Alternative Marketing Strategies in Biotechnology Sector

Graduation Project
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ÖZET

Bu çalışma kısa gelişim tarihi içerisinde biyoteknolojinin bilim dalı olarak doğuşunu, zaman içerisinde bir ticari sektör haline gelişimini, biyoteknoloji alanında pazarlanmanın tanımlanmasını, sektörel anlamda pazarlama fikrine farklı yaklaşımlarını ve biyoteknoloji sektöründe kullanılan pazarlama stratejisi alternatiflerini konu alır.

Anahtar Kelimeler: Biyoteknoloji sektöründe pazarlama, yüksek teknolojinin pazarlanması, “start-up”, “spin-out”
ABSTRACT

This work focuses on the timeline of biotechnology – from its emergence as a scientific field to its evolution into a commercial business, definition of biotechnology marketing and various marketing strategies that have been employed in the biotechnology sector

Keywords: biotechnology marketing, high-technology marketing, start-up, spin-out
TABLE OF CONTENT

ÖZET .................................................................................................................. ii

ABSTRACT ......................................................................................................... iii

TABLE OF CONTENT ....................................................................................... iv

LIST OF FIGURES ............................................................................................... v

1. INTRODUCTION ................................................................................................. 1
   1.1 Definition of Biotechnology ................................................................. 1
   1.2 Branches of Biotechnology ................................................................. 2
   1.3 Current Situation .................................................................................. 5
   1.4 Purpose of the Study ........................................................................... 7
   1.5 Methodology ......................................................................................... 7

2. ECONOMY OF BIO-SCIENCES ....................................................................... 9
   2.1 Understanding Biotechnology Sector ............................................... 9
   2.2 Era of Start-Up Companies ................................................................. 9
   2.3 Market Profile ...................................................................................... 10

3. BIOTECHNOLOGY MARKETING ................................................................. 12
   3.1 Marketing for High Technology Products ........................................ 12
   3.2 Specificity of Marketing in Biotechnology Sector ............................. 14
   3.3 Defining Marketing Strategy ............................................................. 15
   3.4 Marketing Problematic ...................................................................... 18
   3.5 Implementations ................................................................................... 19

4. CONCLUSION ................................................................................................. 20

REFERENCES .................................................................................................. 22
LIST OF FIGURES

Figure 1.1 .............................................................................................................. 4
Figure 1.2 .............................................................................................................. 6
Figure 1.3 .............................................................................................................. 11
Figure 3.1 .............................................................................................................. 14
Figure 3.2 .............................................................................................................. 17
1. INTRODUCTION

This study focuses on various marketing strategies of biotechnology companies of different sizes and levels in order to explore their approach to marketing in highly competitive and fast-changing market environment. It also aims to explore employee profiles of such companies as well as to addressing which marketing tools and strategies are currently being used.

This research relies on informal methods and different resources (scientific and business related), such as websites, reports, scientific papers and academic research publications. Qualitative methods were used to gather data on biotechnology companies, their structures and their respective strategies in order to identify what problems companies from biotechnology sector face and how they have tried to overcome these problems throughout the evolution of biotechnology field into a business sector.

1.1 Definition of Biotechnology

Despite the wide nomenclature that has been used, biotechnology can be simply explained as using biology as a technological tool which deals with biomolecular processes to address some of human kind’s problems and achieve better life standards through creating different products. The term “biotechnology” may relatively be new but the concept has been around for a long time, since 4000 BC – when the ancient humans started using different microorganisms for food production (“What is Biotechnology?”, n.d.). Without a doubt the current applications of biotechnology are way beyond these. Understandably with its ever-expanding portfolio of products and fields, biotechnology has gained important with the latest scientific advancements. Data from Fortune 500 list (as of 2015) supports this improvement in the sector as the number of biotechnology companies in Fortune 500 list in 2015 rose to 7 from one in 2004 (Decarlo, S. & Wieczner, J., 2015).

While there are a number of different reasons that can explain this drastic increase, one of the major ones is the change the biotechnology companies have undergone recently; focusing on medical solutions and discovery of new generation drugs that can preferably provide personalized treatment rather than generic and
mass approach (Simpson, S.D., 2018). As of today, biotechnology, as a field of science, provides promising ground-breaking solutions to medical problems of humanity through biological alterations of humans and other organisms. However biotechnology, as a field of business sector, is a trending focus of capital which is also seen as an alternative and an upgraded version of classical pharmaceutical sector.

