their businesses in their efforts to attain higher business performance. The study suggests several factors as important determinants of a market orientation. Specifically a market orientation appears to be facilitated by the amount of emphasis top managers place on market orientation through continual reminders to employees that it is critical for them to be sensitive and responsive to market developments. Importantly, a market orientation appears to require a certain level of risk taking on the part of senior managers and a willingness to accept occasional failures of new products and services as being a normal part of business life. In the absence of such a willingness to take calculated risks, employees in the lower levels of an organizational hierarchy are unlikely to want to respond to market developments.
with new products, services or programs. Two factors that affect a market orientation are interdepartmental connectedness and conflict. Interdepartmental conflict appears to reduce market orientation, whereas connectedness appears to play a facilitative role. While some level of interdepartmental conflict is inherent in the charters of the different departments, it appears useful to reduce the level of conflict by using various means such as interdepartmental training programs, cross-functional activities and alignment of departmental performance objectives by focusing them on markets. The role of market-based reward systems and decentralized decision making in engendering a market orientation appears to be strong, suggesting that reward systems should take into account the contribution of individuals in sensing and responding to market needs. Additionally, the negative relationship between centralization and market orientation suggests that it may be useful to empower employees to make decisions at lower levels of organizations rather than concentrate decision making in the upper echelons of organization. Although formalization and departmentalization do not appear to affect a market orientation, it would seem that the content of formal rules, rather than their mere presence, is a more important determinant of market orientation. Similarly, the manner in which the various departments interact with each other appears to be more important determinant of market orientation than the sheer number of departments in a business.

2.2.24 Market Orientation: The Construct, Research Propositions and Managerial Implications

The study attempts to clarify the domain of the market orientation construct and provide a working definition and a foundation for developing a measure of the construct. Additionally, the researchers have identified three classes of factors affecting market orientation and interrelationships among the elements of market orientation. The researchers highlight the impact of a market orientation on an organization’s strategy, employee dispositions and customer attitudes and behaviour. The researchers introduce supply and demand side factors as potential moderators of the impact of market orientation on business performance. The integrative framework proposed by the researchers represents efforts to build a foundation for
the systematic development of a theory of market orientation. The main objective of the research is theory construction and not testing. Much work need to be done in terms of developing a suitable measure of market orientation and empirically testing the propositions. Considerable interest has focused on organizational resources and positions that represent sustainable competitive advantages. Much less attention has focussed on organizational processes, such as market orientation, that represent a long term advantage. Because a market orientation is not easily engendered, it may be considered an additional and distinct form of sustainable competitive advantage.

2.2.25 The Effect of Market Orientation on Business Profitability\textsuperscript{25} by John C. Narver and Stanley F. Slater.

The study is about the effect of market orientation on profitability of businesses. Several marketing academicians and practitioners have been observing that business performance is affected by marketing orientation. However, there has been no valid measure of a market orientation and hence no systematic analysis of its effect on a business’s performance has been done. The authors have developed a valid measure of market orientation and analyzed its effect on business’s profitability. The researchers have used a sample of 140 business units consisting of commodity products businesses and non-commodity businesses and they have found that market orientation has a positive effect on the profitability of both types of businesses. The researchers have inferred three behavioural components of market orientation – customer orientation, competitor orientation and inter-functional coordination – and two decision criteria – long term focus and profitability. The study is an important step in validating the market orientation/performance relationship. The researchers feel that the research needs to be replicated in diverse environments and over time to increase confidence in the nature and power of the theory. The findings of the study suggest that after controlling for important market-level and business-level influences, market orientation and performance are strongly related. The findings are consistent with the intuition and expectations of scholars and practitioners about the nature and effects of market orientation. The findings gave marketing scholars and practitioners a basis for recommending the superiority of market orientation. A
substantial market orientation must be the foundation for a business’s competitive advantage strategy.

2.2.26 The Marketing Concept Implementation, Does it affect Organizational Culture?²⁶ by Dr. Richard Murphy, Dr. Diana Peaks and Dr. John Pope.

