

Case Study:

Digitization and digitalization in pharmaceutical industry: opportunities and challenges in India

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Abstract

Digitization has become an indispensable function of business. Indian pharma is in infancy phase of digitization and digitalization. In the initial stages every sector and industry resist the changes initiated. But change is the law of life for betterment. There are many challenges facing the Indian pharma industry which is highly and intensively regulated by the Government of India. However, digitization and digitalization bring transparency, accuracy, increased productivity and cost effectiveness besides speeding up of services.

In this study, the Indian pharma sector is studied in terms of its growth, market size in relation to global figures and then the concept of digitization and digitalization in pharma is introduced and a small survey of the perceptions of medical representatives is undertaken and this is followed by a list of challenges.

Keywords: Digitization, Digitalization, Pharmaceuticals, E-commerce, Search Engine Marketing (SEM).

Introduction

Health is a crucial determinant in the global economic and social development. Pharmaceutical industry is one of major drivers in the process of economic development of India. Indian pharmaceutical industry includes branded drug manufacturers, generic drug manufacturers, biopharmaceutical products manufacturers, biosimilar manufacturers, non-prescription drug manufacturers and firms undertaking contract research. Besides, hospitals and research centers that play a role in R and D activities are also contributors to the growth of pharmaceutical industry.

Healthcare is one of India's largest sectors - both in terms of revenue and employment. Healthcare includes hospitals, medical devices manufacturing and selling, clinical trials and tests, outsourcing businesses, telemedicine, medical tourism, health insurance and medical equipment businesses. The Indian healthcare sector is growing at a vigorous pace due to increasing expenditure by public and private players.

Historical background of pharma industry

The origin of the earlier drugstores goes back to the middle ages. The first pharmacy (drugstore) was opened by Arabian pharmacists in Baghdad in 774AD by a pharmacist named

Isaac Abu Quraysh and very soon pharmacies started operating throughout the medieval Islamic world and in due course medieval Europe. Many of the drug stores in Europe and North America had gradually developed into larger pharmaceutical companies by the 19th century.

Bengal Chemical and Pharmaceutical Works started in Calcutta in 1910 to produce pharmaceutical products followed by Alembic Chemicals in Baroda. Gradually King Institute of Preventive Medicine, Chennai, Tamil Nadu State, Central Drug Research Institute, Kasauli, Himachal Pradesh, Pasteur Institute of India, Coonoor, in Nilgiris, Tamil Nadu also came into existence. Due to new therapeutic developments in the western world, the old drugs were replaced by the new drugs in the categories of antimicrobials, cardiovascular drugs, antimalarials and hormone balancing drugs to name a few. The local drugs that were made with indigenous raw materials were replaced and invariably the import of bulk drugs has become inevitable.

The Stages of Growth

The Indian pharmaceutical industry had undergone four stages of growth. Brief description of the stages is presented here.

- a) **Phase 1 till 1970:** Known for foreign companies domination and absence of Indian pharma companies
- b) **Phase 2 1970-80:** Government initiated the controlling measures through Indian Patent Act 1970, fixing maximum price and slow emergence of local manufacturing companies.
- c) **Phase 3 1980-1990:** In this phase local manufacturers started developing cost effective indigenous processes with support of infrastructural facilities and incentives to export.
- d) **Phase 4 1990-2000:** In this period there has been a radical growth due to rapid expansion of domestic market, good acceptance from international markets and research orientation by the domestic manufacturers with the support of government incentives.
- e) **Phase 5 2000-2010:** In this period more importance was given for innovation and research and development, new intellectual property Law and discovery research.

All the phases explained are depicted in figure 1.

Indian pharma in relation to global pharma revenue and the values of Indian pharma exports measured in USD billion are presented from 2008 to 2017 in table 1. The respective trend percentages are also computed.

It is observed that almost half of the volumes of Indian pharma are being exported. The growth rate in Indian pharma exports is far greater than that of revenues in India and of the world revealing that there is a great potential for the Indian pharma to grow further and further.