1.2 Branches of Biotechnology

There are several application fields of biotechnology:

- **Green Biotechnology**

  Green biotechnology focuses on agricultural applications of biotechnology; for instance creating new plant variations serving specific purposes, bio-fertilizer production as well as modifying genetic materials, namely genetically modified organisms (GMOs) (Aldridge, S., 2009).

- **Yellow Biotechnology**

  Yellow biotechnology is the sub-field of biotechnology where fermentation is heavily employed for food or drink production such as wine, beer and cheese as well as targeting harmful insects (Edgar J, D., 2004).

- **White Biotechnology**

  White biotechnology, industrial biotech, is related to using microorganisms (yeasts, bacteria etc.) as bio-catalysts for a number of processes; chemical degradation, biofuels etc. (Kafarski, P., 2012).

- **Blue Biotechnology**

  Blue biotechnology is dedicated to enrichment of sea and aquatic resources through biotechnological tools (Kafarski, P., 2012).

- **Red Biotechnology**

  Red biotechnology is the branch that is related to medical applications in combination with pharmaceutical researches. Some of the examples are developing new vaccines, drugs and antibiotics (Aldridge, S., 2009).
• Gray Biotechnology

Gray biotechnology attempts to tackle growing concerns over biodiversity and related environmental issues (Kafarski, P., 2012).

• Gold Biotechnology

Gold biotechnology focuses on providing solutions by making use of information technologies and bioinformatics (Siam, R., 2009).

• Violet Biotechnology

Violet biotechnology addresses ethical and moral issues of biotechnology in the society (Aldridge, S., 2009).

• Dark Biotechnology

Dark biotechnology, as can be understood from its name, is related to biological weapons and possible (bio)terrorism concerns (Edgar J, D., 2004).

Using colour codes for different application fields help related fields to be regulated in an easier way by making it clear which field focuses on what subjective, based on what objectives. Each field may be subjected to different ethical and legal codes. Each of the branches has different impact on society and environment which is why such coding system is being used.

History of Biotechnology

Roots of relatively modern biotechnology is originated from the efforts for fermentation. In the second half of 19th century, self-brewing quickly became popular and early institutionalization steps for biotechnology, which was then known as zymotechnology, were established. Consecutive world wars and worsening food supplies forced people to look for new measures to increase the crop yield and other similar solutions which fuelled biotechnology’s advancement and involvement in everyday life (Thackray, A., 1998).

In the simplest way, “Biotechnology” can be defined as technologic processes based on or through biology of organisms. The method makes use of living systems and manipulations on their genetic materials to improve our life standards by
increasing productivity in agriculture, improving healthcare, genetically engineering organisms for food and various biopharmaceuticals.

Roots of biotechnology are originated from the efforts for fermentation to produce food and drinks; bread, dairy products, wine, beer — yet still in use. Early institutionalization steps for modern biotechnology, which was then known as zymotechnology, were established in the second half of 19th century. However today, modern biotechnology rather relies on recombinant DNA technologies for medical and pharmaceutical solutions (Thackray, A., 1998, Shimasaki, C., 2014).

This technology, throughout the history, allowed new class of products in the market; first vaccines and pharmaceutical products originating from blood and then genetically engineered products started to penetrate both medical and agricultural markets (Shimasaki, C., 2014).

Each milestone throughout the history has had a strong impact on the evolution of biotechnology from simple wine and bread making into a $700+ billion market by 2025. Some of them led to formation of sub-branches with groundbreaking discoveries and approaches; for instance development of recombinant DNA technology paved the way for all biotechnology branches, while with the introduction of genetically engineered plants green biotechnology have started to emerge.

![Figure 1.1: A summary of milestones in biotechnology.](image-url)
1.3 Current Situation

Evolution of Biotechnology into an industry has been much debated as it oversees a balance between business and academia (competition or co-operation depending on the perspective) (EuropaBio, 1997; Enriquez, J. & Goldberg, R., 2000). Unlike some other sectors, biotechnology, as a sector, has a certain pattern throughout its evolution. Main driving force of biotechnology has been powerful impact of science (Orsenigo, L., 1989, Dosi, G., 1984). As the new generation biotechnology companies are heavily linked with research and development (R&D), work divisions occur in a self-progressing way which stands out another variation of biotechnology industry from other sectors. (Orsenigo, L., 1989, Teece, D. J., 1988).