Marketing concept has been defined as a marketing philosophy for achieving the organizations goals dependent upon determining the needs, wants of target markets and delivering the desired needs, and wants more effectively and efficiently than competitors does. According to marketing concept organizations implementing the marketing concept can be said to have adopted a market orientation. The work of Kohli & Jaworski identified the antecedents of a market orientation and the effect of a market orientation on profitability (Naver & Slater, 1990). Some scholars are beginning to stress the relationship between organizational culture and the marketing concept (Deshpande & Parasuraman, 1986). Marketing concept including market orientation and service orientation has been studied since the development of frameworks (Kohli & Jaworski, 1990; Narver & Slater, 1990). Research on the marketing concept has attempted to link market orientation and service orientation to organizational performance and it has been supported that the marketing concept is highly correlated with performance (Deshpande et al., 1993; Jaworski & Kohli, 1993; Narver & Salter, 1990). Although marketing concept should be an important business philosophy for small organizations as well, marketing concept has not been implemented in international organizations in taking organization size and culture into consideration. This study proposes to examine the influence of organizational size and culture on the implementation of the marketing concept from investigating the international market with focus of small-scale organizations. The study set out to describe the small to medium businesses participating in the study from Costa Rica. Businesses had been in business for an average of 5 years and employed on average 25.14 employees. These businesses also employed managers, production, marketing, and sales employees. The majority of the firms collected data on their customers, competitors, and listened to their customers’ wants and needs. These businesses
listened to the market and to their competitors. The study identified different sets of predictor variables for market orientation (Customer, Inter-functional and Competitor) indicating small to medium businesses have different perceptions of how they view what is influencing their market orientation. It is interesting that each type of market orientation produced different predictor variables.

2.2.27 The Impact of a Responsive and Proactive Market Orientation on Innovation and Business Performance\textsuperscript{27} by Mateja Bodlaj.

The purpose of the empirical study was to examine the impact of a responsive and proactive market orientation on the degree of novelty, innovation performance and business performance. Data obtained from 325 Slovenian companies that introduced product, process, marketing and organisational innovations were analysed via structural equation modelling. The main findings reveal that only a proactive market orientation is positively related to the degree of novelty, whereas no support was found for the direct impact of both market orientations on innovation performance and business performance. The study provides additional support for past research arguing that a higher degree of novelty enhances innovation performance which, in turn, enhances financial performance through a positive impact on market performance. Further, the study reveals that only a proactive market orientation significantly and positively impacts the degree of novelty, whereas the impact of a responsive market orientation is insignificant. The study also reveals that a market orientation, whether responsive or proactive, has no direct impact on innovation performance. The finding contradicts earlier empirical studies suggesting that both market orientations are important drivers of new product performance or which revealed a significant impact at least for the proactive market orientation. The study is the first that simultaneously examines the entire chain of relationships between both market orientations, the degree of novelty, innovation performance and business performance. The study implies that the distinction between a responsive and proactive market orientation is important for better understanding the role of a market orientation in increasing the degree of novelty and consequently in improving business performance.
2.2.28 Decomposed Approach of Market Orientation and Marketing Mix Capability: Research on Their Relationships with Firm Performance in the Korean Context\textsuperscript{28} by Shin Sohyoun.

The notion that market orientation provides firms a source of competitive advantage seems to be widely accepted since the effects of market orientation on business performance have been extensively researched and many studies have confirmed their affirmative relationships. However, aggregated approach of market orientation as one single construct has left the detailed investigations yet unexplored despite its tremendous contribution in marketing strategy arena. Thus, decomposed properties of market orientation and their relationships with various components of firm success were explored to precisely examine the paths in the study. Furthermore, to resolve conflicting arguments on whether market orientation has a direct influence on firm level consequences, marketing mix capability was suggested as a critical mediator to complete a resource deployment system rather than a resource possession approach, which is equivalent to resource-based view. From an analysis of a survey data of 285 Korean organizations, three dimensions of market orientation, namely customer orientation, competitor orientation, and inter-functional coordination, and four sub-constructs of marketing mix capability, such as product, communication, channel and pricing capability, along with their impacts on business performance were investigated in detail. The study revealed that customer orientation and inter-functional coordination had a direct impact on only customer satisfaction while all three dimensions of market orientation failed to directly link to other firm performance variables like market effectiveness, adaptability and profitability. To bridge these relationships, product and communication capabilities were proven to be a necessary condition while channel capability and pricing capability showed interesting relationships. Findings and implications were discussed and limitations and further research directions were also suggested.

