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FROM THE PUBLISHER’S DESK

Heart of Pharmaceutical industry was at ease because of its R&D conceptualization and continuous development demanded by patients. Over the period of time this essential activity has been outsourced as its industry started facing expiry of patents. And the world has become a market for Generics!

When it comes to generics, India has always been a niche market player. Generics at affordable prices took the lead and India started capturing all over the world with generics. But this global presence has led to many challenges like, how to maintain quality at the manufacturing site to comply with global standards? & how to market in those markets using competitive intent? With increasing global marketing, digital networking has become one of the tools to succeed. As a result healthcare providers are engaging themselves in digital networking and creating a way of life in a digital world through medico marketing as well as through digital marketing. Details of these two important tools are available in this Interlink Insight, which can perhaps guide companies to lead in the current Generic era.

Future medicine is the upcoming future of pharma. Hence business analytics to improve business performance with the help of IT and AI will be the need of this industry.

This Interlink Insight gives you direction to proceed with what you have like generics and how to embark on new dimensions like business analytics and future medicine.

Prevention and cure both are extremely important for chronic diseases as well as lifestyle diseases which open up a coexisting marketing land where nutrient health ingredients, dietary supplements and Nutraceuticals play a significant role. Can Nutraceuticals grow like OTC or only emotional messages are enough? Or with evolving consumers, it has become a necessity to grow this industry based on science. What is the future of all these different components is also available in this issue of Interlink Insight.

Wish you all pleasant reading and active search through Interlink Insight 2019!

Dr. R. B. Smarta
Managing Director

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8. IPHEX: INTERNATIONAL EXHIBITION FOR PHARMA AND HEALTHCARE (International)

9th May 2018, Theme Area Hall No-12A, Pragati Maidan, New Delhi
Open House Sessions: Focus Market Sessions (ASEAN and CIS): Market Opportunities, Challenges and Way to do Business

About Event: An exhibition that brings together the drugs, pharmaceutical and healthcare industry – all under one roof. One of the largest showcase of Indian pharmaceutical products and technologies to a global audience. 700 overseas buyers from focus areas are being invited to participate in the exhibition. It offers the industry majors from India and all across the world a great platform to connect and do business.

Interlink's Presentation: Pharma opportunities Challenges & way to do Business (CIS & ASEAN)
"Market and industry structures are quite brittle, one small scratch and they disintegrate…" how aptly Professor Peter Drucker has captured today's situation of pharmaceutical industry. In existing range of new disruptive technologies, the pharmaceutical industry would reimagine its future. Overtime, the consciousness of preventing the illness and moving towards more targeted therapies, accurate patient diagnosis, using customized genetic mapping and use of technology will be trending in upcoming future. - By Dr. R. B. Smarta
Top management in the pharma industry is just recovering from the static or little growth last year. On the other hand, major factors of growth like propensity to spend more income on medicines and hospitals is increasing with disposable income and health insurance support.

A number of initiatives from digital, technology and artificial intelligence front have been in a process since last two, three years, which can be encased this year, keeping into focus existing medicines and future medicines and patient and payers.

It’s a very volatile and challenging situation focused on alternatives available like technological, medical, HCP front, ethics and hospital usage provides multiple opportunities.

This year is a crucial year for top management to select priorities for the future and invest in the future and reap harvests in the near future.

Keeping focus on future medicines and patients, seven opportunities are available and top management needs to prioritize depending on the status of individual organizations and investment ability to pursue this in the future.

The digital revolution is remolding the healthcare and pharma industry towards achieving the goal of 3A (available, achievable, and affordable). Realizing the upcoming needs and demands many pharma organizations are now looking towards this as an opportunity to capture the market by their groundbreaking therapies and that too with the rapid pace.

As said in an earlier issue, looking at the disruptions that the industry is facing today, companies will have to realign their business plan and strategies. The Indian healthcare market is expected to grow to 280bn $ by 2020 at a CAGR of 23%. The main reasons for the growth of healthcare and pharmaceutical market are changing disease pattern, adoption of lifestyle diseases, ageing population, increase in disposal income, rising health awareness among the population and penetration of health insurance.
improve patient health, to promote preventive health, to enhance patient satisfaction and engagement.

The transformation by means of the digital revolution encouraged the industry to use technology and data analytics to understand customers and in case of life sciences companies, to enhance the thought process in order to increase patient engagement, develop strategies to increase market penetration and apply new go-to-market approaches. Well, the next phase of digital revolution seems to target the operations of industry.

Seismic shift:
As the organizations have realized the impact of two major shifts like downward pricing pressure and move towards prevention, diagnosis and role of digitization in those segments. The new playing fields like pharma, tech, genetics and immunotherapy are emerging in response to those disruptions. Applying those technologies in potentially key therapeutic areas like in the field of oncology, neurology, diabetes and cardiovascular would be worthwhile.

Innovations for better life:
DNA sequencing revolution- DNA sequencing is changing the way of medicinal practices. The traditional methods to diagnose the cancer used to involve biochemical analysis, biopsy, imaging tests (X-ray, PET/CT, MRI, ultrasound, etc.), nuclear medicine scans (bone scans, etc.), and endoscopy. Now, the genomic revolution has enabled the DNA sequencing of varied number of organisms including bacteria, plants, animals and humans. The capability of combining genetic engineering and genome sequencing will influence our ability to dissect, analyze and understand the complex biological systems.

For e.g., the factors that lead towards the growth of cancer cells can be revealed by means of cancer genome sequencing, Cancer Treatment Centers of America® (CTCA) a cancer center in America use sophisticated techniques and also offers expanded genomic tumor assessment. Recognizing that the mutations lead to an multiple time periods, follow-up actions and all the related works and won great appreciation from the sales team. Unintended fallout was the interest it generated in the audit team which sought to use this data as a means of keeping tab on field activities, who went where, which customers they entertained and how much they spent, how much time it took to travel etc. and the field response became cold. They raised multiple queries which the software design could not fulfill leading to a loss of credibility of the backend analytics.

What is extremely important and I would say “critical” is the approach of the Top Management and how they drive it. This is not something of a “we have created a new cell to help us with analytics and everyone is expected to cooperate and make the best use of it”. This way, neither will the results be visible, nor the experience be a rewarding one for any of the stakeholders.

It is now very clear that the time has come for use of analytics as a tool for success. What one has to consider the size of the opportunity data analytics brings to the table and take steps to harness the benefits as a force multiplier.

About the Author:
Mr. Uday Lawate has close to three decades of experience in Pharmaceutical Marketing and Sales in India coupled with Consulting experience across major countries in Europe and Asia-Pac with many MNCs. He has worked on Multi-channel Promotion models as also call centre to promote interactions with patients. He has a track record of creating major brands across therapy areas three of which have been All India.

He institutionalized the first in-house developed CRM system in Indian pharmaceutical scene and has improved productivity and quality of doctor interaction and product sales through effective application of Data analytics.
Applying a few simple thoughts and processes, information can be easily harnessed and lead to any of the following: enhancing efficiencies in the system, reducing costs or down time, converting prospects into customers, enhancing after sales service, sourcing repeat business, ensuring the right product to the right customer, reducing costs, and so on. It helps to move from plain gut based decision making to a stronger, data based and intuition backed decision leading to reduced risk and optimized outcomes. A very simple yet versatile form of analytics is the basic or Descriptive analytics. As we go further into the realm of analytics a wide range of insights can be obtained through Predictive and Prescriptive analytics. There is not one single default approach to what should be the starting point. One has to choose depending upon the data, financial and human resources available on one hand and size of the opportunity that waits to be exploited. Data has the potential to open up completely new types of businesses.

Businesses such as IT or ITES or the recent services such as e-Commerce, have inherently through their business model, generated a huge amount of data and understand that their success depends on how well they exploit the data. They have knowledge, talent and the ware withal, but the challenge there is to put all this to good use by driving decision making through it. Older sectors such as manufacturing or companies that are manufacturing and marketing have a different set of challenges. The older sectors might not have had the luxury of automation in their early stages; many of them must have migrated to ERP systems in the last decade or two and would have settled into the new rhythm only recently. Finding it too tough at their age to change, the senior staff might have waded through the system and superannuated, the middle level guys might have adapted out of sheer newness and curiosity or the TINA factor, while the junior guys would have happily got into the new system. In such a situation there is always a clash between old and new processes and personnel. Add to it the attendant woes of redundancy and downsizing. To this background comes a new concept of data and analytics and one can imagine the basis for the apprehensions cited above.

There are a dozen red flags one can think of when embarking on an “analytics” journey, but the major ones are quick and fast results, one has to choose between the easy to apply and faster, tangible though smaller outputs vs. process where it is difficult to apply, outcomes are potentially huge and take a longer period of time to deliver. Then there is the challenge of experience coming in the way of change – typically, IT and data analytics guys come from multiple and diverse backgrounds and are not necessarily domain experts, while those already working possess 15-20 or more years of core domain knowledge; these two are tough to converge. Organisations need to define to a fairly tangible degree, what they expect from “Analytics”. This will help them hire the right kind of experts and select the right equipment and platforms and develop an optimized architecture. Missing this input, one will run out of time, patience and finances or will finally develop a solution which does not fully address the needs of the organisation.

Levels of access need to be clearly predefined as a few applications bring on unintended guests. An organization painstakingly developed an automated field reporting system which was meant to free up field executives’ time by reducing repetitive and unproductive work. It soon generated multiple reports on sales leads, helped classify calls into cold, warm and hot, keep tab on customer response over extended understanding of the causes of the tumor, it guides towards personalized cancer treatment therapies that specifically target the mutated tumor profile.

**Liquid biopsy**- Liquid biopsy is a non-invasive alternative to surgical biopsies which aids doctors to determine range of information about tumor through a blood sample. The estimated cases of cancer in India alone are forecasted to be 17.3 lakh and mortality number to be 8.8 lakh are predicted by 2020. The market for liquid biopsy is expected to grow at a faster rate in Asia Pacific region due to increasing health awareness, improving health care infrastructure and advanced technologies in India as well as in our neighboring country-China.

The USFDA has approved the first liquid biopsy test in 2016 in case of cell lung cancer as a companion diagnostic test. Liquid biopsy offers the advantage of better monitoring, whereby screening new alternative genetic pathways associated with resistance to current anticancer therapy is possible as well as in case of reversion of old therapy which allows change of treatment.

**Digestible sensors**- Digestible sensor a tiny grain or sand size chip loaded inside a pill or consumable is driven by stomach fluid. The device is the combination of wearable patch and ingestible sensor. Sensor detects physiological data and the medication consumed by the patient and is designed of silicon material. Once the pill is swallowed, it interacts with digestive juice and produces a signal which is detected by the wearable patch powered by battery. This helps patient/physiologist to track and physiologic behavior. In addition, it also records heart rate, blood pressure, temperature and other vital parameters which are notified on mobile app. These guides physicians to track the medicine and helps to decide the dosage regimen as per the requirement.

The pharmaceutical organization Otsuka and Proteus have developed a digital medicine containing aripiprazole for mental disorder in combination with ingestible sensor and are chasing a regulatory filing for a drug-device combination across various segments of the FDA.

**3D printing drugs**- The 3D printing technique to manufacture drugs will improve availability and accessibility and allow designing of customized medications. The process involves the use of a computer and CAD software which helps in printing the desired shape of drugs. The main advantage of 3D printing drugs will be patient friendly as it allows customization as per the preferences of patient needs. Characters like size, dose, appearance and rate of delivery of a drug can be controlled by means of 3D printing technique. The research conducted by the University college of London reported 3D printing of drugs in varied shapes like dinosaur and octopuses that would attract children’s to consume medicines.

The multi-dosage form which can be prescribed for multiple chronic diseases, providing an accurate dose in single tablet that improves patient compliance is already designed. The research shows that the technology is viable in various
medical applications like in manufacturing of eyeglasses, dental implants and now it is in developing phase for other medical applications like printing organs, bone, and skin; and soon it will be hitting the market.

The first 3D printed FDA-approved drug Spritam manufactured by Aprecia pharmaceutical company is for treatment of partial onset seizures and it dissolves rapidly as compared to the average pill. Guidance has been issued by FDA on 3D printing drugs and its role in manufacturing healthcare products.

**In Indian context: In favor of consumer**

Recently Competition Commission of India (CCI) released a policy note on “Making Markets Work for Affordable Healthcare”. The policy note was the result of the filed 52 cases against pharmaceutical and healthcare services due to uneven information in the pharmaceutical/healthcare sector which has limited the consumer choices. The CCI has specified the policies in segments of quality of generics, trade margins, online pharmacy, hospital policy and regulations.

Currently **Trade margins** as per DPCO suggestions allow 16%-20% margin on MRP for retailers and 10% margin for stockists. But over the period of time it has been observed that the small manufacturers offer high margins beyond stipulation, leading to non-competitive environment. To improve direct sale, even generic manufacturers offer more margins to push their products. These trade margins have been certainly exploited and harmed consumer choices.

**E-pharmacy**, that enables delivery of medicines directly to the registered address, if regulated properly, can help to keep check on drug prices. And if regulated properly the special mention of trade margins from a patient point of view will be taken care of, which won’t be equivalent to today’s service charges. Hence this particular mode of delivery will also mandate trade association for self-regulation. The entire drug distribution and availability is already at a reduced price and will also be available at door steps if digital mode is followed.

Similarly, Central Drugs Standards Control Organization (CDSCO) is also likely to amend provisions for regulating brand names. If this proposal is implemented, then pharma organizations won’t be allowed to repeat same trade names for different drugs. This initiative will help to reduce consumer confusion. In this case, manufacturers of branded generics will be mandated to stamp company and generic name of the drug on the packaging and not brand name for better consumer understanding.