Therefore rather small companies (start-up) can work more efficiently towards in terms of innovation compared to others (EC, 2001). By taking advantage of these features, they assume a facilitating role in between smaller laboratories and bigger companies of the industry (Orsenigo, L., 1989). Even though these are research-based biotechnology companies, their mere purpose is, of course, not creating scientific breakthroughs; but also to exercise sales activities and generate income which requires a certain level of marketing. Aforementioned companies may choose to various ways of doing so; directly selling their scientific intellect or know-how or market it to bigger companies (within a supplier-buyer connection) that can perform their own down-stream in order to produce a marketable product (Cetindamar, D. & Laage-Hellman, J., 2000).

In recent years, biotechnology sector has maintained a 7% growth in revenues annually and companies spend most of their income on R&D to protect or improve their market shares. This shows that companies are looking to grow further which stimulates technological advancing. This can provide benefit for companies in two ways: first, they may increase their scientific capabilities; second, new technologies may attract funding and capital ventures, especially from other sectors.
Even though markets are mostly free, government intervention is still a key point in almost all the sectors and this is also the case for biotechnology. However, for most of the sector-leading countries, government actions are more stimulating than blocking—though there are still many speed bumps on the road legally. Governments currently provide advantageous environments for biotechnology companies; such as tax benefits, government funding, faster drug approvals, simplified bureaucratic procedures. In addition to senior members; US and Europe, emerging markets and developing countries; Southeast-Asia, China, Latin America, Balkans and Caucasus Regions, are expected to bring new opportunities to the market. Combined with socio-demographic changes; ageing populations, changing trends in diseases, higher economic power for individuals, increased awareness for better welfare; a bright future is promised to biotechnology sector in general and where they will be situated is up to companies’ own decisions and structures accordingly.

Figure 1.2: Growth rate comparison for biotechnology centers between 2015 and 2016. (Source: EY, Capital IQ and company financial statement data).

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Figure 1.3: (L) Population over the age of 60. Higher life expectancy is correlated to increased chronic diseases which results in higher demand for healthcare technologies. (R) Projected biotechnology market in China (2014-2025 - USD Billion)

1.4 Purpose of the Study

Biotechnology companies are under immense pressure. Even though what they are doing is simply running businesses, they are expected to contribute to scientific build-up. Biotechnology, as a practice may date back to thousands of years ago however its modern applications are still new and recent. Moreover biotechnology sector’s financial exercises are slowly leaving their baby steps behind yet. “Oldest” modern biotechnology company, Genentech, was only founded in 1980, which means market dynamics for biotechnology sector are not even settled. In addition to these, biotechnology market has its own complexities; employee profiles, entrepreneur profiles, product profiles, legal, regulatory and ethical issues etc. Nevertheless, biotechnology companies, both successful and not-so-successful ones, exist in the market which creates a puzzle to solve.

Aim of this study is to understand which ways of marketing strategies biotechnology companies use while presenting their products in the market. Given the fact that unique structure of biotechnology sector has its own way of marketing dynamics, we attempt to understand how companies with the qualifications behave while creating marketing strategies implementations. Another objective was to find out whether managers of these highly scientific bio-companies can maintain their roles and assignments in this highly demanding and specific marketing environment.

Therefore the main issue here is to explore the competency of the biotechnology companies in terms of marketing skills and experiences as well as addressing the strategies employed.

1.5 Methodology

This study was rather descriptive and based on informal methods (Miles, M. B. & Huberman, A. M., 1984). It had a combined literature of websites, reports, expert blogs, books and dissertations about the emergence of biotechnology as an industry, common features and problems encountered by biotechnology companies and unique properties of high-technology marketing, biotechnology marketing in particular. This approached allowed me to look at certain issues from various points of views; scientist, economist, market analyst or marketing expert. Primary step was to understand these different aspects of biotechnology, as both science and a collection of economic activities as close to reality as possible even though reading through
articles may sometimes be deceiving. Biotechnology sector moves at a dizzying speed and companies are forced to improve their arsenal in both scientifically and economically which creates a very selective business environment for entrepreneurs. Companies may choose different paths to overcome these difficulties; using external assistance for financial half of the job and focusing on their expertise and better their scientific know-how, hiring technical professionals for scientific research and focusing on management or not relying on other professionals and strengthening management skills while performing research. While carrying out this study, all these different approaches, and many more, were examined.