Marketing orientation, still an intriguing concept for many carries the pledge of superior company performance through the satisfaction of customer's needs. The article draws conclusions from an empirical investigation showing that this relationship does really exist and, in the case of industrial markets, building a marketing orientation it is indeed a significant contributor to the company's performance. The empirical findings presented in the article provide important insights pertaining to both the concept of marketing orientation and its influence on company performance. The findings suggest that the attitude to consider marketing as the culture of satisfying customers' needs and of adapting products to the customers' needs and wants leads to specific actions that must be taken in the marketplace. On the other hand, unless a certain attitude is formed, these actions never emerge. The analysis has shown that by placing emphasis solely on the company's attitudes, through manipulation of the prevailing system of beliefs, marketing orientation cannot flourish. The establishment of the interrelationship between the two pivots of the marketing orientation serves in guiding the efforts of the companies that attempt to become marketing orientated. Their efforts need to focus on both the aspects of the concept. Another interesting finding is the degree of adoption of the marketing orientation concept by industrial companies. The analysis has shown that industrial companies, when compared to consumer ones, are less likely to develop a marketing orientation. On the contrary, industrial companies are more inclined to develop a sales, production, or product orientation. This finding demonstrates how the majority of industrial goods companies attempt to develop a competitive advantage. Many of them tend to focus on their sales effort. Others attempt to improve their business through the attraction of customers by adding extra features to their products, using modern technology or by focusing on their production process. However, they do not bother to evaluate the benefits that these actions will bring to their customers. Only a fraction of industrial companies appear to actively seek to adapt their products to the specific needs and wants of their customers. Thus, corrective actions to both the attitudes held and the practices employed by industrial goods companies are necessary. This necessity stems from the fact that, as this study has shown, marketing orientation leads to better
performance and, for industrial companies specifically, this relationship is even stronger. The data show a statistically positive association between marketing orientation adoption and company performance. The study examined two important dimensions of company performance (performance vs. performance objectives and performance vs. competition performance) and has shown that the adoption of marketing orientation improves both of them.

The analysis has shown that marketing oriented companies outperform companies with different orientations in both dimensions of performance. The marketing orientation has a significant impact on company's performance and more importantly on its performance against the company's competitors. Thus, marketing orientation development may very well serve as a powerful and fruitful base upon which a competitive advantage can be established. This is particularly true for companies competing in industrial markets. As the findings suggest, industrial companies that are characterized by higher levels of marketing orientation adoption, tend to achieve better performance, not only against their own performance goals, but also, and more importantly against their competitors. More specifically, the profits, ROI, sales volume and market share of the marketing oriented industrial companies, compared with the respective figures of the non-marketing oriented goes, are significantly higher. Clearly, industrial companies that invest in understanding the customers and adapting their offerings to the customers' needs gain in terms of the preference they enjoy in the market as potential suppliers. This preference is translated into better performance, not only in terms of the performance objectives they set but also, and more important in comparison with the performance achieved by their main competitors.

2.2.30 Marketing orientation and its determinants: an empirical analysis

While a strong association between marketing orientation development and company performance has been established, the understanding of the marketing orientation remains unclear since some studies have suggested a philosophical nature for
marketing orientation and some other studies concluded that marketing orientation represents a behavioural notion. As a result of this antithesis, research has not proceeded in the investigation on the factors that determine the degree of marketing orientation development shows that marketing orientation should be conceptualised synthetically since it represents the integration of a certain culture with specific behaviour. The study closely examines the major determinants of marketing orientation development. Although exploratory in nature, suggests that marketing orientation development is determined by company-specific, as well as by market-specific factors with the former having a facilitating effect and the latter a coercive effect. The empirical findings presented in the paper provide significant insights concerning both the nature of the concept of marketing orientation and the factors that determine the adoption of marketing orientation. Overall, the data has shown that the company's orientation (marketing or not) represents the combined outcome of its attitude with its behaviour. As far as the nature of the marketing orientation is concerned, the analysis has shown that it is based on the combination of: a) the company's attitude to perceive marketing orientation as the company's philosophy, which is grounded on the persistence to analyse and understand the market prior to any actions; and b) the company's behaviour to collect intelligence about the market, disseminate it company-wide and to design the company's response on the basis of this market-intelligence. The practical implications of understanding and clarifying the element of the marketing orientation concept are self-evident: companies wishing to reorient themselves and develop a marketing orientation are obliged to direct their efforts towards changing both their attitude and behaviour in such a manner that the two operate in a synergistic and harmonic way to produce profitable exchanges through increased levels of satisfaction for the company's customers.