As we all know there are many unethical practices followed in the industry and various laws are employed to tackle them. Current Healthcare services in super specialty hospitals and other big hospitals do not allow the purchase of medicines from retailers. Thus the option of procuring medicines from outside retailers should be provided without substituting generic or a branded generic name which is

Looking at day to day life, it clearly states that the day is not far when someone will come knocking to your door with a few options of the items similar to the ones you have shopped recently and this can be a compelling proposition for you to buy it. This is the exciting possibility that Analytics, Big Data, Artificial Intelligence and Machine Learning can bring about.

At the other end of the spectrum and in my day-to-day interactions, I come across a whole lot of businesses small and large from a turnover of a few tens of million to a few hundred million who do not seem attracted to any kind of analytics. Yes, they acknowledge the lack expertise, feel that the investments are too huge, benefits might not be commensurate with the investment, outcomes may cause heartburn or affect “loyalty” and a whole lot of apprehensions born out knowledge of some poorly implemented outcomes of peers in the industry or just the lack of interest to get into the topic and understand it. Very natural as it is human tendency to resist any change. One must however realise that given the rapidly changing environment, this change is vital not only for growth but mere competitive existence. The question is not ‘whether or not’ to change, but ‘when’ and ‘how’? With exposure to the process and a little bit of understanding, people in a few organizations have realised the benefits.

I have interacted with automobile outlets, pharmaceutical distributors, manufacturers and marketers, food retailers, farmer collectives, exporters, start-ups, investors and helped them realise the potential hidden in the data that is lying captive in their systems in hard or soft form. Interacting with a diverse group in the audience it came out clearly that analytics is not something to do with only marketing and their customers. It can be just as effective in influencing outcomes in supply chain, HR, production, finance, maintenance, vendor development, QC & QA, you name it. A simple and easy demonstration helped them understand the value of the virtual “gold mine” that they were sitting upon. Discussing an issue with an exporter of fresh vegetables, it transpired that if the harvest was conducted in phases, the output can be as high as three times than waiting for the whole crop to attain a certain maturity and harvest it at one go. The trade-off was between finding labour in multiple phases vs. employing it at one go. What proved a winner was the fact that the extra earnings, far outdid the extra labour cost and this data was simple and easy to obtain.

![Figure 1: Application of analytics.](source: Interlink knowledge cell)
mentioned on prescription. There is a clinical experience with generic or branded generic medicines with healthcare providers hence that professed sanctity should be followed for betterment of society.

One more way to reduce the cost of treatment is to have centralized health care data. The government has already taken initiative and is working on electronic medical records along with the portability of patient data. This is really a remarkable action and should be deployed at each and every hospital so that multiple costs could be saved from a patient point of view. Even telemedicine has revolutionized this sector by providing health care services beyond geographic, time and social barriers. These services are focused towards rural regions which face shortage of physicians or specialists.

Also, one of the major issues of rural India is shortage of HCPs. This could be resolved with the help of pharmacists. India has more than 6000 pharmacists even in rural areas. This trained population of pharmacist can be upgraded to take care of primary health care in rural area with adequate certification or participation.

Also policy for “One drug one company one brand name” is getting molded. Although the policy has been made for the betterment of society, it will be injustice to various companies who are capable of manufacturing medicines for multiple therapeutic classes. This policy will particularly affect those manufacturers who have been already given the permission to manufacture and market generics.

Branded generics might be useful if there is a process patent with the company to manufacture that particular generic which we used to have earlier in India before WTO stipulated increase on branded generics and can be permitted but no one drug one company one brand name should be insisted.

Conclusion:
Our pharmaceutical industry being saturated with traditional practices is inclining more towards advanced technology. The need for novel technologies has always initiated designing. It is important to understand the speed with which innovations are happening as compared to the environment inside four walls of the organization and it is not imaginary. Having the understanding of innovative ecosystem it is essential for the team to develop a culture of innovation and ingenuity amongst the team. Manufacturing of the medicines has principally held to various tried-and-true ways, and it seems that it will move slowly and steadily to incorporate new advanced techniques in the upcoming future.

Considering these few opportunities which we discuss in this issue, is there not a possibility to make one of them or all as your priority depending on status and investment capacity when it comes to future medicine?

Dear decision makers, it is not enough to analyze the industry, but it’s a time to translate the challenges in favor of business and operating models in an all-inclusive way.
“In the long history of humankind, those who have learned to collaborate and improvise most effectively have prevailed.” - Charles Darwin

References:

About the Author:
Dr. R. B. Smarta - Founder and Managing Director of Interlink Marketing Consultancy Pvt. Ltd. Being a thought leader in Pharmaceutical, Nutraceutical and Wellness industry, he has been contributing globally through Interlink Consultancy and building business performance of his clients since 33 years. Having a Master’s degree (M.Sc.) in Organic Chemistry in Drugs, MMS in Marketing, PhD in Management, and FRSA (Fellow of Royal Society of Arts) London, he is-perusing his passion of converting science to Business.

Besides being a consultant, he has been teaching at IIM, prestigious management institutes, Pharmacy College, Pharmacists Associations, guiding PhD students and written as many as 7 Books on Management, Pharma, Nutra, Foods domain, and many articles in prestigious journals/magazines.

engine optimization; and the results were phenomenal.

Please see below charts for reference where enquiry to sale ratio was just 10% before digital branding and is resulted to more than 40-50% post digital presence as people could online review and give ratings.

To achieve these results, we did brand promotion using paid search, social networking post and boost posts (paid), e-mail marketing, website redesign, search engine optimization and posted blogs for organic growth.

About the Author:
Mr. Rameshwar aka Ram, an eminent techie with 16+ years of extensive technical and management expertise, associated with top-notch companies like Cognizant, Sogeti, Dell, AAA, The Hartford, Starwood Hotels and Resorts, Wal-Mart, MD Align and HealthRight, followed by own venture(s) setup RamPro Infosystems Pvt Ltd., Trovend Technology Pvt Ltd. Being the man behind the application development and management of Development teams in various Health Care, Insurance and Technology clients, Ram has rendered enduring support for the company’s progress and he himself keeps learning new technology.

Watching a DOS based Personal Computer during school days; he had instantly developed a great passion for Computers/ Technology which incited him to pursue Master’s Degree in Information Technology from Anna University, Chennai.
Progressiveness: As you continue to uphold a digital branding strategy, you will realize that it is easier to expand your brand’s appeal in order to progress in the fast-changing environment we live in. Integrate your branding strategies. Propagate your brand identity using online and offline media’s.

Results:
- Existence in Digital Platform: Digital branding allows you to constantly work and message on social media platforms.

People: Once you get into the momentum of preparing your social media platforms, the constant exercise of digital branding allows you to build a community of advocates that will have a higher chance of brand loyalty and communication.

Digital Journalism: A community is made up of different individuals that have their own characteristic and level of advocacy towards your brand. In the case of customer to customer (C2C) marketing, these individuals that are highly verbal and are always willing to share their experience for benefit of other customers will act as your evangelists. They turn out to be your journalists to push your brand’s promise, experience and product/ service.

Impressions: Building your brand digitally allows for quick feedback. First online impressions are vital to understand whether that lead stays or drops out. With proper digital branding, your brand has higher chances of capturing that lead with multiple impressions. Make sure that your brand is well targeted with updated look and messaging.

- Finally, Lead Generations: Ultimately, brands want to generate leads and convert them into customers. Having a ready platform, a committed community and brand evangelists, the lead generation is almost in auto-pilot mode, whereby a potential customer discovers your brand. If that lead is your target audience, then proper digital branding allows for a quicker feedback and decision making.

Digital Branding for Healthcare Domain:
The healthcare industry is progressive in many ways, but marketing strategy tends to lag behind other consumer-centric industries.

Accordingly, a study found that 65% of consumers search online for information about healthcare products/services or more generally to learn about health concerns or care providers.

It has become clear that consumers are taking advantage of online resources both during initial research and making decisions.

Case Study on Healthcare Digital Branding:
Few years ago, one of the US clients launched online consultation company and started advertising in traditional way like new papers/tv advertisements and the results were not so good; 2 years back we met this client and explained about digital presence and branding: signed agreement and started working on digital brand creation starting with logo creation. After the logo and tag lines were finalized, we started branding in social media, promoted in Google AdWords and organic search

Today’s food and dietary supplement market is considerably different than it was 10-15 years ago. Consumer demands for healthy foods have been changing considerably every year, particularly in the last decade. Consumers are more and more believing that foods with specific functionality contribute directly to their health. Foods today are not only considered as a vehicle to satisfy hunger and to provide necessary nutrients but also to prevent nutrition-related diseases and improve physical and mental well-being. In this scenario, functional food ingredients play an outstanding role. From an economic perspective, this increasing demand for such foods can be justified by the increasing cost of healthcare, the steady increase in life expectancy, including infants and the aspiration and desire of older people for improved quality of their later years. – By Dr. Dilip Ghosh.
Dietary Supplements in definition:
Food and Dietary Supplements are defined as any product that can be taken by mouth that contains a dietary ingredient intended to supplement a diet. Dietary ingredients in these products may include vitamins, minerals, herbs, or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites. Another buzz word is nutraceuticals, are particularly of interest to the baby boomers to generation X because they have the potential to substantially reduce the expensive, high-tech, disease treatment approaches presently being employed in Western healthcare. Primarily used in functional foods and dietary supplements, nutraceutical ingredients are natural bioactive, chemical compounds that have health promoting, disease preventing or medicinal properties.

Global Dietary Supplement market:
Food/dietary supplement market forms a significant part of overall food and beverage (F&B) value chain. These supplements are often vital in contributing desired taste, appearance, nutritional properties and functionality to wide ranges of F&B such as dairy, bakery, confectionery, convenience foods, meat and fish and confectionery. All ingredient companies need to adhere to stringent supervisory, regulatory and environmental standards. Overall food ingredients market can be divided into - specialty and bulk food ingredients. The global specialty food ingredients market has been driven by factors like growing world population, urbanization and rising health awareness. Personalization by category and individualization are the near future trend in this specialty supplement segment. The market is characterized with high entry barriers like strict regulatory requirements, consumer rejection and highly research-intensive industry. The industry is intensely competitive with numerous companies operating in the market, ranging from specialist manufacturers to newcomers from pharmaceutical domain.

Economic impact:
A new study has found the total economic contribution of the dietary supplement industry to the U.S. economy only is more than $61 billion dollars per year. The study also showed that the dietary supplement industry has enough activity throughout production and sales to support more than 450,000 jobs, while industry concerns paid more than $10 billion dollars in taxes in 2006. In Australia, 29,100 direct jobs supported by the complementary medicines industry alone (2017 data). The global dietary supplements market is expected to reach USD 278.02 billion by 2024, at a CAGR of 9.6% from 2016 to 2024, according to a report by Grand View Research, Inc. Statista also shows the estimated and projected size of the total global dietary supplements market from 2016 to 2022 is around 220 billion U.S. dollars worldwide.

The Economic Impact Report, completed by Dobson DaVanzo, a Washington D.C.- based economic research firm, is the first to quantify the dietary supplement industry’s overall financial impact on the U.S economy by considering such contributing factors as supply, production, research, direct employment, manufacturing, taxes, and the extended financial effects these factors produce. The report concluded, “The dietary supplement industry is a significant economic engine that powers businesses in communities in every state across the country.” According to Partnership Capital Growth, the reason for the growth is it has gone mainstream. “Ten years ago, it was just the muscleheads and the weekend warriors. Now, it’s the full spectrum with men and especially women”.

Digital Branding:
“Digital Branding is one of the brand management techniques to develop brand recognition”. This guides you in establishing your brand in the digital space. This is a key to establish meaning establishment with your target audience. This helps in gaining unique position and differentiates you from the competition.

Customer feedback says many more things about the services. Digital branding provides a great source to know who we are and helps in brand positioning.

Advantages of Digital branding:
- Engage Audience: Gone are the days of one-way communication like TV/Radio/ Billboard ads. Brands have to captivate the customers using innovative ways. Digital branding offers opportunity for interactivity on the larger platform where brands can be showcased using different elements within a content to be marketed. For example, showcasing your product in infographics, hosting a live video on YouTube, Facebook and responding to comments immediately on social networks.
- Multiple Platforms: Brand vested elegantly in digital branding allows for a merging of different platforms. Imagine your brand’s identity being unified across multiple online platforms (social media, email, online advertisements, chat applications) with different display media; all in unison, preaching one message yet customized to every customer.
- Make it Viral: Virality has come a long way and has been misused many times. Will your brand go viral is a post result, instead of a pre-planned process. There are fervid elements to potentially thrust your brand in a shorter time period towards a further reach but there is no guarantee. The grace of digital branding is that brands can easily shine by means of customer engagement through shares, clicks, recommendations, feedbacks, dark social and so on.
Management & Markets (C)

Necessary But Not Sufficient - Digital Branding

In this new era of digitization, a shift in behavior and processes is reshaping the marketing world. It is impacting all industries, including the pharmaceutical and healthcare industry. An ever increasing media sources has ultimately handed the rights in consumer’s hands in controlling their information consumption. Digital marketing is acting as a key differentiator for brands charting out a futuristic growth strategy. - By Mr. Rameshwar aka Ram.