Factors driving growth of the Pharma market

The following are the growth drivers in Indian pharma market:

a) Population growth: India's population is expected to grow over 1.5 billion by 2026. Presently we have an average of 9 beds per 10,000 persons which is much lower than the global median of 24 beds per 10,000 persons. This hints a huge growth opportunity for the healthcare delivery market in India.

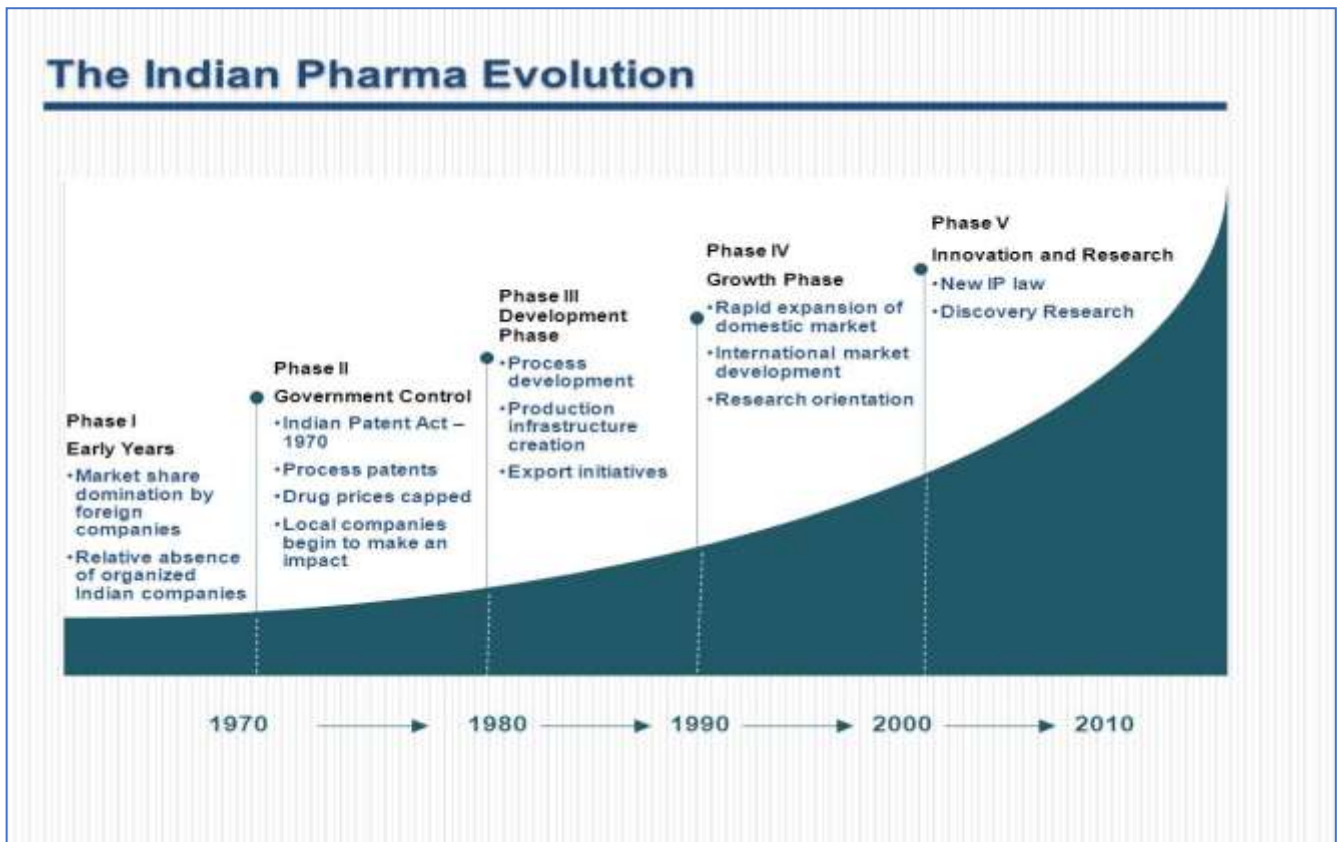


Figure 1: Indian Pharmaceutical Evolution; Source: The Central Drugs Standard Control Organization (CDSCO)