2.2.31 Marketing orientation in the European Union mobile telecommunication market by Kurtinaitiene Jolita.

The main objectives of the paper are: to analyse marketing orientation application specifics in mobile telecommunication enterprises; and to develop and test an
instrument for measuring the level of marketing orientation in the enterprises of the mobile telecommunication industry. The marketing orientation instrument was derived from systematic comparative analysis of the relevant marketing literature, supplemented by additional criteria relating to innovation and organizational learning. The empirical research method was expert assessment, conducted by means of online questionnaires. Correlation analysis and comparison with data from secondary sources were employed to test the validity of the procedure. The empirical research findings confirmed positive relationships between marketing orientation, enterprise performance and learning orientation in the target industry, but not between marketing orientation and innovativeness. The paper reports a field study of marketing orientation in the mobile telecommunications industry in the 15 countries of the pre-2004 European Union. The proposed marketing orientation instrument can be used to solve the issues of marketing orientation development.

2.2.32 Industrial buyers' influence strategies: buying situation differences

Despite the critical role of the industrial buying situation in shaping buyer behavior and seller response, little research has been conducted to augment extant knowledge on the subject. To fill this gap, the article focuses on influence strategies that industrial buyers exert on their suppliers in different buying situations. The study received information from 122 Greek producers of industrial goods through a mail survey based on a semi-structured questionnaire. This incorporated 24 influence strategies equally divided into six groups (legalistic, coercive, reward, expert, referent, and informational), and respondents were asked to specify their degree of agreement or disagreement, whether these are used by their customers in three buying situations namely straight re-buy, modified re-buy and new task. The study revealed that: industrial customers use a wide array of influence strategies, with those based on referent, expert or legalistic sources being more widely employed; influence strategies vary in degree of application according to buying situation and are least used by new-task buyers; and straight re-buyers tend to make greater use of expert, referent, and, to some extent, legalistic influence strategies, while modified
re-buyers employ more coercive and, to a lesser extent, information-based influence strategies. Overall, influence strategies play an important role in industrial buying behavior, requiring sellers to treat customers differently in each buying situation. Several suggestions for future research are provided, such as replicating the study in different geographic contexts, monitoring changes of influence strategies as a buyer moves from one buying situation to another, and investigating the countervailing actions taken by suppliers.

2.2.33 An examination of buying centres in Irish biotechnology companies and its marketing implications by Paul Howard and Declan Doyle.

The research is a qualitative study which aims to investigate the intricacies of organisational buying behaviour in the context of the Irish biotechnology industry. Particularly, the research seeks to focus on the phenomenon of buying centres as the core decision-making unit in an organisation and examines the functionality of such a process. The main aim of the research study is to examine key influencers, as well as to examine the decision process itself so as to fully comprehend modern organisational buyer behaviour and to discuss these issues from a practical viewpoint beneficial to both the marketing and purchasing functions. The research process was conducted through qualitative methods, which formed a combination of focus group and key respondent interviewing. A triangular approach of data was also used to obtain quality information and to achieve a platform upon which to base accurate conclusions. A small number of organisations from industry participated in this study, which was deemed sufficient as the purpose of the study was gaining insight as opposed to proving or disproving previous theories. It was discovered that users were key influencers in the decision process as were quality control personnel. In addition, the business functions were found to be the decision makers in a highly dynamic buying centre process, which is constantly changing in terms of numbers, participation and structure. Based on the finding of the research newer models of organisation buying behaviour were developed in addition to appropriate marketing strategies being put forward in order to better represent the realities of modern business-to-business marketing. This is where the real benefits of the research will
be seen as marketing organisations become more efficient, buying organisations develop best practice procedures and academics can build on this research base to further enhance marketing knowledge. The paper examines buying centres in Irish biotechnology companies and offers recommendations for future research.

2.2.34 Assessing Industrial Buyer Preferences: Using the Swait-Louviere Test to Test the Key Informant Assumption by David E. Hansen.