Recent developments in Dietary Supplement market:
Every year, several market research organizations, such as New Nutrition Business, Innova Market Insight, Institute of Food Technologists (IFT) etc; are publishing Top 10, Top 12 global food nutrition and health trends. These trends are mostly based on market intelligence survey without any scientific and technological input. The list of dietary active compounds (vitamins, prebiotics, probiotics, bioactive peptides, antioxidants) is endless and formulation of final products using these functional ingredients is growing steadily. This fortification exercise was started in salt iodization in the early 1920s in both Switzerland and the United States of America and has since expanded progressively all over the world. The fortification of cereal products with thiamine, riboflavin and niacin has become common practice since the early 1940s. Margarine was first fortified with vitamin A in Denmark and milk with vitamin D in the United States, phytosterols enrichment came later and was used by patients with high cardiovascular risk. Folic acid fortification of wheat became widespread in North America and then moved to about 20 Latin American countries. This phenomenon fortification ranging from the classical enriched milks and yogurts through infant formula enriched with prebiotics, probiotics, vitamins and long chain polyunsaturated fatty acids to functional beverages mainly enriched with flavonoids, vitamins and resveratrol, snacks. Most recently pastas rich in legumes and meats enriched with large number of bioactive compounds are being developed by fortification formulation.

During the past decade, a rapidly growing number of food supplements with a specific functionality claim have entered the market place. The major drivers are increasing consumer demand for healthy supplements, as well as the scientific and technological developments that allow for the production of new categories of food or dietary supplements with increased functionality. Moreover, new categories of functional foods are being developed that contain bioactive ingredients, generated by enzymatic conversion or produced by microbial fermentation from raw food materials. Finally, varieties of plants that are used as sources of raw food materials are carefully selected and continuously optimized regarding the content of bioactive ingredients through selective breeding or genetic modification, while specific feeding strategies are exploited to increase the production of specific ingredients in animal-derived raw materials.

Market economics:
On the holistic basis, nutraceuticals are divided in three segments viz. functional foods, nutritional supplements and beverages. Functional food/medicinal food are any fresh/processed food laying claims of being health-promoting or disease-preventing product, beyond being the basic nutrient supplier. Nutritional supplements, also known as dietary supplements, are meant to supplement the food eaten and to provide the required nutrients to the body. It encompasses products like vitamins, minerals, probiotics, herbs, botanicals, amino acids, sports nutritional products, and specialty nutritional products, among the others. The nutritional supplement market has shown a significant growth over the previous years, in spite of the global economic downturn which started in late 2007. All major reports such as Mintel, Euromonitor, NBJ estimated USD 278.02 billion sales by 2024. Specialty food ingredients can be defined as ingredients which have the capability to...
add a particular benefit to the end product. The figure above shows the trend of the specialty food ingredients market in terms of type. The specialty food ingredients market value is projected to reach $80.323.4 million by 2018. Functional food ingredients (nutraceuticals) are the leading specialty ingredient with the largest market share and are estimated to grow at a significant rate due to high penetration levels in end-use industries. Growth of premium products of various ingredients is expected to propel because of increasing demand. Enzymes are estimated to show robust growth in the coming years. Demand for acidulants, flavors, colors, emulsifiers, etc. are also steaming ahead with a remarkable CAGR.

Vitamins and Minerals- Still a battle ground for pharma and consumer product companies:
Vitamins and minerals are always on the top the list of dietary supplements. Sales of vitamins, mineral-based supplements totaled nearly USD 23 Bn in the U.S. only in 2012 and are growing at a 5% to 7% annual clip. In Australia Vitamin & Dietary Supplement (VDS) category alone has doubled over the last 10 years and it reached USD2.77 billion in 2017. This trend is justified by allocating more shelf space by some major retailers to these supplements, giving manufacturers the room to move more brands and products. Almost all companies in this segment are showing good growth, including NBTY Inc., Jamieson Laboratories, Atrium Innovations Inc. and Thorne Research Inc., Blackmores, Swisse etc. The market value in the Americas, Venezuela shows CAGR 14%, whereas Brazil stood second with 13% growth. In Asia-Pacific, India is leading the market at CAGR 10%, followed by Vietnam with 8% growth. Russia is the leader in Europe with 10% growth, whereas Turkey is very close to 9% growth. In Africa-Middle East, Nigeria shows 9% growth in vitamin and minerals segment.

The sector is shaping up to be a battleground between pharmaceutical players and consumer-products companies, many of which are trying to counter slower growth in their mainstay businesses. Active acquisitions show the critical mass and potential growth opportunity of the segment. Some significant examples of acquisitions are: Schiff Nutrition by Reckitt Benckiser, Wyeth (Centrum) and Alacer Corp (Emergen-C) by Pfizer, Avid Health by Church and Dwight etc.

Global Protein Supplements market:
Protein fortification into food and beverages is increasingly becoming a solid option for meeting the global challenges of nutritional deficiencies in the developing world, while also helping to combat the rise of non-communicable diseases, such as cardiovascular disease (CVD), in the developed world. Specifically, a plethora of scientific research shows the use of protein supplements has a direct link in enhancing heart health, as well as helping with weight management and closing the gap of caloric and nutrient deficiency. Consequently, the protein supplement product space is highly fragmented, with many companies and protein sources, and a variety of products prepared to meet this growing and dynamic demand.

Animal protein:
The global animal protein market segment, with an estimated demand of 2.3 million tons in 2012, is dominated by dairy-based ingredients at nearly 50 percent of the global share of the animal segment. The second largest ingredient in this market segment is egg protein, which had a 40-percent volume market share in 2012, due professionals. The content should be created considering time available for delivering the messages.

Collection and analysis of the feedback:
Marketing team (mostly product managers) prepares the communication and medical representatives deliver it. Pharmaceutical marketing is a continuum of communication with healthcare professionals. One pharmaceutical product is used by many doctors and one doctor in many patients. Therefore collection of feedback from the healthcare professional is very important in terms of understanding which product related messages are useful in clinical practice.

The feedback should be taken timely and unbiased. Based on the feedback from the healthcare practitioners messaging should be modified if needed. Pharmaceutical companies should develop a mechanism for collection of unbiased feedback from doctors.

Summary:
Medical communication in pharmaceutical marketing is a key aspect of product promotion. Important aspects for developing effective medical communication include understanding target audience, objective of communication, and content of message, method of communication and collection and analysis of feedback. The content should be un-biased, up to date, complete with appropriate references.

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About the Author:
Dr. Anant Patil, Asst. professor, Department of Pharmacology, Dr. DY Patil Medical College, Navi Mumbai. He has close to Ten years of experience in Pharmaceutical industry. He has worked as a consultant for medical communication, training and strategy. Dr. Anant has also worked for various Pharma companies like Sanofi India, Abbott India, Aembic, etc. He has published more than 20 papers in various journals and conferences to his credit. He has been a medical consultant to Interlink for several years.
Content for audio-visual delivery should be apt for the meeting of healthcare medical representative should be well trained on the content of communication. If the communication is intended for one to one discussion with doctors, healthcare practitioners based on the messaging in the literature or audio-visual inputs. If the communication is well planned, it will always be provided in language which he/she can understand and comprehend.

**Method of communication:**
There are several methods of communication including one to one discussion with healthcare practitioners based on the messaging in the literature or audio-visual inputs. If the communication is intended for one to one discussion with doctors, medical representative should be well trained on the content of communication. He/she should also be trained to answer related questions, in case doctor asks.

Content for audio-visual delivery should be apt for the meeting of healthcare professionals and patients. The messaging should be simple to understand and written in a language that is easy to comprehend. If the objective of communication is patient education, language should be simple to understand. As far as possible difficult to understand medical terms should be avoided in patient education material. This is the most critical aspect of effective communication related to patient education. Patient educational material should always be provided in language which he/she can understand and comprehend.

Methods of communication include:

- One to one discussion with doctors
- Educational seminars and workshops
- Printed materials such as brochures and flyers
- Audio-visual materials such as video and sound recordings
- Social media platforms

How can the promotional material be improved?
- The claim “MOST EFFECTIVE” should be supported by published reference
- When writing word like “SUPERIOR”, a comparative agent needs to be mentioned. Moreover, the statement should be supported by reference.
- “SAFE and EFFECTIVE in POST-OPERATIVE PAIN” should also be supported by reference.
- When writing information from a clinical trial, details of the study (study design, sample size, comparative agent, primary objective and efficacy and safety results) should be written.
- Safety information, adverse events, precautions, contraindications and dosage and type of formulation should be included.
- Abridged prescribing information should be included.
- Date of promotional material approval with approval number needs to be added.
- For further information, address of the pharmaceutical company should be written.
- Medicines should only be promoted for indications approved by the regulatory authority. Off-label promotion should be avoided.

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It is always a good idea to test the communication with the target audience before using it on a large scale.

Bio actives and Phytochemicals:
The market for bioactive supplements is projected to experience a growth rate of 7.2% by 2018 to touch $33.6 billion. This estimation is attributed to the widening bioactive industry, which is a result of increased consumer awareness and health concerns. The Asia-Pacific region is the dominant market with increasing population, urbanization, and disposable income in countries such as India, China, and Thailand. In countries such as Australia, the aging population is generating market opportunities for bioactive. The improvement in the quality of ingredients with clinically-proven ingredients & products entering the market is gaining trust of the consumers and is another factor driving the bioactive ingredients market.

Based on type, phytochemicals & plant extracts prove to be the most adopted ingredients, such as ingredients sourced from potato, canola, rice and chia, are also expected to witness strong growth of more than 5 percent during the next five years. Other emerging plant-based protein ingredients, such as ingredients sourced from potato, canola, rice and chia, are also expected to witness strong growth of more than 5 percent during the next five years. From courgetti to cauliflower pasta, dairy-free milks to beetroot drinks for sports performance, plant-based foods are growing – both in consumer popularity and in strategic importance, with Danone and Coca-Cola making significant moves into this arena during 2016.

Focus on Plant proteins:
In 2012, the global market for plant protein ingredients used in food, beverage and dietary supplements was estimated to be 1.7 million tons, of which soy-derived proteins are the largest segment in this market with a 56-percent volume share. Despite witnessing a healthy volume growth of more than 3.5 percent, the demand for wheat protein is expected to fall due to higher expected growth of soy proteins and newer sources such as pea protein. Specifically, pea protein is expected to grow as much as 10 percent over the next five years. Other emerging plant-based protein ingredients, such as ingredients sourced from potato, canola, rice and chia, are also expected to witness strong growth of more than 5 percent during the next five years. From courgetti to cauliflower pasta, dairy-free milks to beetroot drinks for sports performance, plant-based foods are growing – both in consumer popularity and in strategic importance, with Danone and Coca-Cola making significant moves into this arena during 2016.

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generally termed as galacto oligosaccharides (GOS). These ingredients are incorporated into food and dietary supplements that are then consumed by human beings and animals, thus helping to enhance their gut health. These markets have been segmented based on volumes and revenues and have been analyzed for market stability and growth.

In the near future:
Human desire for individuality is not new. It’s embedded in all ancient civilizations and traditional healthcare system such as Traditional Chinese medicine and Indian Ayurvedic system. All traditional medical systems are descriptive and phenomenological – it typically diagnoses patients using concepts based on the relationship between signs and symptoms. In Western-style modern medicine model the concept of “one disease – one target – one size-fits-all,” is shifting towards more personalization, including the use of multiple therapeutic agents and the consideration of nutritional, psychological and lifestyle factors when deciding the best course of treatment. Dietary supplements have enormous potential in this personalization trend.

This strategic shift in medical practice is being linked with the discipline of systems science – and systems biology in the biomedical domain. Systems science aims to understand both the connectivity and interdependency of individual components within a dynamic and non-linear system; as well as the properties that emerge at certain organizational levels. The concepts and practices of systems biology align very closely with those of traditional Asian medicine as well as the very idea of “health” of the current World Health Organization definition.

Now we know individual dietary components can modulate and change gene function. Based on the robust evidence, healthcare professionals are now able to control gene-specific physiological expression with specific dietary intervention. This hypothesis has just become more attainable for more people due to rising prosperity, particularly in emerging markets.

Moreover, the tremendous technological advancement reduces the gap in-between desire and reality by reaching more cost effective personalized products and services. With rising prosperity there has also been a growth of post-materialist societies where values emphasizing self-expressing and individuality have grown. The Individualism mega-trend represents consumers’ desires to be themselves and be recognized as having personal needs rather than being part of the mass market. Consumers seek products that make them stand out from the crowd and provide them with (or at least reinforce) a sense of personal and social identity.

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- Dietary Supplements Market Size Worth $278.02 Billion By 2024. February, 2018. Grand View Research
- David Lariviere. 2013. Dietary Supplements Market Size Worth $278.02 Billion By prescription product, direct advertising by the pharmaceutical representative to the patients is not permissible. Pharmaceutical companies often create patient education materials for disease awareness which is given by the doctors to patients. Patient awareness regarding particular disease may be useful for early detection of the disease and better outcomes.

Healthcare professionals can be general practitioners, specialists or super-specialists. Therefore messaging needs to be customized based on the level of knowledge and speciality of the medical practitioners. For example, the messaging prepared for super-specialists may not useful or effective for general practitioners. Similarly, even if the same product is promoted to specialists in different subjects, same messaging may not be useful and/or effective. For effective communication, the messaging should be prepared separately based on the subject speciality.

Objective of the communication:
Objectives of communication with healthcare practitioners include providing safety and efficacy related information related to new product, discussion of different approved indications of a pharmaceutical product, discussion about dosage of the product etc. The objective of preparation of communication for patients may be to make them aware about signs and symptoms of a particular disease for early diagnosis and prevention of delay in treatment or making patients aware about different diagnostic methods.