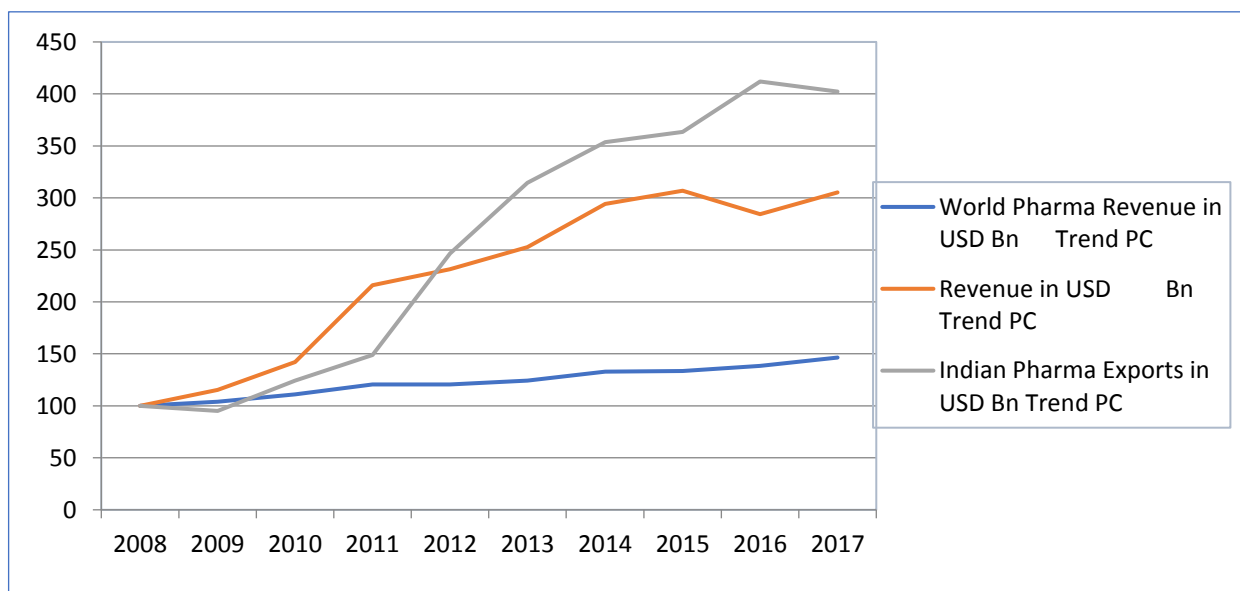


Figure 2: Global Vs Indian Pharma Revenue - Indian Pharma Exports - Trend PCs
Source: Market size of the Pharmaceutical Industry in India and Globally (Statista, 2017)

Table 1
Global and Indian Pharma Revenue – Indian Exports – Trend Percentages

Year	World Pharma Revenue in USD Bn	World Pharma Revenue in USD Bn Trend PC	Indian Pharma Revenue in USD Bn	Indian Pharma Revenue in USD Bn Trend PC	Indian Pharma Exports in USD Bn	Indian Pharma Exports in USD Bn Trend PC
2008	799	100	9.7	100	4.1	100
2009	830.6	103.95	11.2	115.46	3.9	95.12
2010	888.2	111.16	13.8	142.27	5.1	124.39
2011	963.2	120.55	20.95	215.98	6.1	148.78
2012	964.4	120.70	22.46	231.55	10.1	246.34
2013	993.1	124.29	24.52	252.78	12.9	314.63
2014	1062.1	132.93	28.53	294.12	14.5	353.66
2015	1067.2	133.57	29.77	306.91	14.9	363.41
2016	1105.2	138.32	27.57	284.23	16.89	411.95
2017	1170	146.43	29.61	305.26	16.49	402.20

Source: <https://www.ibef.org/industry/indian-pharmaceuticals>.

b) Increased life expectancy demands for more health care: Present we have around 8% of the population with above 60 years of age but due to enhanced life expectancy, the proportion of population aged over 60 years is expected to increase to over 12 per cent by 2026. Further this implies that there will be more demand for health care delivery services.

c) Rising income levels demand is high quality healthcare services: Healthcare expenditure is non-discretionary in nature. More the quality of health care, more will be the cost which is unaffordable to a major chunk of the population of India. Upper middle-income group population is growing and so are their income levels. This will lead to an increased demand for high-quality healthcare facilities.