This study employed qualitative and comparative methods to collect information make analysis in marketing field as a result of biotechnology companies’ activities.

In order to provide a feasible explanation to this issue, qualitative methodology was employed based on gathering data from different literature, books as well as previous surveys. The study focused on different aspects of biotechnology marketing making use of company/sector profiles and current data to make comparisons between different companies in the sector to assess the marketing management skills of companies and their managers. The methodology combines findings from large companies with common organization structure and new generation relatively small SMEs (Small Medium Enterprises), namely “start-up” or “spin-out (off)” companies in relation to their market positions and managerial capabilities.
2. ECONOMY OF BIO-SCIENCES

2.1 Understanding Biotechnology Sector

As mentioned earlier, advancements in biotechnology field provided new horizons to existing platforms of different industries, most notably the pharmaceutical and drug development which heavily relied on processes involved chemistry. Naturally, this “gap” of new technology was immediately filled with blooming start-up companies. These companies acted (still does) as a transitional tool which helped relatively cumbersome pharmaceutical companies adapt to the fast-changing pace. Pioneers of this trend were Cetus (later on acquired by Novartis) and Genetech (current Forbes 500 company) (Pisano, G., 2006).

2.2 Era of Start-Up Companies

Introduction of new approaches in the industry forced pharmaceutical companies to a dramatic change from blockbuster business model to use of medicine in a customized fashion. Previous model was employed by larger companies to provide a certain product (product for all) into the market in large amount. However new personalized drugs were being produced by smaller, more technology-involved and more dynamic companies (start-ups) by keeping scientific approach in their core. (Shimasaki, C., 2014; Teece, D. J., 1986). This new generation of biotech companies often choose to keep their small scale and precise specializations, which helped these companies develop more unorthodox but successful breakthroughs (Orsenigo, L., 1989; Sharp, M. & Senker, J., 1999). Their flexibility, labour division and science-mindedness are the major underlying reasons for innovation and their growing share in the market (Christensen, C. M., 1997). Understandably, start-up companies also face challenges and there are certain disadvantages. Their access to resources and ability to relocate these resources and capabilities to deal with commercialization are relatively limited and can be restrictive. Most of these start-up companies are run and/owned by people who are highly trained in their respective scientific field but not in business management. Lack of funding and insufficient access to financial resources represents another challenge to start-ups, especially in the long run. In conclusion, general profile of these companies is dynamic and scientifically more
efficient but problematic when it comes to marketing strategies and management. Thus biotechnology industry ecosystem is directly affected by these parameters (EC, 2001, Orsenigo, L., 1989; Walsh, V., Niosi, J. & Mustar, P., 1995).

2.3 Market Profile

Historically, marketing is a business tool emerged in 1900s to increase the sales of various products. Following its early steps, marketing research mainly focused on institutions and how they handled products from the point of sales tools (Webster, F., 1992; Wilkie, W. & Moore, E., 2003). From an earlier technical point of view marketing was defined as “decision-making process encompassing product planning and development, pricing, promotion, and distribution” but went through a change in mid-20th century. More precisely in biotechnology, managerial marketing is yet to be performed commonly. In time, concept of marketing has evolved and addressed differently in relation to its context and business sector. Main distinct groups formed are customer-to-customer marketing (C2C), business-to-business marketing (B2B), consumer marketing and their minor derivations. Alternatively, science-based companies exercise a different marketing approach; high-technology marketing, given from its unusual nature. Biotech-marketing applies some changes on the original concept; for instance new organizational structures where people with academic titles to get involved in commercial activities without leaving their scientific positions which allowed scientists to start their spin-out/start-up companies as satellites to their university and become managers at the same time (Moriarty, R. T. & Kosnik, T. J., 1989).
While increased interaction between academia (representing scientific side) and business (representing management side) gave birth to accelerated innovation, it also proved that holding a dual post, “scientific-manager” could be challenging and caused a decrease in the efficiency and business success (Houston, F. S., 1986). Background of the manager does not necessarily reflect on company’s financial performance but it has a direct impact on the development stage (Figure 2.1). It was argued that this type of managers had a misconception of marketing when they focused on merely selling and ignored the derivations of marketing (Levitt, T., 1960).
3. MARKETING FOR BIOTECHNOLOGY SECTOR