Understanding the objective of communication is an important aspect of effective communication. It helps to customise the messages. For example, if the objective is to educate patients about some disease (e.g. signs, symptoms, diagnostic methods and types of treatment) patient education should be prepared in a very simple and easy to understand language. The content of communication differs for in-clinic discussion and out-clinic communication for healthcare communication.

Messaging:
The medical communication should be complete, unbiased and up to date. Claims related to pharmaceutical product and other important information in the communication should be supported by appropriate references. Communication related to pharmaceutical products should not focus only on the efficacy and benefits of the product, but it should also cover adverse events, precautions, contraindications and dosage of the medicinal product.

Sometimes, for the innovator products global communication used in the international markets (especially developed world) may be available. However, the same communication may not be useful in a developing country because of the epidemiological differences and clinical practice related differences. Communication should be developed for the specific country based on the incidence/prevalence of the disease and current practice guideline and/or clinical practice of the healthcare providers in that country.

In marketing terms, positioning statement is the one which plays an important role in effective messaging. Positioning statement of the pharmaceutical product is more likely to remain in the minds of the doctor for longer time than other content of the
**Introduction:**
Medical communication is a wide term which comprises of communication related to health which includes information related to disease, diagnosis, prevention and treatment.

Medical communication can occur between
- Two medical professionals or group of medical professionals
- Pharmaceutical representative and healthcare practitioner
- Medical practitioner and patient

The methods of medical communications used for pharmaceutical products includes direct communication of the medical representative with medical practitioners, articles in the medical journal, providing promotional literature (e.g. leave behind, product monograph, newsletter; etc.) to the healthcare practitioners and advertising during conferences of medical specialists.

**Medical communication for pharmaceutical marketing:**
Development of effective medical communication in pharmaceutical marketing is not a simple task, as one would think because of the several differences as compared to marketing in other sectors. Unique features of pharmaceutical marketing are given in table 1.

**Table 1: Unique characteristics of the pharmaceutical marketing**

<table>
<thead>
<tr>
<th>Feature</th>
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<tbody>
<tr>
<td>Knowledgeable target audience i.e. medical practitioners</td>
</tr>
<tr>
<td>More restrictions on the use of methods of communication for product related advertising because of inability to directly communicate with patients</td>
</tr>
<tr>
<td>Focus on one to one calls with the healthcare practitioners</td>
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</tbody>
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**Target audience:**
An important aspect of the effective communication is to understand the target audience. It should be remembered that although most of the time target audience is healthcare professional but sometimes the audience could be patients. For
Leveraging Factors for Indian Nutraceutical Industry

With more people around the globe suffering from obesity than starvation, the coexistence of underweight and overweight is well recognized in rapidly developing economies like India. Amidst all when consumer healthcare has become the battleground for Pharmaceutical and Food companies, Nutraceuticals is expected to play a central role in preventative healthcare. - By Ms. Shruti Patil

Medical communication is strategic communication in marketing mix, ranging from publication to promotional educational material. It uses variety of channels to deliver product information consistently, clear and compelling message by planning strategic communication including publication and editorial services, identification of KOL, profiling and engagement, disease-awareness programmes, training and development programmes (internal and external), development and production of interactive media, etc. The article focuses on communication between representatives of pharmaceutical industry and healthcare practitioners. - By Dr. Anant Patil
Changing food habits, lack of physical activity and increasing number of people involved in sedentary jobs have increased the incidence of lifestyle diseases among Indian population. As a matter of fact, Indian statistical data says, 40% of deaths in this country are associated with cardiovascular diseases (CVDs) and also obesity rates have increased by 20%. In addition to this, with 67 million diabetic patients and 30 million in a pre-diabetic condition India is projected to be the capital of diabetes by 2030. Hence to lead a quality life, Nutraceuticals industry has fueled to stabilize or cure health problems.

Revival of a very old story:
The link between health and food was established long ago by Hippocrates when he said “let food be thy medicine and medicine be thy food”. But ancient countries like India already have thousand years legacy of Ayurveda. Hence the association of nutraceuticals with traditional medicine brings the long-standing consumer acceptance in India.

The ancient literature of Ayurveda is filled with scattered references of implication of food products in various disease entities. Also it is clearly stated that food, which besides providing nutrition helps to maintain the healthy state and prevents the occurrence of diseases should be consumed.

The best example of this could be the concept of ‘Aajasrik Rasayana’ (general rejuvenation). This deals with food products that can be consumed daily for improving quality of life by offering protection from external and internal stressors.

Indian Nutraceutical Industry:
India being one of the largest economies among developing nations has high purchasing power parity. The per capita income of individuals has increased over the past decade which is paving for the changing lifestyle. Indian consumers, particularly those of the higher socio-economic classes and upper middle classes, are looking for supplements and functional foods to attain a balanced nutrition. Individuals are interested in energy-boosting products to improve their physical endurance as well as mental alertness and they want to be more active and awake.

This growing consciousness about health and diet has led to grow Nutraceutical industry in India as one of the rapid growing industry in the Asia-Pacific region. The Indian Nutraceutical market is expected to grow from 4 Bn USD in 2017 to 10 Bn USD by 2025. This means a huge increase of 21% every year.

Being biodiversity rich country, Indian Nutraceutical industry has been viewed earlier as an export-focused industry for ingredients. But with the changing market needs, majority of Indian companies have started to launch products in India and expand their product line according to Indian consumers' needs. Hence both fast-moving consumer goods (FMCG) and pharmaceutical manufacturers have launched several nutraceutical products in Indian market.

In India, dietary supplements hold the largest share accounting for 62.5% of total Nutraceuticals market, while the functional foods and beverages segment is relatively smaller. Dietary supplements like herbal supplements will form the greatest opportunity areas for Nutraceutical manufacturers. According to the report by business research and consulting firm, functional foods contribute to 37.5%...
% of the market and major contributors are fortified products. Functional beverages too have shown demand recently due to increasing demand for fortified juices and energy drinks.

Among Dietary Supplements, Vitamins and minerals hold 36 percent of the total Indian nutraceutical market, followed by probiotic with a 9-percent share and omega-3 fatty acids with a share of 3 percent.

Among three market segments, although Functional foods and beverages has smaller segment it is growing much faster at a CAGR of around 22% followed by Dietary Supplements growing at a CAGR of 19%.

Growth hampering factors in Indian Nutraceutical Industry:
While 20 % CAGR might seem attractive, it is quite modest looking at the demographics and category potential.

The fundamental barrier to faster growth is consumers' and health professionals' poor understanding of Nutraceuticals. To understand the perception of Indian consumer, Interlink has carried out dip-stick study in Mumbai with 115 respondents. The findings of this survey depicts that majority of the respondents who could benefit from Nutraceuticals are unmotivated to change their diets and lifestyles to become healthier. On the other hand most of the health professionals are not well-versed in how Nutraceuticals can help in managing and mitigating disease. They still consider nutraceuticals as “optional”.

Another factor hampering growth is Affordability. It is major concern in the nutraceutical product market. The west looks at it as an investment in health, but India still seems to be catching up with it. A large part of our population which needs medical nutrition is sadly unable to afford it.

Also a classic difficulty that we very often face is convincing the medical profession and consumer on the fact of credibility of the product. Here the regulatory status of a product has a huge impact on its potential success. The nutraceutical market is regulated by the Food Safety Standards Authority of India (FSSAI), a consolidation of eight laws that governs the food sector which is still being developed. Hence, to provide maximum benefits Nutraceutical consumer, suppliers should focus on claims, product classification, formulation and advertising standards.

Eight Leveraging Factors:
1. Demographics of Nutraceutical Market
   The domestic nutraceutical market is mainly concentrated in southern region of the country, followed by the eastern region. Andhra Pradesh, Tamil Nadu and West Bengal spend more capita on Nutraceuticals than average Indians. Also Mumbai and Delhi are one of the prime markets.

 Between the urban and rural, the urban market is greater than the rural market, with the rural market capturing almost 1/3rd of the total nutraceutical market in India. However, in terms of penetration, urban India still scores high at 22.51% while it stands at 6.32% in rural India.

 With the recent infiltration of lifestyle diseases and increased digitization have influenced rural India. Hence the consumption patter of Nutraceutical has shown

The role of the pharmacist’s in the manufacturing department has diminished over the centuries, and they have been placed in various departments of organization as per the need of the industry. Many a times people mistaken pharmacists as the gap fillers between the pharmaceutical companies and the doctors to introduce the new products and to insist them to write the prescriptions. With the growing complexity of products, especially with the advent of biotech drugs, today more value is given to the knowledge of drugs and therapeutics in health care delivery.

With upcoming advanced technology, novel drug delivery systems and targeting specific receptors the role of the pharmacist as a health care professional will grow. It is observed that the profession itself is continuously redefined. As the industry is observed to shift its focus from treatment to prevention & treatment, the chemists are sharing drug shelf with nutraceutical supplements.

Changing role:
The changing role of the pharmacist leans towards patient counseling and educating and as an intermediate to improve patient outcome. Today, as a clinical pharmacist, they have a considerable role in R&D, formulation of drugs, optimization of dosages, avoidance of adverse drug events, and transitional care activities focusing on medication reconciliation and patient education. Development of a pharmacist is often impeded by policy, legislation, and compensation barriers.

Emerging role:
As per MCI, there are around 8 lakh modern medicine doctors, and more than 6 lakh BAMS & Ayurvedic doctors are registered across the country. As per WHO claims, the doctor-patient population ratio should be 1:1000, whereas in India it is observed to be 1:1,674. So, as per the fact India is short of nearly 500,000 doctors, according to an IndiaSpend analysis of government data.

Looking at the 2016 data, considering a single state like Gujarat the students that qualified in between 2009-2014, it was observed that out of 4330 MBBS students only 530 students worked in government run hospitals in rural areas. This clearly indicates that the rural India is devoid of health care services.

Ten years back, the new academic course Pharm.D was introduced in many pharmaceutical colleges in India. The purpose of the course was to prepare eligible students in the management of diagnosis and treatment of diseases, selection and therapeutic usage of drugs, monitoring of patients, etc. Need of doctors in rural India can be supported by pharmacists whereby authorized body can design a program of certified course to train pharmacists with practical knowledge of primary and secondary health care services.

The Pharm.D course intent is to develop pharmacist skills on the immense arrangement of pharmaceuticals, which makes them experts to advise physicians the best drugs for patient conditions. They are trained to go on rounds with doctors, recommending the suitable medications. They guide the patients on dosage forms and can monitor the effect of prescribed medications.

In future, the role of pharmacists seems to be more functional. To create the trust and credibility in customers mind standard dress code with a white apron with blue
Changing & Emerging Role of Pharmacists

Pharmacy profession has been evolving gradually over the last decade in India. It started with practice of community pharmacy late back during British India period. Beginning with dispensing and moving towards providing care, the shift is observed towards patient centricity.

– By Ms. Titiksha Shinde.

huge shift, and demand for nutraceuticals products in second and third tier cities has gradually increased.

2. Regulatory:
As mentioned earlier, India still needs to have regulations that are industry friendly and such regulations that facilitate or mediate the growth of SME’s (small and medium sized enterprises). Now with the foreign companies looking at India as a potential hub for Nutraceuticals, our regulations should be conducive to the foreign investors. We need to have stability and certainty with respect to regulations and guidelines (including defined and time efficient regulatory and product approval system).

3. Innovation:
Due to emerging enthusiasm in consumer and to intensify the potency of Nutraceuticals, delivery systems will play significant role. Nutraceutical delivery systems using nanotechnology, such as biocompatible polymers, offer tools that deliver active ingredient successfully. Besides this several delivery systems are emerging for nutraceutical delivery, including smart polymers that are stimuli responsive, Micro emulsions and nano emulsions, solid lipid nano particles, multilayer emulsions, etc.

4. Digitization:
Digitization has entirely transformed the traditional way of marketing in India. The higher internet penetration in rural area can provide same range and choice to rural consumer. Similarly to increase reliability of product tracking and traceability from seed-to-patient is needed. To ensure this the use of advanced technology like blockchain will be supportive. Social media campaigns awareness needs to be created among the people of the country towards being healthy.

5. Distribution channel:
The Indian Nutraceutical products value chain and distribution pattern is completely different than other countries. Presently special outlets for Nutraceutical products or dietary supplements are less in number. Hence, it is important for suppliers to rely on pharmaceutical outlets only to provide dietary supplements through.

As general physician and specialty doctors drive Pharmaceutical industry dieticians and nutritionists could be a good driving force for Nutraceuticals and dietary

Figure 1: Innovation platform for Nutraceuticals

Source: Interlink Knowledge Cell
supplements. But as per the comprehensive study conducted by the Public Health Foundation of India (PHFI) in 2012 says the nation is short by nearly 2.36 lakh dieticians. Hence to solve the problem of proper nutrition advice it is necessary to increase the number of institutes which train qualified dieticians.

Also Indian consumers easily accept products that are recommended by general physicians; therefore, it is necessary to educate physicians on benefits and uniqueness of the nutraceutical product marketed by the suppliers to gain advantage in this market.

6. International Foot Print:
A trend is emerging, where western nutraceutical manufacturers and distributors are eyeing Indian nutraceutical or dietary supplement companies. They are on the lookout for tying up with Indian companies with innovative products. Their point is India with its rich 5,000-year history of traditional medicines from systems such as Ayurveda, Siddha and Unani, has got an advantage over others to evolve a new medicine from the existing knowledge. Indian companies also could combine global knowledge and evolve newer solutions.