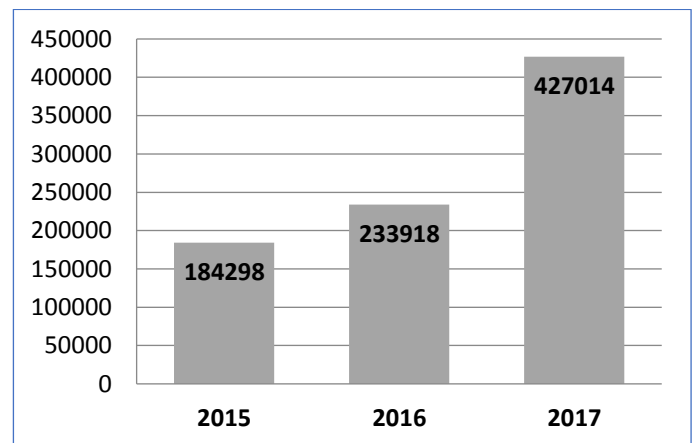
d) Increasing health awareness: Rising literacy levels will increase awareness on preventive and curative healthcare and hence increase in the demand for healthcare delivery services will take place. CRISIL expects based on their forecast, a minimum 5% incremental increase in demand for in-patient treatments.

e) Demand for lifestyle diseases related healthcare services: Lifestyle related illnesses such as cardiac ailments, oncology, diabetes etc. have been increasing rapidly in India over the last few years. Lifestyle illnesses exhibit a tendency to increase with the rise in income levels, food habits (consuming junk foods, bakery items and eating spicy food etc.) and certain professions (like continuous sitting jobs for example, software professionals).

f) Increase in health insurance coverage: In India health insurance penetration is less than 5%. More than 86% of health care expenditure is out-of-pocket expenses. WHO (World Health Organization) has also observed the same. However, whether it is through insurance or personal expense, the demand is increasing. Government sponsored

insurance schemes are increasing which is stimulating demand for health care services.

g) Increase in medical tourism: Medical tourism is a key growth sector for India and our country is treated one of the destinations of medical tourism due to lower cost of treatment in comparison to the developed nations. In fact, the numbers of medical tourists have been increasing every year.



Source: <https://travtalkingindia.com>

Figure 3: Tourists on Medical Visa

The fact that India offers advanced medical facilities in critical areas such as cardiology, joint replacement, orthopedics, ophthalmology, organ transplants and urology adds to its competitive advantage (www.assochem.org). The cost of healthcare is very high in advanced nations and the same is relatively low in India. Hence India has become an attractive destination for medical tourism. Medical tourism is projected to be worth \$ 9 Bn by 2020 and become 20% of the global market share by end of 2020.

The drivers for the growth of global and Indian pharma include; growing and ageing of population of the developed

nations, increased health care spend in India, rise of middle class income, emergence of lifestyle disorders, increased investments; domestic and FDIs and Government initiatives in the form of control measures for the betterment of society.

The need of pharma digitization

Traditional sales model needs a paradigm transformation. The traditional model had focus on sales organizations, field salesforce, physical promotion, territory designing and planning etc. Salesforce plays crucial role in marketing and selling the pharma products. Research and development departments of pharma companies have been inventing new and specialty drugs, hence new brands are added with additional marketing force resulting in the vertical growth of sales organization finally leading to delayed decision making and reduction in quality of sales calls whereas on the other hand, digital economy is changing expectations of physicians as well as patients. The modern physicians (doctors who are tech-savvy) make use of technology for everything such as health care information and other crucial thing they use digital devices.

According to a study by Health Link Dimension 2 in 2016, it was found that hardly 11% of the health care professionals prefer in-person visits of salesforce. Nowadays patients also are very cautious and inclined to learn medical knowledge online and not to depend on ‘only physician’s decision-making’. Due to technology, the competitive environment of pharma market is getting more sensitive and transformed to favor the patients and medical professionals. Unless the existing and old pharma sellers adopt new technologies, the

new players may take advantage over them by providing information platforms, analytics, e-consultation services and access to online medicines to customers. This change from the traditional to the digital era would threaten the old school of thought pharma sellers and organizations in India.