When using professional buyers to study an organization’s buying behaviour an important consideration is whether their preferences reflect those of the organization. Since this is a key informant problem, the article focuses on the issue of the degree to which key informants can be used to provide insights into their own organization’s preferences. The researcher conducted a direct test of the key informant assumption using the Swait-Louviere test. In this test, preferences from a choice experiment using actual buyers and from market decisions made by the organization are estimated separately, then jointly in multinomial logit models. The researcher found that buyers’ experimental preferences were similar to estimates obtained from the market decisions. Buyers’ preferences were closer to the intuitive preferences of the organization’s top executives than the estimates based on past market decisions, although a model based on the combined data outperformed either. The researcher discusses the implications of these results for industrial buying research. These findings regarding the key informant assumption need further empirical support before they can be generally accepted. However, the method proposed here for testing the key informant assumption is interesting; it provides a further means of analyzing the industrial buying behaviour of specific organizations. Like many research projects, the problems in the present study may invite further inquiry; this methodology would thus benefit from future research in a number of ways in addition to those already mentioned. The research attempts to demonstrate a direct approach for testing the key informant assumption, as well as the use of informants in choice experiments to help organizations make their price-quality trade off explicit. The results suggest that more research and application in this area could
increase knowledge of industrial buying and produce more economically efficient decisions.

2.3 Other Articles

2.3.1 Global biotechnology industry is on mission transformation: India presence of global biosuppliers increases.35

The paper deals with the growth of biosuppliers industry in Asia and India. The Asia-Pacific region accounts for almost 15-20 percent of their world-wide sales revenue, and their India business contributes almost 8-10 percent of Asia-Pacific sales. For example, 16 percent of Millipore's total 2006 global business of $1.2 billion was generated in Asia. The life sciences business of Pall Corporation represents about 40 percent of its global sales of $2.01 billion in 2006 and Asia accounts for 14 percent share of its total life science business of $796.3 million. Bio-Rad's pacific rim sales accounted for 16 percent share of the total business of $1.27 billion in 2006. The paper further discusses the reasons for growth of biotechnology sector across the globe and compares the biotechnology market scenario in USA, Europe, Canada and Asia-Pacific. According to Ernst & Young's 2007 Global Biotechnology Report, the biotechnology industry made historic progress with strong product pipelines and product successes, record-breaking financing totals, unprecedented deal activity and impressive financial results. The global biotechnology revenues of the public listed companies in 2006 grew to $73.5 billion recording a 14 percent growth over that in 2005 ($64 billion). Further, according to the report, all the leading regions in the world recorded a strong double digit growth, with the US and Europe recording 13 percent growth each and Canada registering 22 percent growth. Further, the paper deals with the upcoming issues like government interventions & regulatory frameworks which would favour the growth of biotechnology sector globally.
2.3.2 India: Biotech leader in the making.\textsuperscript{36}

The Indian biotechnology industry – accounting for 2 per cent of the global biotechnology market – has the potential to develop as a key player, generating revenues worth US$ 5 billion. In 2006-07, the Indian biotechnology industry clocked US$ 2.08 billion in revenues, registering a 30.98 per cent growth. Furthermore, it is estimated that this sector will grow to occupy 140 million square feet by 2010, creating employment for a million by means of its products as well as its services. Significantly, an Ernst and Young survey recognises India as one of the emerging biotechnology leaders, ranked third in the Asia-Pacific region based on the number of biotechnology companies in the country.

The biotechnology industry in India comprises five broad divisions:

- Biopharmaceuticals
- Agri-biotechnology
- Bioinformatics
- Bioindustrial
- Bioservices

The Indian biotechnology sector – with its 'low cost, high value' proposition – has been growing at 35 per cent to 40 per cent annually for the last three years with over 340 companies. Not surprisingly, this sector has been witnessing heightened activity, having already attracted as many as 200 multinationals.

Bangalore especially has been at the helm of the country's biotechnology developments with:

- an increased investment of US$ 580 million with Bangalore attracting the maximum share estimated to be worth US$ 250 million; and
- An estimated demand for approximately 6.5 million square feet during 2007–10, according to Cushman & Wakefield analysis.

Hyderabad has been a firm anchor for India's biotechnology industry, with the Genome Valley Project attracting foreign exchange worth US$ 1.24 billion from pharmaceuticals, biotech chemicals and allied chemicals' companies.
2.3.3 Marketing Mix Strategies adopted by selected Indian Business Outsourcers by Dr. N. Sundaram and S. Geetha.