3.1 Marketing for High-Technology Products

Main options for a company to exist in the market are either to manufacture the final product by making use of their scientific and technologic investments or sell the idea to a larger company that can process the raw form into a final marketable outcome. However it is not all black and white and there are different models that combines both ends for their own market existence (Pfirrmann, O., 1999). Independent from the option they choose, having a marketing strategy is very much obligatory. And whichever way of marketing they choose, there are different ways of problems and restrictions; which come from the fact that bio-based companies are trying to survive on the combination of research and commercialization efforts which can be conflicting from time to time. With their tendency towards high innovation and technology, start-up companies (rather small-scaled SMEs with high level of entrepreneurship), might lack further institutional skills for an extensive marketing strategy.

It is widely accepted that there is a certain problem with marketing section of the companies, especially those who are working on more unorthodox solutions, and it is creating restrictions for the businesses to grow.

There are a lot of reported cases in biotechnology industry where initially promising countries failed to deliver the expected results in a similar fashion (Enriquez, J. & Goldberg, R., 2000). More precisely, this was observed more commonly among European companies compared to their American counterparts (Storey, D. J. & Tether, B., 1996; Orsenigo, L., 1999). Main reasons for this trend can be discussed as lacking funding opportunities, bureaucratic complexity, poor public awareness and relatively lower level of access to technologic resources (Sharp, M. & Senker, J., 1999). In addition to that inadequate efforts in marketing can also be registered as a reason for the failures observed.

Tackling marketing obstacles and providing reasonable strategy holds the key share in market success. Due to their nature and unorthodox decision-making
processes and marketing ideas, biotechnology companies represent a different scenario in this matter. Marketing activities and planning for biotechnology products can be very challenging and it occasionally companies need to conduct overly aggressive strategies combined with good situation-handling in order to overcome the complicated marketing needs. Otherwise companies may risk joining the market competition in the required time (Teece, D. J., 1986).

While marketing operations for high technology industry, in general, employs traditional marketing techniques (strategic planning, management of marketing strategies, market selection and differentiation etc.) (Moriarty, R. T. & Kosnik, T. J., 1989), the need for a continuous advancement and product development differentiates high technology companies from traditional ones (Lynn, G. S., Morone, J. G. & Paulson, A. S., 1996)). Therefore manager’s decisions on creating an extensive planning strategy, technology investment and allocating the work-force within the company play a crucial role. Failing to invest in innovations can be lethal as it leads to decreased competitiveness in a market where constant upgrades are required unlike other industries. It is suggested the companies should test the market with prototypes continuously with frequent improvements rather than launching final products (Lynn, G. S., Morone, J. G. & Paulson, A. S., 1996). This way the company can experience and learn from the market directly.

Another aspect that can be adapted to the business model is the Technology-Adoption Life-Cycle Model (Rogers, E. M., 1962). This model suggests addition/outreach of a new type of clients for each addition of a new technology.

Rogers explains the customers, starting from the early market to mainstream, as Innovators, Early Adopters, Early Majority, Later Majority and Laggards (Rogers, E. M., 1962). Moore points out at the market has a paradigm between the Early Adopters and Early Majority, which represent two completely different groups with different buying habits and the companies should represent a solution to this issue (Moore, G, 1995) (Figure 3.1).
Figure 3.1 Adaptation cycle for technology products. Individuals fall into five different groups based on their buying habits towards new technologies (Source: Moore, G, 1995).

It is widely agreed that large companies could not fulfill this “gap” which is why smaller, more scientifically-approaching and more dynamic companies substituted performed well.