Research Methodology

The research methodology for the study is described as follows:

a) Objectives of the study: The objectives of the study are as follows:

- To study the pharmaceuticals market size and its growth in India
- To study the scope of digitization in pharmaceuticals.
- To outline the opportunities of digitization of Indian Pharmaceuticals selling
- To list out the challenges of digitization of Indian Pharmaceuticals selling
- To prescribe strategies to resolve and convert the challenges into opportunities

b) Sample size: The respondents for the study are medical representatives of different pharma companies. The study was carried out in Bangalore city and the sample size of respondents was taken as 50 and selection of the respondents was done carefully to cover their profile factors sufficiently.

Medical Representatives	50
Total Sample Size (N)	50

Traditional Model of Pharma Selling	Digital Model of Pharma Selling
<p>Advantages:</p> <ul style="list-style-type: none"> • Tried and true • Personalized services • Locally oriented • Convenience • Built on face-to-face interactions to understand potential customers • Engagement 	<p>Advantages:</p> <ul style="list-style-type: none"> • No geographical limits • Very scalable • More Transparency • Short business development cycles • Easy to measure project result • Trustworthy • Lower cost • Easy to deal • Relevant
<p>Disadvantages:</p> <ul style="list-style-type: none"> • Less geographic regions coverage • Very limited access to distant markets • More man-power • Long business development cycles • Hard to scale and measure project results • New digital players threats • Busy physicians • More knowledgeable patients 	<p>Disadvantages:</p> <ul style="list-style-type: none"> • Diverse groups to deal • Specialized treatments • Global reach is to global competition • More and latest technologies to be used • No local orientation • No face-to-face contact with the prospect • More time to invest to succeed

Sources: <https://www.mckinsey.com/in> and www.ey.com

Figure 4: Distinction between Traditional and Digital selling Methods

c) Sampling Tool: Simple random sampling tool is used to choose the medical representatives. To interact with the representatives, a personal visit was made to different medical shops run in Madiwala, BTM Layout, Jayanagar, JP Nagar areas. The names of the medical representatives and medical shops are kept confidential. The details of medical representatives are collected from medical shops and visiting the representatives' place of work or the location and thus the data is collected.

d) Questionnaire administration and Field work: A simple questionnaire is prepared as per the objectives of the research and administered in the doctors' convenient time and collected data. Similarly, the medical representatives are met at clinics, hospitals and medical shops and interacted upon for the collection of data. Proper care was taken while interacting with the respondents to ensure that all questions are answered by them and hence there was no rejection of the filled in questionnaire from the samples.

e) Classification and Tabulation of data: The collected data is classified based on profile factors such as i) age in years, ii) experience in brand or product mgmt., iii) number of brands or products managed and iv) number of pharma companies worked and the objectives of the study. Accordingly, the data is tabulated to meet the objectives of the study.

f) Statistical tools used: The tabulated data is analyzed with the help of appropriate statistical tools such as percentages and graphical representation.

Research Results

The findings of the study are presented as follows:

a) Profile of the respondents: The profile of the respondents is presented in table 2:

As per the table 2, it is observed that:

- 80% of the respondents are in the age group of 36-45 years followed by 12% (25-35 years) and 8% (above 46 years).
- 64% of the respondents are with 7 to 10 years of brand/product experience followed by 24% with 1-6 years and only 4% for more than 10 years' experience.
- 76% of the respondents are experienced in managing 3 to 5 brands/products followed by 16% with 1-2 brands/products and 8% found to experience with more than 5 brands/products.
- 68% of the respondents are having work experience with 3-5 pharma companies followed by 24% with 1-2 pharma companies and only 8 % found to have worked in 6-9 companies.

This implies that a major chunk of the respondents of the sample is in 36-45 years of age having 7 to 10 years

brand/product experience, having managed 3 to 5 brands/products and worked in 3 to 5 pharma companies.