The paper discusses the issues related to knowledge based sectors and particularly about business process outsourcing. Business Process Outsourcing refers to a transfer of some business functions or components of business process to an outside contractor. It is one of the fastest growing business sectors in India. Management of cost and other marketing mix remain to be the contending issue in embarking on an outsourcing journey. So the study on marketing mix strategies adopted by these companies was performed. The paper covers basic aspects of business process outsourcing, global outsourcing issues and major Indian companies operating in the sector. The various strategies related to product mix, pricing, distribution and promotion are studied by using primary & secondary data. Indian business process outsourcers are mostly marketing through web advertisements as a promotional strategy to serve the asian & north American customers and price them on the basis of slab rate. Business process outsourcers are marching towards knowledge process and value-added outsourcing.

2.3.4 Biotechnology for Sustainable growth and development.

Life science research and biotechnology are delivering on better outcomes for health, the environment, and for industrial, agricultural and energy production. Working together, OECD countries have the opportunity to optimise the contribution that life sciences and biotechnology can make as a driver for sustainable growth and development. Growth must meet the economic, environmental and societal needs of countries. Concerted efforts, involving public and private sectors, are required to remove inappropriate barriers and provide opportunities for the transition to a more bio-based economy. Continued investment is required by the public and private sectors in the basic research and development that will underpin innovation, as well as on delivery of clear and consistent policy signals to innovators. A strong scientific infrastructure is necessary to underpin the contribution that biotechnology can make.
and high-quality biological resource centres (BRCs) will be an essential element of such an infrastructure. Appropriate safeguards to society must keep pace with scientific and technological advances in biotechnology. Continued international effort is necessary to deliver on the full potential for life sciences and biotechnology to help drive sustainable growth and development. The OECD should strengthen its contribution to work on biotechnology as a driver for sustainable growth, focusing on the issues identified and conclusions reached in the paper.

2.3.5 Indian biotech industry crosses the US$ 1 billion threshold.\textsuperscript{39}

The Indian biotechnology industry reached a major milestone by crossing the US$ 1 billion dollar mark in 2004-05. The industry grew by an impressive 36.5 per cent over the previous year. Biotechnology exports from India stood at US$ 455 million, contributing over 42 per cent of the industry revenues. Biopharmaceuticals, with revenues of about US$ 811 million, accounts for three-fourths of the biotechnology market. This segment registered a 30 per cent growth, driven primarily by the vaccine business. Agri-biotech, contributing a mere 7 per cent of market value, was the fastest growing segment at 154 per cent driven by the revenue growth of leading Bt cotton companies. The Indian biotechnology industry today comprises over 280 companies with six of them generating revenues of over US$ 22.7 million. With the new product patent regime in place and a national biotechnology policy set to be notified soon, the Indian biotechnology industry is set to touch US$ 5 billion in revenues by 2010. In 2004-05, the Top 20 biotechnology companies in India represented 60 per cent of the total industry revenues, with six MNCs occupying a position on the list. India’s rising prominence in the field of biotechnology is making it a coveted partner for bilateral technical cooperation in this field.

India’s Value Proposition for Biotechnology:-

- More than 300 college level educational and training institutes across the country offering degrees and diplomas in biotechnology, bioinformatics and the biological sciences.
- A knowledge pool in biosciences and engineering of over 3 million graduates, 700,000 post graduates and 15,000 PhDs.
• A strong multinational presence offering Indian talent exposure to cutting edge technologies and opportunity to work on state of the art research projects.
• A robust IT industry which has already established India’s credentials as a viable investment destination.
• Presence of a well-defined base industry that is the pharmaceutical industry.

2.4  Books

2.4.1  Marketing Management: A South Asian Perspective; Twelfth Edition by Philip Kotler, Kevin Lane Keller, Abraham Koshy and Mithileshwar Jha; Pearson Prentice Hall.

The book is the leading marketing text because its content and organization consistently reflect changes in marketing theory and practice. The book focuses on the major decisions that marketing managers and top management face in their efforts to harmonize the organization’s objectives, capabilities and resources with marketplace needs and opportunities. The book presents conceptual tools and frameworks for analyzing recurrent problems in marketing management. The marketing principles, strategies and practices are explained by examples and cases. The book draws on the rich findings of various scientific disciplines – economics, behavioural sciences, management theory and mathematics – for fundamental concepts and tools. The book applies strategic thinking to the complete spectrum of marketing: products and services, consumer and business markets, profit and non-profit organizations, domestic and foreign companies, small and large firms, manufacturing and intermediary businesses, and low and high-tech industries. All the topics that the marketing manager needs to understand to execute strategic, tactical and administrative marketing are covered in the book.