3.2 Specificity of Marketing in Biotechnology Sector

Biotechnology, as a part of high-technology, shows specific characteristics. Biotechnology is often cited as a next level of technologic advancement following ongoing IT era. Even though biotechnology and its economic exercises are not familiar to everybody, they are highly important in terms of result and final products as therapeutics and pharmaceuticals are globally common needs. Correspondingly biotechnology marketing represents differences from marketing activities in other industries. Mainly, it is not certain that the product offered in the market will be functional as it was planned. Additionally, previously unknown restrictions, advantages, disadvantages and side effects may occur after product launch which can terminate the entire manufacturing. Another threat is the technology itself as the product may face a risk of becoming out-dated and be replaced with a more advanced alternative (Renko, M., 2006). A short list of biotechnology product branches available in the market includes biofuels, pharmaceuticals, nano and bio-
drugs, products manufactured through genetic engineering, enzymes, medical diagnostic kits as well as devices (Chandrasekhar, R. A. & Anbalagan, C., 2011).

Start-up companies focus on product development and do not make sales for the earlier stages of their lives. This limits contact with “outside world” and they are somehow isolated from the marketing environment. Managers, who are already under-experienced, may have further delays in gaining experience and market orientation (Renko, M., 2006).

Despite its specificity and uniqueness of biotechnology marketing, methodological approach to marketing can still be applied. Marketing process consists of three steps: defining the strategic marketing, implementing these strategies and evaluating the results of these implementations. The company can distinguish each process and identify the objectives independently.

3.3 Defining Marketing Strategy

Marketing strategy is a brief formulation of how a company adds value to its brand and impact the largest target audience possible. Its foundation is constant market research and data analysis in order to assign the most suitable target group who can potentially buy its product. Marketing strategy is normally created and laid out even before the sales and holds a core importance in businesses.

Companies are forced to become innovative and creative not only with their products but also with their approach to marketing in order to compete in the market. For companies, the race to success began even before they started manufacturing their products. They observed the correlation between understanding their customers and performing better and delivering more precise products. This was how the concept of marketing came to existence. Simply it was all about understanding the need of their customers.

In the base of creating a marketing strategy, a thorough market research is positioned and all further analysis is developed accordingly. In short, this research is interested in learning about market opportunity, overall market size and your particular target in this market, features of your target group and what they need.
Additionally, the analysis lays out your own weak and strong sides against your market competitors.

Market research provides the base data for a company to construct its marketing strategy. Possible sources companies use may change depending on the sector and for biotechnology it is mostly the medical sector workers (physicians, doctors, etc.), patients as well as academia side, researchers. This research could be performed through a variety of publications, questionnaires and speaking directly with the target audience.

In order to receive more precise results, companies use further techniques and tools; and segmentation proves to be the most useful tool. It is impossible for a company to sell its product to everyone in the world. General population of potential buyers should be dissected into smaller groups with common interests and financial buying power which can be attacked with your marketing strategy. Segmentation provides the companies opportunity to collect more details about your target group such as; their needs, geographical and demographical features, buying powers. In addition to these, companies can segment based on psychology of the target group; buying habits and patterns. After narrowing down their target groups, they can focus on creating more connection with their potential buyers. Companies may also use supporting classical marketing tools such as branding, positioning and targeting in their marketing strategies (Shimasaki, C., 2014).

As the market is getting more competitive, biotechnology companies are becoming to more eager about marketing and they are open to using alternative strategies.
Digitalization has played a key role in all the aspects of life in recent years, including marketing. Digitized marketing pathways have already proven to be successful and this can work for biotechnology industry as well. Customer out-reach is an important parameter in marketing success and companies are now looking to increase their recognition through online tools. Participating at exhibitions is still a widely used marketing way for some of the companies but it has certain limitations. Expenses for booth, travelling and accommodation can be overwhelming especially for small start-up companies. In addition to that, it requires physically being away from their production sites which can delay production for companies who are already working with few employees.

Online marketing is increasingly becoming popular. Some useful and successful online marketing tools companies use are; e-mail marketing (newsletters etc.), webinars, Search Engine Optimization (SEO) and inbound marketing. “Googling” is the primary way of searching for scientists for their product needs (Probert, C, 2016) (Figure 3.2), which is why SEO has become a highly used tool in recent years for marketing independent from sector. By making use of such optimization algorithms, marketing process starts right from the typing of the need of your target audience. Additionally, publishing a scientific blog covering the company’s products can help the company in two ways; increasing the traffic and

Figure 3.2: Preferred resources of information when learning about products and services (Source: Probert, C, 2016)
site ranking of your website and expressing your expertise and potential services of your skills. Explaining the quality of your product by simply comparing it to your market competitors provides a natural way of advertisement and can save the company from traditional, and possibly costly, marketing processes. Design of the website of the company should also be user-friendly, easy to find the information the customer is looking for and technically-compatible with the above mentioned marketing tools (Dainis, B, 2018).