Being Hub of herbs and rich in biodiversity India has become one of the top exporters for Nutraceutical ingredients around the globe. Hence almost 80% of today's market made up of ingredients.

7. Quality, Safety, Efficacy:
Quality control is critical for ensuring the safety and effectiveness of Nutraceuticals. In a study conducted by Assocham in 2015, it was noted that about 60-70% of dietary supplements being sold across India are fake, counterfeit, unregistered and unapproved. This is a concern which should not go unnoticed. With proper quality control systems in place, Nutraceuticals industry will be firm footing. Appropriate application of validated testing methods can help to keep quality, safety and efficacy on right path.

The manufacturing and research and development front among Indian manufacturers need to collaborate. Coordination among all agencies, including policymakers, regulators and manufacturers has to be increased for standardization of processes.

8. Cost-effective Supplies:
Indian companies also could combine global knowledge and evolve newer solutions. Besides these, India also possesses advantages such as cost effective manufacturing, availability of talented and inexpensive human resources, and is a hub to a large number of medicinal plants, trees and herbs (bio assets). Hence Nutra as a cost effective solution for better health is possible.

The synergy of leveraging factors pertaining to inside business unit factors like R&D, innovation, cost effective supplies, maintaining quality, safety and efficacy, and with outside business factors such as digitization, appropriate distribution chain and regulatory could leverage Indian Nutraceutical industry.

If all these eight factors can be properly applied then it would be impetus to move towards 10Bn by 2020.

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About the Author:
Ms. Shruti Patil is a Senior Research associate in Interlink Consultancy and has worked on projects and more than a dozen Nutraceutical articles published in reputed magazines and also on digital media.

Having an insight of different Nutraceutical ingredients, their usage in different dietary as well as nutritional sufficiency and hands on experience on Nutraceutical and business project, she would like to pursue her career in Nutraceuticals based on biologics, nutraceuticals and development of this industry as business.
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About the Author:
Ms. Shruti Patil is a Senior Research associate in Interlink Consultancy and has worked on projects and more than a dozen Nutraceutical articles published in reputed magazines and also on digital media.

Having an insight of different Nutraceutical ingredients, their usage in different dietary as well as nutritional sufficiency and hands on experience on Nutraceutical and business project, she would like to pursue her career in Nutraceuticals based on biologics, nutraceuticals and development of this industry as business.
Changing & Emerging Role of Pharmacists

Pharmacy profession has been evolving gradually over the last decade in India. It started with practice of community pharmacy late back during British India period. Beginning with dispensing and moving towards providing care, the shift is observed towards patient centricity.

– By Ms. Titiksha Shinde.

2. Regulatory:
As mentioned earlier, India still needs to have regulations that are industry friendly and such regulations that facilitate or mediate the growth of SME’s (small and medium sized enterprises). Now with the foreign companies looking at India as a potential hub for Nutraceuticals, our regulations should be conducive to the foreign investors. We need to have stability and certainty with respect to regulations and guidelines (including defined and time efficient regulatory and product approval system).

3. Innovation:
Due to emerging enthusiasm in consumer and to intensify the potency of Nutraceuticals, delivery systems will play significant role. Nutraceutical delivery systems using nanotechnology, such as biocompatible polymers, offer tools that deliver active ingredient successfully. Besides this several delivery systems are emerging for nutraceutical delivery, including smart polymers that are stimuli responsive, Micro emulsions and nano emulsions, soild lipid nano particles, multilayer emulsions, etc.

4. Digitization:
Digitization has entirely transformed the traditional way of marketing in India. The higher internet penetration in rural area can provide same range and choice to rural consumer. Similarly to increase reliability of product tracking and traceability from seed-to-patient is needed. To ensure this the use of advanced technology like block-chain will be supportive. Social media campaigns awareness needs to be created among the people of the country towards being healthy.

5. Distribution channel:
The Indian Nutraceutical products value chain and distribution pattern is completely different than other countries. Presently special outlets for Nutraceutical products or dietary supplements are less in number. Hence, it is important for suppliers to rely on pharmaceutical outlets only to provide dietary supplements through.

As general physician and specialty doctors drive Pharmaceutical industry dieticians and nutritionists could be a good driving force for Nutraceuticals and dietary
% of the market and major contributors are fortified products. Functional beverages too have shown demand recently due to increasing demand for fortified juices and energy drinks.
Among Dietary Supplements, Vitamins and minerals hold 36 percent of the total Indian nutraceutical market, followed by probiotics with a 9-percent share and omega-3 fatty acids with a share of 3 percent. Among three market segments, although Functional foods and beverages has smaller segment it is growing much faster at a CAGR of around at 22% followed by Dietary Supplements growing at a CAGR of 19%.

Growth hampering factors in Indian Nutraceutical Industry:
While 20% CAGR might seem attractive, it is quite modest looking at the demographics and category potential.

The fundamental barrier to faster growth is consumers' and health professionals' poor understanding of Nutraceuticals. To understand the perception of Indian consumer, Interlink has carried out dip-stick study in Mumbai with 115 respondents. The findings of this survey depicts that majority of the respondents who could benefit from Nutraceuticals are unmotivated to change their diets and lifestyles to become healthier. On the other hand most of the health professionals are not well-versed in how Nutraceuticals can help in managing and mitigating disease. They still consider nutraceuticals as “optional”.

Another factor hampering growth is Affordability. It is major concern in the nutraceutical product market. The west looks at it as an investment in health, but India still seems to be catching up with it. A large part of our population which needs medical nutrition is sadly unable to afford it.

Also a classic difficulty that we very often face is convincing the medical profession and consumer on the fact of credibility of the product. Here the regulatory status of a product has a huge impact on its potential success. The nutraceutical market is regulated by the Food Safety Standards Authority of India (FSSAI), a consolidation of eight laws that governs the food sector which is still being developed. Hence, to provide maximum benefits Nutraceutical consumer, suppliers should focus on claims, product classification, formulation and advertising standards.

Eight Leveraging Factors:
1. Demographics of Nutraceutical Market
The domestic nutraceutical market is mainly concentrated in southern region of the country, followed by the eastern region. Andhra Pradesh, Tamil Nadu and West Bengal spend more capita on Nutraceuticals than average Indians. Also Mumbai and Delhi are one of the prime markets.

Between the urban and rural, the urban market is greater than the rural market, with the rural market capturing almost 1/3rd of the total nutraceutical market in India. However, in terms of penetration, urban India still scores high at 22.51% while it stands at 6.32% in rural India.

With the recent infiltration of lifestyle diseases and increased digitization have influenced rural India. Hence the consumption patter of Nutraceutical has shown

The role of the pharmacist's in the manufacturing department has diminished over the centuries, and they have been placed in various departments of organization as per the need of the industry. Many a times people mistaken pharmacists as the gap fillers between the pharmaceutical companies and the doctors to introduce the new products and to insist them to write the prescriptions. With the growing complexity of products, especially with the advent of biotech drugs, today more value is given to the knowledge of drugs and therapeutics in health care delivery.

With upcoming advanced technology, novel drug delivery systems and targeting specific receptors the role of the pharmacist as a health care professional will grow. It is observed that the profession itself is continuously redefined. As the industry is observed to shift its focus from treatment to prevention & treatment, the chemists are sharing drug shelf with nutraceutical supplements.

Changing role:
The changing role of the pharmacist leans towards patient counseling and educating and as an intermediate to improve patient outcome. Today, as a clinical pharmacist, they have a considerable role in R&D, formulation of drugs, optimization of dosages, avoidance of adverse drug events, and transitional care activities focusing on medication reconciliation and patient education. Development of a pharmacist is often impeded by policy, legislation, and compensation barriers.

Emerging role:
As per MCI, there are around 8 lakh modern medicine doctors, and more than 6 lakh BAMS & Ayurvedic doctors are registered across the country. As per WHO claims, the doctor-patient population ratio should be 1:1000, whereas in India it is observed to be 1:1.674. So, as per the fact India is short of nearly 500,000 doctors, according to an IndiaSpend analysis of government data.

Looking at the 2016 data, considering a single state like Gujarat the students that qualified in between 2009-2014, it was observed that out of 4330 MBBS students only 530 students worked in government run hospitals in rural areas. This clearly indicates that the rural India is devoid of health care services.

Ten years back, the new academic course Pharm.D was introduced in many pharmaceutical colleges in India. The purpose of the course was to prepare eligible students in the management of diagnosis and treatment of diseases, selection and therapeutic usage of drugs, monitoring of patients, etc. Need of doctors in rural India can be supported by pharmacists whereby authorized body can design a program of certified course to train pharmacists with practical knowledge of primary and secondary health care services.

The Pharm.D course intent is to develop pharmacist skills on the immense arrangement of pharmaceuticals, which makes them experts to advise physicians the best drugs for patient conditions. They are trained to go on rounds with doctors, recommending the suitable medications. They guide the patients on dosage forms and can monitor the effect of prescribed medications.

In future, the role of pharmacists seems to be more functional. To create the trust and credibility in customers mind standard dress code with a white apron with blue
Changing food habits, lack of physical activity and increasing number of people involved in sedentary jobs have increased the incidence of lifestyle diseases among Indian population. As a matter of fact, Indian statistical data says, 40% of deaths in this country are associated with cardiovascular diseases (CVDs) and also obesity rates have increased by 20%. In addition to this, with 67 million diabetic patients and 30 million in a pre-diabetic condition India is projected to be the capital of diabetes by 2030. Hence to lead a quality life, Nutraceutical industry has fueled to stabilize or cure health problems.

Revival of a very old story:
The link between health and food was established long ago by Hippocrates when he said “let food be thy medicine and medicine be thy food”. But ancient countries like India already have thousand years legacy of Ayurveda. Hence the association of nutraceuticals with traditional medicine brings the long-standing consumer acceptance in India.

The ancient literature of Ayurveda is filled with scattered references of implication of food products in various disease entities. Also it is clearly stated that food, which besides providing nutrition helps to maintain the healthy state and prevents the occurrence of diseases should be consumed.

The best example of this could be the concept of ‘Aajasrik Rasayana’ (general rejuvenation). This deals with food products that can be consumed daily for improving quality of life by offering protection from external and internal stressors.

Indian Nutraceutical Industry:
India being one of the largest economies among developing nations has high purchasing power parity. The per capita income of individuals has increased over the past decade which is paving for the changing lifestyle. Indian consumers, particularly those of the higher socio-economic classes and upper middle classes, are looking for supplements and functional foods to attain a balanced nutrition. Individuals are interested in energy-boosting products to improve their physical endurance as well as mental alertness and they want to be more active and awake. This growing consciousness about health and diet has led to grow Nutraceutical industry in India as one of the rapid growing industry in the Asia-Pacific region. The Indian Nutraceutical market is expected to grow from 4 Bn USD in 2017 to 10 Bn USD by 2025. This means a huge increase of 21% every year.

Being biodiversity rich country, Indian Nutraceutical industry has been viewed earlier as an export-focused industry for ingredients. But with the changing market needs, majority of Indian companies have started to launch products in India and expand their product line according to Indian consumers’ needs. Hence both fast-moving consumer goods (FMCG) and pharmaceutical manufacturers have launched several nutraceutical products in Indian market.

In India, dietary supplements hold the largest share accounting for 62.5% of total Nutraceuticals market, while the functional foods and beverages segment is relatively smaller. Dietary supplements like herbal supplements will form the greatest opportunity areas for Nutraceutical manufacturers. According to the report by business research and consulting firm, functional foods contribute to 37.5%...
Leveraging Factors for Indian Nutraceutical Industry

With more people around the globe suffering from obesity than starvation, the coexistence of underweight and overweight is well recognized in rapidly developing economies like India. Amidst all when consumer healthcare has become the battleground for Pharmaceutical and Food companies, Nutraceuticals is expected to play a central role in preventative healthcare. - By Ms. Shruti Patil

Medico Marketing

Medical communication is strategic communication in marketing mix, ranging from publication to promotional educational material. It uses variety of channels to deliver product information consistently, clear and compelling message by planning strategic communication including publication and editorial services, identification of KOL, profiling and engagement, disease-awareness programmes, training and development programmes (internal and external), development and production of interactive media, etc. The article focuses on communication between representatives of pharmaceutical industry and healthcare practitioners. - By Dr. Anant Patil
Introduction:
Medical communication is a wide term which comprises of communication related to health which includes information related to disease, diagnosis, prevention and treatment.

Medical communication can occur between
- Two medical professionals or group of medical professionals
- Pharmaceutical representative and healthcare practitioner
- Medical practitioner and patient

The methods of medical communications used for pharmaceutical products includes direct communication of the medical representative with medical practitioners, articles in the medical journal, providing promotional literature (e.g. leave behind, product monograph, newsletter; etc.) to the healthcare practitioners and advertising during conferences of medical specialists.

Medical communication for pharmaceutical marketing:
Development of effective medical communication in pharmaceutical marketing is not a simple task, as one would think because of the several differences as compared to marketing in other sectors. Unique features of pharmaceutical marketing are given in table 1.

Table 1: Unique characteristics of the pharmaceutical marketing

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<th>Feature</th>
<th>Description</th>
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<td>Knowledgeable target audience  i.e. medical practitioners</td>
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<td>More restrictions on the use of methods of communication for product related advertising because of inability to directly communicate with patients</td>
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<td>Focus on one to one calls with the healthcare practitioners</td>
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About the Author:
Dr. Dilip Ghosh is an international speaker, facilitator and author and professionally associated with Nutriconnect, Australia; NICM, Western Sydney University; Honorary Ambassador, Global Harmonization Initiatives (GHI) & adjunct-Industry Fellow, NICM, Western Sydney University. He is a fellow of American College of Nutrition (ACN), professional member of Australian Institute of Food Science & Technology (AIFST), an advisor and executive board member of Health Foods and Dietary Supplements Association (HADSA), India and also in editorial board of several journals.