The book is about marketing and marketing strategy planning. The book pioneers an innovative structure – using four Ps with a managerial approach – for the introductory marketing course. The book focuses on the changes taking place in today’s dynamic markets. The concepts of lifetime customer value, best practices in marketing, effective e-commerce innovations, relationship building in marketing, social impact of marketing, importance of providing superior customer value, ethical issues in marketing, multichannel marketing, growth of business – to – business exchanges on the web, role of sales technologies & self-service technology, competitor analysis, competitive advantage, flexible pricing, price sensitivity and marketing control are explained in depth in the book. Broadly the chapters are divided into two groupings. The first eight chapters introduce marketing and a broad view of marketing strategy planning process. The second half of the book goes into the details of planning the four Ps, with specific attention to the key strategy decisions in each area. Each chapter of the book is supplemented by in-depth analysis and discussion of specific cases. The book concludes with an integrative review and coverage of overarching topics such as implementation and control, marketing’s link with other functional areas and an assessment of marketing’s challenges and opportunities.

2.4.3 Marketing Management: Planning, Implementation and Control; Third Edition by V. S. Ramaswamy and S. Namakumari; Macmillan India Ltd.

The book provides insights in the field of marketing considering both Indian and global contexts. The concepts in marketing explained in the book are supported by practices of both Indian and global firms. The forty eight chapters in the book are divided into nine parts. The various topics that cover important aspects of marketing include, understanding the marketing process, Indian marketing environment, developing marketing strategy, analysing consumers and selecting markets,
managing the product, managing distribution, pricing and promotion, supporting and controlling the marketing effort and special fields in marketing. The book contains several insightful case studies and mini cases drawn from marketing situations faced by Indian as well as global firms.


The book on marketing has been written by taking into consideration the Indian marketing scenario post liberalization. The book is primarily divided into five parts. Part one focuses on markets, concept of marketing, structures and forces therein and what a marketer needs to do in order to understand them. The second part deals with marketing mix including product decisions in the contemporary Indian market, new product decisions, brand equity, pricing decisions, promotion decisions and distribution management. The third part deals with marketing strategy and organizational issues in design, implementation and economy. The fourth part focuses on contemporary issues in marketing like global marketing and services marketing. The fifth part focuses on case methodology and instrumentation in marketing. The cases help to link theory to business realities.

2.4.5 Consumer Behavior; 9th Edition by Leon G. Schiffman and Leslie Lazar Kanuk; Prentice Hall of India Pvt. Ltd.

The book focuses on the examination and application of consumer behaviour principles to the development and implementation of marketing strategies. The focus is also on the impact of the new media i.e. internet, smart-phones, specialized search engines and e-commerce oriented websites on consumer information seeking, purchasing options and decision making, recognizing that consumers now have fast and convenient access to information about virtually any product or service they may wish to purchase. The emphasis is on marketing strategy using theoretical and
applications oriented approach. The text clearly explains the relevant and timely concepts on which the discipline of consumer behaviour is based. The conceptual material is supplemented with a great many real-world examples in order to demonstrate how consumer behavioural concepts are used by marketing practitioners to solve marketing problems and to develop and implement effective marketing strategies. Part one of the book provides the background and tools for a strong and comprehensive understanding of the consumer behaviour principles. The second part discusses the consumer as an individual. The third part is concerned with social and cultural dimensions of consumer behaviour and part four explores various aspects of consumer decision making.

2.4.6 Industrial Marketing; 2\textsuperscript{nd} Edition by Krishna K. Havaldar, Tata McGraw Hill Publishing Company Ltd.

The book focuses on business to business marketing in the Indian context. The book is organized into thirteen chapters. The book elaborates the various aspects of industrial marketing by including nature of industrial marketing, industrial markets and environment, nature of industrial buying and buying behaviour, buyer-seller relationship, industrial marketing intelligence and marketing research, industrial market segmentation, target marketing & positioning, product strategy & new product development, distribution channels & marketing logistics, managing the personal selling function, industrial communication, pricing strategies and industrial marketing through e-commerce. Each chapter provides learning objectives, examples of industrial marketing practices, key concepts, and summary and questions for discussion. A special chapter focuses on application of electronic commerce to business-to-business marketing.