In today’s world, social media is an undeniable truth. From social relations to even bank transactions, it has immensely incorporated in our lives. For some countries and regions, it works in the same way for biotechnology industry and social media accounts can function as a sales office, for both increasing brand awareness and establishing sales and marketing contacts.

3.4 Marketing Problematic

According to previous studies, common problems biotechnology companies experience are lack of business plans, insufficient collaboration with other companies and sectors which mainly come from the nature of their managers who are highly skilled scientist with no or little marketing experiences and managerial attributes. (Costa, C., Fontes, M. & Heitor, M., 2004). This also leads to problems with getting in touch with certain customers who demand specific customer-care as well as problems with maintaining an efficient product portfolio. As seen from the case studies, start-up companies entering the market with such setbacks can react and increase their business characters with proper consultancy.

Apart from the structural differences, start-up companies have other problems; such as relying more on the part-time marketing personnel (because of being too product-oriented) which are relatively much less competent compared to other sectors (Hermans, R.& Luukkonen, T., 2002).

It was observed that such companies have a tendency to exercise a scientific marketing; based on surveys, analyzed mostly numerically and through a technical perspective. Most of the times these surveys are not constructed effectively therefore the results they provide do not serve company’s marketing needs. By focusing too much on the quantitative results and ignoring the social reflections of the data, the
company cannot interpret the true needs of the market and position itself accordingly (Eriksson, P. & Rajamaki, H., 2009).

3.5 Implementations

It is imperative for a company to know about its market environment, competitors and target audience. After completing market research, companies construct their marketing strategies. However being able to materialize these strategies and perform well in reality is equally challenging.

It is also equally important for the companies to self-evaluate to know their own capabilities in order to set reasonable and relevant marketing strategies and be able to implement these strategies. Market analysis is a subjective matter highly variable on the sector and company priorities however it can be divided in stages. First step is identifying the potential customers and their profile; how interested they are in the product class of the company in general, their affinity to follow the high-technology products in the fast-changing environment. Second stage is more focused on the products and the competitors; how other companies try to make a difference compared to others and how they promote their products. Eventually, in the third stage, composition of all the elements in the market and their interactions can be analyzed.

Period between setting marketing strategies and actually implementing them is a learning process. Marketing strategy should be flexible as market dynamics can change rapidly allowing the company to re-shape its position so it can relocate its resources to achieve marketing objectives (Kotler, P., 2012).
4. CONCLUSION

In this study, definition and a brief history of biotechnology, its emergence as an industry and various marketing aspects in relation to biotechnology were discussed.

Observations indicate that marketing in biotechnology sector is a very dynamic topic with different approaches and derivates hence it should be studied in more detail similar to other high-technology business activities.

While scientific discoveries and innovation achieved by a company is the key element of its inventory, marketing these products is equally important and complementary to the company’s scientific intelligence. It can be confirmed that companies with a methodological marketing approach perform more successfully in their marketing processes especially in a market where many small-scale SMEs (start-ups and spin-outs) exist. These smaller companies fill out the gaps in the market resulting from high-level of technology and its fast pace. It was seen in the market that they were (and still are) able to move quicker compared to large companies towards new technologies.

Methodological marketing strategy, enriched with different tools and approaches, and realistic objectives allow companies to perform better in the market. However application of objectives is also an important parameter in performance as a company and implementation of these marketing objectives also plays key role in the process. In order to come up with a successful implementation, it is mandatory for the companies to execute a market research with a clear profile of the market as well as their competitors and how they are positioned in the market.

In conclusion, apart from the difficulties experienced in all the sectors, biotechnology companies are also feeling pressure from financial and marketing issues. Despite having technical and scientific expertise, especially smaller companies lack marketing experience due to their managerial and sectoral nature. It can be advised that for a sustainable growth, companies should focus on their innovation efforts as well as increasing their marketing learnings, possibly by
working with professionals.
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