Dr. Ghosh has published more than 100 papers in peer reviewed journals, numerous articles in food and nutrition magazines and books. His most recent book, “Pharmaceuticals to Nutraceuticals: A shift in disease prevention” under CRC Press, USA has been published in 2016. He can reach at dghosh@optusnet.com.au

2024. Forbes.
generally termed as galacto oligosaccharides (GOS). These ingredients are incorporated into food and dietary supplements that are then consumed by human beings and animals, thus helping to enhance their gut health. These markets have been segmented based on volumes and revenues and have been analyzed for market stability and growth.

In the near future:
Human desire for individuality is not new. It’s embedded in all ancient civilizations and traditional healthcare system such as Traditional Chinese medicine and Indian Ayurvedic system. All traditional medical systems are descriptive and phenomenological – it typically diagnoses patients using concepts based on the relationship between signs and symptoms. In Western-style modern medicine model the concept of “one disease – one target – one size-fits-all,” is shifting towards more personalization, including the use of multiple therapeutic agents and the consideration of nutritional, psychological and lifestyle factors when deciding the best course of treatment. Dietary supplements have enormous potential in this personalization trend.

This strategic shift in medical practice is being linked with the discipline of systems science – and systems biology in the biomedical domain. Systems science aims to understand both the connectivity and interdependency of individual components within a dynamic and non-linear system; as well as the properties that emerge at certain organizational levels. The concepts and practices of systems biology align very closely with those of traditional Asian medicine as well as the very idea of “health” of the current World Health Organization definition.

Now we know individual dietary components can modulate and change gene function. Based on the robust evidence, healthcare professionals are now able to control gene-specific physiological expression with specific dietary intervention. This hypothesis has just become more attainable for more people due to rising prosperity, particularly in emerging markets.

Moreover, the tremendous technological advancement reduces the gap in-between desire and reality by reaching more cost effective personalized products and services. With rising prosperity there has also been a growth of post-materialist desire and reality by reaching more cost effective personalized products and services. With rising prosperity there has also been a growth of post-materialist societies where values emphasizing self-expressing and individuality have grown. The Individualism mega-trend represents consumers’ desires to be themselves and societies where values emphasizing self-expressing and individuality have grown. This shift represents consumers’ desires to be themselves and as such, the concept of “one disease – one target – one size-fits-all,” is shifting towards more personalization, including the use of multiple therapeutic agents and the consideration of nutritional, psychological and lifestyle factors when deciding the best course of treatment. Dietary supplements have enormous potential in this personalization trend.

With rising prosperity there has also been a growth of post-materialist societies where values emphasizing self-expressing and individuality have grown. The Individualism mega-trend represents consumers’ desires to be themselves and as such, the concept of “one disease – one target – one size-fits-all,” is shifting towards more personalization, including the use of multiple therapeutic agents and the consideration of nutritional, psychological and lifestyle factors when deciding the best course of treatment. Dietary supplements have enormous potential in this personalization trend.

References:
• Information for Consumers on Using Dietary Supplements. U. S. Food & Drug Administration.
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• Dietary Supplements Market Size Worth $278.02 Billion By 2024. February, 2018. Grand Review Research
• David Lariviore. 2013. Dietary Supplements Market Size Worth $278.02 Billion By Prescription product, direct advertising by the pharmaceutical representative to the patients is not permissible. Pharmaceutical companies often create patient education materials for disease awareness which is given by the doctors to patients. Patient awareness regarding particular disease may be useful for early detection of the disease and better outcomes.

Healthcare professionals can be general practitioners, specialists or super-specialists. Therefore messaging needs to be customized based on the level of knowledge and speciality of the medical practitioners. For example, the messaging prepared for super-specialists may not useful or effective for general practitioners. Similarly, even if the same product is promoted to specialists in different subjects, same messaging may not be useful and/or effective. For effective communication, the messaging should be prepared separately based on the subject speciality.

Objective of the communication:
Objectives of communication with healthcare practitioners include providing safety and efficacy related information related to new product, discussion of different approved indications of a pharmaceutical product, discussion about dosage of the product etc. The objective of preparation of communication for patients may be to make them aware about signs and symptoms of a particular disease for early diagnosis and prevention of delay in treatment or making patients aware about different diagnostic methods.

Understanding the objective of communication is an important aspect of effective communication. It helps to customise the messages. For example, if the objective is to educate patients about some disease (e.g. signs, symptoms, diagnostic methods and types of treatment) patient education should be prepared in a very simple and easy to understand language. The content of communication differs for in-clinic discussion and out-clinic communication for healthcare communication.

Messaging:
The medical communication should be complete, unbiased and up to date. Claims related to pharmaceutical product and other important information in the communication should be supported by appropriate references. Communication related to pharmaceutical products should not focus only on the efficacy and benefits of the product, but it should also cover adverse events, precautions, contraindications and dosage of the medicinal product.

Sometimes, for the innovator products global communication used in the international markets (especially developed world) may be available. However, the same communication may not be useful in a developing country because of the epidemiological differences and clinical practice related differences. Communication should be developed for the specific country based on the incidence/prevalence of the disease and current practice guideline and/or clinical practice of the healthcare providers in that country.

In marketing terms, positioning statement is the one which plays an important role in effective messaging. Positioning statement of the pharmaceutical product is more likely to remain in the minds of the doctor for longer time than other content of the
Promotional drug literature:

**POST OPERATIVE PAIN**

The MOST EFFECTIVE solution

- is SUPERIOR analgesic

**SAFE AND EFFECTIVE IN POST-OPERATIVE PAIN**

How can the promotional material be improved?

- The claim “MOST EFFECTIVE” should be supported by published reference.
- When writing word like “SUPERIOR”, a comparative agent needs to be mentioned. Moreover, the statement should be supported by reference.
- “SAFE and EFFECTIVE in POST-OPERATIVE PAIN” should also be supported by reference.
- When writing information from a clinical trial, details of the study (study design, sample size, comparative agent, primary objective and efficacy and safety results) should be written.
- Safety information, adverse events, precautions, contraindications and dosage and type of formulation should be included.
- Abridged prescribing information should be included.
- Date of promotional material approval with approval number needs to be added.
- For further information, address of the pharmaceutical company should be written.
- Medicines should only be promoted for indications approved by the regulatory authority. Off-label promotion should be avoided.

If the objective of communication is patient education, language should be simple to understand. As far as possible difficult to understand medical terms should be avoided in patient education material. This is the most critical aspect of effective communication related to patient education. Patient educational material should always be provided in language which he/she can understand and comprehend.

It is always a good idea to test the communication with the target audience before using it on a large scale.

Method of communication:

There are several methods of communication including one to one discussion with healthcare practitioners based on the messaging in the literature or audio-visual inputs. If the communication is intended for one to one discussion with doctors, medical representative should be well trained on the content of communication. He/she should also be trained to answer related questions, in case doctor asks.

Content for audio-visual delivery should be apt for the meeting of healthcare practitioners based on the messaging in the literature or audio-visual inputs. If the communication is intended for one to one discussion with doctors, medical representative should be well trained on the content of communication. If the communication is intended for one to one discussion with doctors, medical representative should be well trained on the content of communication. He/she should also be trained to answer related questions, in case doctor asks.

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Focus on Plant proteins:

In 2012, the global market for plant protein ingredients used in food, beverage and dietary supplements was estimated to be 1.7 million tons, of which soy-derived proteins are the largest segment in this market with a 56-percent volume share. Despite witnessing a healthy volume growth of more than 3.5 percent, the demand for wheat protein is expected to fall due to higher expected growth of soy proteins and newer sources such as pea protein. Specifically, pea protein is expected to grow as much as 10 percent over the next five years. Other emerging plant-based protein ingredients, such as ingredients sourced from potato, canola, rice and chia, are also expected to witness strong growth of more than 5 percent during the next five years. From courgetti to cauliflower pasta, dairy-free milks to beetroot drinks for sports performance, plant-based foods are growing – both in consumer popularity and in strategic importance, with Danone and Coca-Cola making significant moves into this arena during 2016.

Bio actives and Phytochemicals:

The market for bioactive supplements is projected to experience a growth rate of 7.2% by 2018 to touch $33.6 billion. This estimation is attributed to the widening bioactive industry, which is a result of increased consumer awareness and health concerns. The Asia-Pacific region is the dominant market with increasing population, urbanization, and disposable income in countries such as India, China, and Thailand. In countries such as Australia, the aging population is generating market opportunities for bioactive. The improvement in the quality of ingredients with clinically-proven ingredients & products entering the market is gaining trust of the consumers and is another factor driving the bioactive ingredients market. Based on type, phytochemicals & plant extracts prove to be the most adopted supplements with the highest projected growth rate. In regions such as North America and Europe, the consumers are turning towards plant products and prefer consuming bioactive ingredients derived from plants.

In the current market scenario, fibers & specialty carbohydrates are expected to have the largest market share due to their wide application. Functional beverages are the growing application market for bioactive ingredients, whereas dietary supplements hold the largest market share in the same market.

Prebiotic markets:

The prebiotics market by ingredients is dominated by naturally derived ingredients such as fructo-oligosaccharides (FOS), inulin, mannan oligosaccharides (MOS), and others. Synthetically derived ingredients are as yet few in number and they are
add a particular benefit to the end product. The figure above shows the trend of the specialty food ingredients market in terms of type. The specialty food ingredients market value is projected to reach $80.32 billion by 2018. Functional food ingredients (nutraceuticals) are the leading specialty ingredient with the largest market share and are estimated to grow at a significant rate due to high penetration levels in end-use industries. Growth of premium products of various ingredients is expected to propel because of increasing demand. Enzymes are estimated to show robust growth in the coming years. Demand for acidulants, flavors, colors, emulsifiers, etc. are also steaming ahead with a remarkable CAGR.

Vitamins and Minerals- Still a battle ground for pharma and consumer product companies:
Vitamins and minerals are always on the top list of dietary supplements. Sales of vitamins, mineral-based supplements totaled nearly USD 23 Bn in the U.S. in 2012 and are growing at a 5% to 7% annual clip. In Australia Vitamin & Dietary Supplement (VDS) category alone has doubled over the last 10 years and it reached USD2.77 billion in 2017. This trend is justified by allocating more shelf space by some major retailers to these supplements, giving manufacturers the room to move more brands and products. Almost all companies in this segment are showing good growth, including NBTY Inc., Jamieson Laboratories, Atrium Innovations Inc. and Thorne Research Inc., Blackmores, Swisse etc. The market value in the Americas, Venezuela shows CAGR 14%, whereas Brazil stood second with 13% growth. In Asia-Pacific, India is leading the market at CAGR 10%, followed by Vietnam with 8% growth. Russia is the leader in Europe with 10% growth, whereas Turkey is very close to 9% growth. In Africa-Middle East, Nigeria shows 9% growth in vitamin and minerals segment.

The sector is shaping up to be a battleground between pharmaceutical players and consumer-products companies, many of which are trying to counter slower growth in their mainstay businesses. Active acquisitions show the critical mass and potential growth opportunity of the segment. Some significant examples of acquisitions are: Schiff Nutrition by Reckitt Benckiser, Wyeth (Centrum) and Alacer Corp (Emergen-C) by Pfizer, Avid Health by Church and Dwight etc.

Global Protein Supplements market:
Protein fortification into food and beverages is increasingly becoming a solid option for meeting the global challenges of nutritional deficiencies in the developing world, while also helping to combat the rise of non-communicable diseases, such as cardiovascular disease (CVD), in the developed world. Specifically, a plethora of scientific research shows the use of protein supplements has a direct link in enhancing heart health, as well as helping with weight management and closing the gap of caloric and nutrient deficiency. Consequently, the protein supplement product space is highly fragmented, with many companies and protein sources, and a variety of products prepared to meet this growing and dynamic demand.

Animal protein:
The global animal protein market segment, with an estimated demand of 2.3 million tons in 2012, is dominated by dairy-based ingredients at nearly 50 percent of the global share of the animal segment. The second largest ingredient in this market segment is egg protein, which had a 40-percent volume market share in 2012, due
In this new era of digitization, a shift in behavior and processes is reshaping the marketing world. It is impacting all industries, including the pharmaceutical and healthcare industry. An ever increasing media sources has ultimately handed the rights in consumer's hands in controlling their information consumption. Digital marketing is acting as a key differentiator for brands charting out a futuristic growth strategy. - By Mr. Rameshwar aka Ram.

Recent developments in Dietary Supplement market:
Every year, several market research organizations, such as New Nutrition Business, Innova Market Insight, Institute of Food Technologists (IFT) etc are publishing Top 10, Top 12 global food nutrition and health trends. These trends are mostly based on market intelligence survey without any scientific and technological input. The list of dietary active compounds (vitamins, prebiotics, probiotics, bioactive peptides, antioxidants) is endless and formulation of final products using these functional ingredients is growing steadily. This fortification exercise was started in salt iodization in the early 1920s in both Switzerland and the United States of America and has since expanded progressively all over the world. The fortification of cereal products with thiamine, riboflavin and niacin has become common practice since the early 1940s. Margarine was first fortified with vitamin A in Denmark and milk with vitamin D in the United States, phytosterols enrichment came later and was used by patients with high cardiovascular risk. Folic acid fortification of wheat became widespread in North America and then moved to about 20 Latin American countries. This phenomenon fortification ranging from the classical enriched milks and yogurts through infant formula enriched with prebiotics, probiotics, vitamins and long chain polyunsaturated fatty acids to functional beverages mainly enriched with flavonoids, vitamins and resveratrol, snacks. Most recently pastas rich in legumes and meats enriched with large number of bioactive compounds are being developed by fortification formulation.

During the past decade, a rapidly growing number of food supplements with a specific functionality claim have entered the market place. The major drivers are increasing consumer demand for healthy supplements, as well as the scientific and technological developments that allow for the production of new categories of food or dietary supplements with increased functionality. Moreover, new categories of functional foods are being developed that contain bioactive ingredients, generated by enzymatic conversion or produced by microbial fermentation from raw food materials. Finally, varieties of plants that are used as sources of raw food materials are carefully selected and continuously optimized regarding the content of bioactive ingredients through selective breeding or genetic modification, while specific feeding strategies are exploited to increase the production of specific ingredients in animal-derived raw materials.

Market economics:
On the holistic basis, nutraceuticals are divided in three segments viz. functional foods, nutritional supplements and beverages. Functional food/medicinal food are any fresh/processed food laying claims of being health-promoting or disease-preventing product, beyond being the basic nutrient supplier. Nutritional supplements, also known as dietary supplements, are meant to supplement the food eaten and to provide the required nutrients to the body. It encompasses products like vitamins, minerals, probiotics, herbs, botanicals, amino acids, sports nutritional products, and specialty nutritional products, among the others. The nutritional supplement market has shown a significant growth over the previous years, in spite of the global economic downturn which started in late 2007. All major reports such as Mintel, Euromonitor, NBJ estimated USD 278.02 billion sales by 2024. Specialty food ingredients can be defined as ingredients which have the capability to
**Dietary Supplements in definition:**
Food and Dietary Supplements are defined as any product that can be taken by mouth that contains a dietary ingredient intended to supplement a diet. Dietary ingredients in these products may include vitamins, minerals, herbs, or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandulars, and metabolites. Another buzz word is nutraceuticals, are particularly of interest to the baby boomers to generation X because they have the potential to substantially reduce the expensive, high-tech, disease treatment approaches presently being employed in Western healthcare. Primarily used in functional foods and dietary supplements, nutraceutical ingredients are natural bioactive, chemical compounds that have health promoting, disease preventing or medicinal properties.

**Global Dietary Supplement market:**
Food/dietary supplement market forms a significant part of overall food and beverage (F&B) value chain. These supplements are often vital in contributing desired taste, appearance, nutritional properties and functionality to wide ranges of F&B such as dairy, bakery, confectionery, convenience foods, meat and fish and confectionery. All ingredient companies need to adhere to stringent supervisory, regulatory and environmental standards. Overall food ingredients market can be divided into - specialty and bulk food ingredients. The global specialty food ingredients market has been driven by factors like growing world population, urbanization and rising health awareness. Personalization by category and individualization are the near future trend in this specialty supplement segment. The market is characterized with high entry barriers like strict regulatory requirements, consumer rejection and highly research-intensive industry. The industry is intensely competitive with numerous companies operating in the market, ranging from specialist manufacturers to newcomers from pharmaceutical domain.

**Economic impact:**
A new study has found the total economic contribution of the dietary supplement industry to the U.S. economy only is more than $61 billion dollars per year. The study also showed that the dietary supplement industry has enough activity throughout production and sales to support more than 450,000 jobs, while industry concerns paid more than $10 billion dollars in taxes in 2006. In Australia, 29,100 direct jobs supported by the complementary medicines industry alone (2017 data). The global dietary supplements market is expected to reach USD 278.02 billion by 2024, at a CAGR of 9.6% from 2016 to 2024, according to a report by Grand View Research, Inc. Statista also shows the estimated and projected size of the total global dietary supplements market from 2016 to 2022 is around 220 billion U.S. dollars worldwide.

The Economic Impact Report, completed by Dobson DaVanzo, a Washington D.C.-based economic research firm, is the first to quantify the dietary supplement industry’s overall financial impact on the U.S economy by considering such contributing factors as supply, production, research, direct employment, manufacturing, taxes, and the extended financial effects these factors produce. The report concluded, “The dietary supplement industry is a significant economic engine that powers businesses in communities in every state across the country.” According to Partnership Capital Growth, the reason for the growth is it has gone mainstream. “Ten years ago, it was just the muscleheads and the weekend warriors. Now, it’s the full spectrum with men and especially women”.

**Digital Branding:**
“Digital Branding is one of the brand management techniques to develop brand recognition”. This guides you in establishing your brand in the digital space. This is a key to establish meaning establishment with your target audience. This helps in gaining unique position and differentiates you from the competition.

Customer feedback says many more things about the services. Digital branding provides a great source to know who we are and helps in brand positioning.

**Advantages of Digital branding:**

- **Engage Audience:** Gone are the days of one-way communication like TV/Radio/Billboard ads. Brands have to captivate the customers using innovative ways. Digital branding offers opportunity for interactivity on the larger platform where brands can be showcased using different elements within a content to be marketed. For example, showcasing your product in infographics, hosting a live video on YouTube, Facebook and responding to comments immediately on social networks.

- **Multiple Platforms:** Brand vested elegantly in digital branding allows for a merging of different platforms. Imagine your brand’s identity being unified across multiple online platforms (social media, email, online advertisements, chat applications) with different display media; all in unison, preaching one message yet customized to every customer.

- **Make it Viral:** Virality has come a long way and has been misused many times. Will your brand go viral is a post result, instead of a pre-planned process. There are fervid elements to potentially thrust your brand in a shorter time period towards a further reach but there is no guarantee. The grace of digital branding is that brands can easily shine by means of customer engagement through shares, clicks, recommendations, feedbacks, dark social and so on.
Today’s food and dietary supplement market is considerably different than it was 10-15 years ago. Consumer demands for healthy foods have been changing considerably every year, particularly in the last decade. Consumers are more and more believing that foods with specific functionality contribute directly to their health. Foods today are not only considered as a vehicle to satisfy hunger and to provide necessary nutrients but also to prevent nutrition-related diseases and improve physical and mental well-being. In this scenario, functional food ingredients play an outstanding role. From an economic perspective, this increasing demand for such foods can be justified by the increasing cost of healthcare, the steady increase in life expectancy, including infants and the aspiration and desire of older people for improved quality of their later years. – By Dr. Dilip Ghosh.

Special Feature

A Menu of Dietary Supplements

Progressiveness: As you continue to uphold a digital branding strategy, you will realize that it is easier to expand your brand’s appeal in order to progress in the fast-changing environment we live in. Integrate your branding strategies. Propagate your brand identity using online and offline media’s.

Results:
- Existence in Digital Platform: Digital branding allows you to constantly work and message on social media platforms.

People: Once you get into the momentum of preparing your social media platforms, the constant exercise of digital branding allows you to build a community of advocates that will have a higher chance of brand loyalty and communication.

Digital Journalism: A community is made up of different individuals that have their own characteristic and level of advocacy towards your brand. In the case of customer to customer (C2C) marketing, these individuals that are highly verbal and are always willing to share their experience for benefit of other customers will act as your evangelists. They turn out to be your journalists to push your brand’s promise, experience and product/service.

Impressions: Building your brand digitally allows for quick feedback. First online impressions are vital to understand whether that lead stays or drops out. With proper digital branding, your brand has higher chances of capturing that lead with multiple impressions. Make sure that your brand is well targeted with updated look and messaging.

Finally, Lead Generations: Ultimately, brands want to generate leads and convert them into customers. Having a ready platform, a committed community and brand evangelists, the lead generation is almost in auto-pilot mode, whereby a potential customer discovers your brand. If that lead is your target audience, then proper digital branding allows for a quicker feedback and decision making.

Digital Branding for Healthcare Domain:
The healthcare industry is progressive in many ways, but marketing strategy tends to lag behind other consumer-centric industries.

Accordingly, a study found that 65% of consumers search online for information about healthcare products/services or more generally to learn about health concerns or care providers.

It has become clear that consumers are taking advantage of online resources both during initial research and making decisions.

Case Study on Healthcare Digital Branding:
Few years ago, one of the US clients launched online consultation company and started advertising in traditional way like new papers/tv advertisements and the results were not so good; 2 years back we met this client and explained about digital presence and branding; signed agreement and started working on digital brand creation starting with logo creation. After the logo and tag lines were finalized, we started branding in social media, promoted in Google AdWords and organic search
“In the long history of humankind, those who have learned to collaborate and improvise most effectively have prevailed” - Charles Darwin

References:

About the Author:
Dr. R. B. Smarta- Founder and Managing Director of Interlink Marketing Consultancy Pvt. Ltd. Being a thought leader in Pharmaceutical, Nutraceutical and Wellness industry, he has been contributing globally through Interlink Consultancy and building business performance of his clients since 33 years. Having a Master’s degree (M.Sc.) in Organic Chemistry in Drugs, MMS in Marketing, PhD in Management, and FRSA (Fellow of Royal Society of Arts) London, he is-perusing his passion of converting science to Business.

Besides being a consultant, he has been teaching at IIM, prestigious management institutes, Pharmacy College, Pharmacists Associations, guiding PhD students and written as many as 7 Books on Management, Pharma, Nutra, Foods domain, and many articles in prestigious journals/magazines.

engine optimization; and the results were phenomenal.

Please see below charts for reference where enquiry to sale ratio was just 10% before digital branding and is resulted to more than 40-50% post digital presence as people could online review and give ratings.

To achieve these results, we did brand promotion using paid search, social networking post and boost posts (paid), e-mail marketing, website redesign, search engine optimization and posted blogs for organic growth.

About the Author:
Mr. Rameshwar aka Ram, an eminent techie with 16+ years of extensive technical and management expertise, associated with top-notch companies like Cognizant, Sogeti, Dell, AAA, The Hartford, Starwood Hotels and Resorts, Wal-Mart, MD Aligne and HealthRight, followed by own venture(s) setup RamPro Infosystems Pvt Ltd., Trovend Technology Pvt Ltd. Being the man behind the application development and management of Development teams in various Health Care, Insurance and Technology clients, Ram has rendered enduring support for the company’s progress and he himself keeps learning new technology.

Watching a DOS based Personal Computer during school days; he had instantly developed a great passion for Computers/ Technology which incited him to pursue Master’s Degree in Information Technology from Anna University, Chennai.
mentioned on prescription. There is a clinical experience with generic or branded generic medicines with healthcare providers hence that professed sanctity should be followed for betterment of society.

One more way to reduce the cost of treatment is to have centralized health care data. The government has already taken initiative and is working on electronic medical records along with the portability of patient data. This is really a remarkable action and should be deployed at each and every hospital so that multiple costs could be saved from a patient point of view. Even telemedicine has revolutionized this sector by providing health care services beyond geographic, time and social barriers. These services are focused towards rural regions which face shortage of physicians or specialists.

Also, one of the major issues of rural India is shortage of HCPs. This could be resolved with the help of pharmacists. India has more than 6000 pharmacists even in rural areas. This trained population of pharmacist can be upgraded to take care of primary health care in rural area with adequate certification or participation.

Also policy for “One drug one company one brand name” is getting molded. Although the policy has been made for the betterment of society, it will be injustice to various companies who are capable of manufacturing medicines for multiple therapeutic classes. This policy will particularly affect those manufacturers who have been already given the permission to manufacture and market generics.

Branded generics might be useful if there is a process patent with the company to manufacture that particular generic which we used to have earlier in India before WTO stipulated increase on branded generics and can be permitted but no one drug one company one brand name should be insisted.

Conclusion:
Our pharmaceutical industry being saturated with traditional practices is inclining more towards advanced technology. The need for novel technologies has always initiated designing. It is important to understand the speed with which innovations are happening as compared to the environment inside four walls of the organization and it is not imaginary. Having the understanding of innovative ecosystem it is essential for the team to develop a culture of innovation and ingenuity amongst the team. Manufacturing of the medicines has principally held to various tried-and-true ways, and it seems that it will move slowly and steadily to incorporate new advanced techniques in the upcoming future.

Considering these few opportunities which we discuss in this issue, is there not a possibility to make one of them or all as your priority depending on status and investment capacity when it comes to future medicine?

Dear decision makers, it is not enough to analyze the industry, but it’s a time to translate the challenges in favor of business and operating models in an all-inclusive way.
medical applications like in manufacturing of eyeglasses, dental implants and now it is in developing phase for other medical applications like printing organs, bone, and skin; and soon it will be hitting the market.

The first 3D printed FDA-approved drug Spritam manufactured by Aprecia pharmaceutical company is for treatment of partial onset seizures and it dissolves rapidly as compared to the average pill. Guidance has been issued by FDA on 3D printing drugs and its role in manufacturing healthcare products.

**In Indian context:** In favor of consumer

Recently Competition Commission of India (CCI) released a policy note on “Making Markets Work for Affordable Healthcare”. The policy note was the result of the filed 52 cases against pharmaceutical and healthcare services due to uneven information in the pharmaceutical/healthcare sector which has limited the consumer choices. The CCI has specified the policies in segments of quality of generics, trade margins, online pharmacy, hospital policy and regulations.

Currently **Trade margins** as per DPCO suggestions allow 16%-20% margin on MRP for retailers and 10% margin for stockists. But over the period of time it has been observed that the small manufacturers offer high margins beyond stipulation, leading to non-competitive environment. To improve direct sale, even generic manufacturers offer more margins to push their products. These trade margins have been certainly exploited and harmed consumer choices.

**E-pharmacy**, that enables delivery of medicines directly to the registered address, if regulated properly, can help to keep check on drug prices. And if regulated properly the special mention of trade margins from a patient point of view will be taken care of, which won’t be equivalent to today’s service charges. Hence this particular mode of delivery will also mandate trade association for self-regulation. The entire drug distribution and availability is already at a reduced price and will also be available at door steps if digital mode is followed.

Similarly, Central Drugs Standards Control Organization (CDSCO) is also likely to amend provisions for regulating brand names. If this proposal is implemented, then pharma organizations won’t be allowed to repeat same trade names for different drugs. This initiative will help to reduce consumer confusion. In this case, manufacturers of branded generics will be mandated to stamp company and generic name of the drug on the packaging and not brand name for better consumer understanding.

As we all know there are many unethical practices followed in the industry and various laws are employed to tackle them. Current Healthcare services in super specialty hospitals and other big hospitals do not allow the purchase of medicines from retailers. Thus the option of procuring medicines from outside retailers should be provided without substituting generic or a branded generic name which is not.
Applying a few simple thoughts and processes, information can be easily harnessed and lead to any of the following: enhancing efficiencies in the system, reducing costs or down time, converting prospects into customers, enhancing after sales service, sourcing repeat business, ensuring the right product to the right customer, reducing costs, and so on. It helps to move from plain gut based decision making to a stronger, data based and intuition backed decision leading to reduced risk and optimized outcomes. A very simple yet versatile form of analytics is the basic or Descriptive analytics. As we go further into the realm of analytics a wide range of insights can be obtained through Predictive and Prescriptive analytics. There is not one single default approach to what should be the starting point. One has to choose depending upon the data, financial and human resources available on one hand and size of the opportunity that waits to be exploited. Data has the potential to open up completely new types of businesses.

Businesses such as IT or ITES or the recent services such as e-Commerce, have inherently through their business model, generated a huge amount of data and understand that their success depends on how well they exploit the data. They have knowledge, talent and the ware withal, but the challenge there is to put all this to good use by driving decision making through it. Older sectors such as manufacturing or companies that are manufacturing and marketing have a different set of challenges. The older sectors might not have had the luxury of automation in their early stages; many of them must have migrated to ERP systems in the last decade or two and would have settled into the new rhythm only recently. Finding it too tough at their age to change, the senior staff might have waded through the system and superannuated, the middle level guys might have adapted out of sheer newness and curiosity or the TINA factor, while the junior guys would have happily got into the new system. In such a situation there is always a clash between old and new processes and personnel. Add to it the attendant woes of redundancy and downsizing. To this background comes a new concept of data and analytics and one can imagine the basis for the apprehensions cited above.

There are a dozen red flags one can think of when embarking on an “analytics” journey, but the major ones are quick and fast results, one has to choose between the easy to apply and faster, tangible though smaller outputs vs. process where it is difficult to apply, outcomes are potentially huge and take a longer period of time to deliver. Then there is the challenge of experience coming in the way of change – typically, IT and data analytics guys come from multiple and diverse backgrounds and are not necessarily domain experts, while those already working possess 15-20 or more years of core domain knowledge; these two are tough to converge. Organisations need to define to a fairly tangible degree, what they expect from “Analytics”. This will help them hire the right kind of experts and select the right equipment and platforms and develop an optimized architecture. Missing this input, one will run out of time, patience and finances or will finally develop a solution which does not fully address the needs of the organisation.

Levels of access need to be clearly predefined as a few applications bring on unintended guests. An organization painstakingly developed an automated field reporting system which was meant to free up field executives’ time by reducing repetitive and unproductive work. It soon generated multiple reports on sales leads, helped classify calls into cold, warm and hot, keep tab on customer response over extended understanding of the causes of the tumor, it guides towards personalized cancer treatment therapies that specifically target the mutated tumor profile.

**Liquid biopsy**- Liquid biopsy is a non-invasive alternative to surgical biopsies which aids doctors to determine range of information about tumor through a blood sample. The estimated cases of cancer in India alone are forecasted to be 17.3 lakh and mortality number to be 8.8 lakh are predicted by 2020. The market for liquid biopsy is expected to grow at a faster rate in Asia Pacific region due to increasing health awareness, improving health care infrastructure and advanced technologies in India as well as in our neighboring country-China.

The USFDA has approved the first liquid biopsy test in 2016 in case of cell lung cancer as a companion diagnostic test. Liquid biopsy offers the advantage of better monitoring, whereby screening new alternative genetic pathways associated with resistance to current anticancer therapy is possible as well as in case of reversion of old therapy which allows change of treatment.

**Digestible sensors**- Digestible sensor a tiny grain or sand size chip loaded inside a pill or consumable is driven by stomach fluid. The device is the combination of wearable patch and ingestible sensor. Sensor detects physiological data and the medication consumed by the patient and is designed of silicon material. Once the pill is swallowed, it interacts with digestive juice and produces a signal which is detected by the wearable patch powered by battery. This helps patient/physiologist to trace and track physiological behavior. In addition, it also records heart rate, blood pressure, temperature and other vital parameters which are notified on mobile app. These guides physicians to track the medicine and helps to decide the dosage regimen as per the requirement.

The pharmaceutical organization Otsuka and Proteus have developed a digital medicine containing aripiprazole for mental disorder in combination with ingestible sensor and are chasing a regulatory filing for a drug-device combination across various segments of the FDA.

**3D printing drugs**- The 3D printing technique to manufacture drugs will improve availability and accessibility and allow designing of customized medications. The process involves the use of a computer and CAD software which helps in printing the desired shape of drugs. The main advantage of 3D printing drugs will be patient friendly as it allows customization as per the preferences of patient needs. Characters like size, dose, appearance and rate of delivery of a drug can be controlled by means of 3D printing technique. The research conducted by the University college of London reported 3D printing of drugs in varied shapes like dinosaur and octopuses that would attract children’s to consume medicines.

The multi-dosage form which can be prescribed for multiple chronic diseases, providing an accurate dose in single tablet that improves patient compliance is already designed. The research shows that the technology is viable in various
improve patient health, to promote preventive health, to enhance patient satisfaction and engagement.

The transformation by means of the digital revolution encouraged the industry to use technology and data analytics to understand customers and in case of life sciences companies, to enhance the thought process in order to increase patient engagement, develop strategies to increase market penetration and apply new go-to-market approaches. Well, the next phase of digital revolution seems to target the operations of industry.

Seismic shift:
As the organizations have realized the impact of two major shifts like downward pricing pressure and move towards prevention, diagnosis and role of digitization in those segments. The new playing fields like pharma, tech, genetics and immunotherapy are emerging in response to those disruptions. Applying those technologies in potentially key therapeutic areas like in the field of oncology, neurology, diabetes and cardiovascular would be worthwhile.

Innovations for better life:
DNA sequencing revolution- DNA sequencing is changing the way of medicinal practices. The traditional methods to diagnose the cancer used to involve biochemical analysis, biopsy, imaging tests (X-ray, PET/CT, MRI, ultrasound, etc.), nuclear medicine scans (bone scans, etc.), and endoscopy. Now, the genomic revolution has enabled the DNA sequencing of varied number of organisms including bacteria, plants, animals and humans. The capability of combining genetic engineering and genome sequencing will influence our ability to dissect, analyze and understand the complex biological systems.

For e.g., the factors that lead towards the growth of cancer cells can be revealed by means of cancer genome sequencing. Cancer Treatment Centers of America® (CTCA) a cancer center in America use sophisticated techniques and also offers expanded genomic tumor assessment. Recognizing that the mutations lead to an
Top management in the pharma industry is just recovering from the static or little growth last year. On the other hand, major factors of growth like propensity to spend more income on medicines and hospitals is increasing with disposable income and health insurance support.

A number of initiatives from digital, technology, and artificial intelligence front have been in a process since last two, three years, which can be encased this year, keeping into focus existing medicines and future medicines and patient and payers.

It’s a very volatile and challenging situation focused on alternatives available like technological, medical, HCP front, ethics, and hospital usage provides multiple opportunities.

This year is a crucial year for top management to select priorities for the future and invest in the future and reap harvests in the near future.

Keeping focus on future medicines and patients, seven opportunities are available and top management needs to prioritize depending on the status of individual organizations and investment ability to pursue this in the future.

The digital revolution is remolding the healthcare and pharma industry towards achieving the goal of 3A (available, achievable, and affordable). Realizing the upcoming needs and demands many pharma organizations are now looking towards this as an opportunity to capture the market by their groundbreaking therapies and that too with the rapid pace.

As said in an earlier issue, looking at the disruptions that the industry is facing today, companies will have to realign their business plan and strategies. The Indian healthcare market is expected to grow to 280bn $ by 2020 at a CAGR of 23%. The main reasons for the growth of healthcare and pharmaceutical market are changing disease pattern, adoption of lifestyle diseases, ageing population, increase in disposal income, rising health awareness among the population and penetration of health insurance.

The requirement of transformation was indeed a need; to turn data into actions, to...
On the Cover

Future of Medicines and Patients

"Market and industry structures are quite brittle, one small scratch and they disintegrate…" how aptly Professor Peter Drucker has captured today’s situation of pharmaceutical industry. In existing range of new disruptive technologies, the pharmaceutical industry would reimagine its future. Overtime, the consciousness of preventing the illness and moving towards more targeted therapies, accurate patient diagnosis, using customized genetic mapping and use of technology will be trending in upcoming future. - By Dr. R. B. Smarta

Knowledge Partnerships

5. The Future of pharmaceutical brand marketing changing issues and challenges

4th January 2019, Navi Mumbai.

On the occasion of 2nd World Pharma Brand Manager’s Day, Centre of Excellence in HealthCare and SIES College of Management Studies has hosted conference on future of pharmaceutical marketing -Changing issues and challenges. The theme was Future of Pharma Business, Marketing and Branding.

Interlink’s Presentation: Dr. R. B. Smarta was key note Speaker. He has addressed how disruptive industry like Pharma should transform its Business model and succeed. He also gave insights on how to repurpose pharma marketing and branding to move ahead from crossroads.

6. Indian Pharma Week Awards:

December 2018, Delhi

About Event: South-Asia’s largest Pharmaceutical event- CPhl & PMEC India, is stepping in its 12th year success with Pharma Week from 12th to 14th December, 2018. Over 10 years, the expo has grown from a three-day exhibition to a magnum opus that spans a week. India Pharma Awards, one of the most transparent & process driven awards are conducted professionally as well as methodically to draw out the best in the industry, and it stands as an opportunity to position your brand with the best in the Pharmaceutical space. This is done with a neutral Jury Panel representing various segments of the industry.

Interlink’s Contribution: Dr. Smarta has been invited as one of the juries.

7. PharmaLytica

August 10 & 11, 2018 HITEX Exhibition Centre, Hyderabad

About Event: PharmaLytica conference organized by UBM, established in 2006 in India hosts over 25 large scale exhibitions and 40 conferences across the country every year. Collocated with the exhibition is the knowledge forum and important industry gathering that brings you entire range of topics in analytical, outsourcing, laboratory, scientific & biotechnology sector. PharmaLytica is evolving as the leading marketplace for products and services along the entire value chain in niche segments within the Pharma industry.

Interlink’s Presentation: Quality Culture Parameters Concept & Practices
8. IPHEX: INTERNATIONAL EXHIBITION FOR PHARMA AND HEALTHCARE (International)

9th May 2018, Theme Area Hall No-12A, Pragati Maidan, New Delhi
Open House Sessions: Focus Market Sessions (ASEAN and CIS): Market Opportunities, Challenges and Way to do Business

About Event: An exhibition that brings together the drugs, pharmaceutical and healthcare industry – all under one roof. One of the largest showcase of Indian pharmaceutical products and technologies to a global audience. 700 overseas buyers from focus areas are being invited to participate in the exhibition. It offers the industry majors from India and all across the world a great platform to connect and do business.

Interlink’s Presentation: Pharma opportunities Challenges & way to do Business (CIS & ASEAN)
FROM THE PUBLISHER’S DESK

Heart of Pharmaceutical industry was at ease because of its R&D conceptualization and continuous development demanded by patients. Over the period of time this essential activity has been outsourced as its industry started facing expiry of patents. And the world has become a market for Generics!

When it comes to generics, India has always been a niche market player. Generics at affordable prices took the lead and India started capturing all over the world with generics. But this global presence has led to many challenges like, how to maintain quality at the manufacturing site to comply with global standards? & how to market in those markets using competitive intent?

With increasing global marketing, digital networking has become one of the tools to succeed. As a result healthcare providers are engaging themselves in digital networking and creating a way of life in a digital world through medico marketing as well as through digital marketing. Details of these two important tools are available in this Interlink Insight, which can perhaps guide companies to lead in the current Generic era.

Future medicine is the upcoming future of pharma. Hence business analytics to improve business performance with the help of IT and AI will be the need of this industry.

This Interlink Insight gives you direction to proceed with what you have like generics and how to embark on new dimensions like business analytics and future medicine.

Prevention and cure both are extremely important for chronic diseases as well as lifestyle diseases which open up a coexisting marketing land where nutrient health ingredients, dietary supplements and Nutraceuticals play a significant role. Can Nutraceuticals grow like OTC or only emotional messages are enough? Or with evolving consumers, it has become a necessity to grow this industry based on science. What is the future of all these different components is also available in this issue of Interlink Insight.

Wish you all pleasant reading and active search through Interlink Insight 2019!

Dr. R. B. Smarta
Managing Director

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