Table 2
Profile of the respondents

Demographic Factor	N	Percentage
Age		
25-35	6	12
36-45	40	80
46-60	4	8
Total	50	100
Exp in Brand/Product Mgmt (years)		
0-1	4	8
1-6	12	24
7-10	32	64
>10 years	2	4
Total	50	100
Number of Brands/Products Managed		
1-2	8	16
3-5	38	76
>5	4	8
Total	50	100
Number Pharma companies worked		
1-2	12	24
3-5	34	68
6-9	4	8
Total	50	100

b) Perception of the respondents on digital selling of pharmaceuticals: Perception of the respondents on digital selling of pharmaceuticals is presented in table 3.

As per the table, it is revealed that 'capturing customer insights by increasing his/her involvement' is opted by 54% of the respondents followed by designing interactive applications (24%), treated as customer engagement platform (16%) and 6% of the respondents have said that digitization is used to incorporate promotional inputs. This implies that 78% (54+24) of the respondents perceived that digital selling is for customer insights and interactive applications.

Table 3
Perception of Respondents on concept of Digital Selling

Digital Selling is.....	N = 50	Percentage
a) About capturing customer insights by increasing the customer involvement	27	54
b) Designing interactive applications	12	24
c) Customer engagement platform	8	16
d) Digitizing promotional inputs	3	6
Total	50	100

c) Popular Digital Channels – Perception of the Respondents: The popular digital channels perceived by the respondents are presented in table 4.

As per the table 4, the respondents have observed that E commerce is identified as a popular digital channel followed by web conferencing, email marketing, search engine marketing and social media.

Table 4
Popular digital Channels felt by the respondents

Popular digital channels	N = 50	Percentage
a) E commerce	18	36
b) Web Conferencing	17	34
c) E mail marketing	16	32
d) Search Engine Marketing -SEM	14	28
e) Social Media	12	24
f) Others if any	0	0
Total	50	100

Note: The respondents have chosen more than one option, hence total exceeded N

d) Motives/Benefits of digitization in pharma selling-perceived by the respondents: Motives/Benefits of digitization in pharma selling- perceived by the respondents are depicted in table 5.

As per table 5, cost effectiveness is perceived to be the top most motive (96% of the respondents) followed by leveling online play field (64%), catering to mobile consumer (62%), better ROI on Marketing investments(52%) and interaction with the target customers (50%) etc. considering 50% as cut off.

Bayo-Moriones and Lera-López¹ have listed out the advantages of digitization from the perspective of consumers such as: product diversity, cost reduction, competitive pricing, wide product selection, richer and participative information, convenience and efficiency. Further they opined that social networking is a platform to take opinions of others on a particular product or service which is a critical factor being considered nowadays. Berthon et al² also supported by saying ‘peer judgments’ are weighted more rather than company promotions. Urban India consumes digital media very high and its rate of consumption has been rapidly increasing. The rural India is not too far behind and is also picking up. However, the specialists in digital technologies have observed the following challenges to overcome and achieve the Digital India:

Digitization of pharma selling – challenges

a) Digital is not central to business strategy: Majority of the companies in India have not taken the concept in full and not made it a central part of the business strategy.

Table 5
Motives/Benefits of digitization in pharma selling-perceived by the respondents

Motives/Benefits	N = 50	Percentage	Rank
1) More Cost-Effective than Traditional Selling	48	96	1
2) Levels the Online Playing Field	32	64	2
3) Caters to the Mobile Consumer	31	62	3
4) Provides better ROI for Your Marketing Investments	26	52	4
5) Facilitates Interaction with Targeted Audiences	25	50	5
6) Builds Brand Reputation	24	48	6
7) Earns People’s Trust	24	48	6
8) Delivers Conversion	23	46	8
9) Helps Generate Better Revenues	22	44	9
10) Ready for the Internet of Things (IoT)	13	26	10
11) Entices People to Take Favorable Action	12	24	11
12) Ensures Business Survival Online	10	20	12
Total	50	100	-

Note: The respondents have chosen more than one option, hence total exceed 50

b) Resistance to Change: Whenever there is a proposal for a change, normally people who have been working for years in a given style will resist. Majority of the people who are working in pharma companies are resisting by attributing many reasons.

c) Organizational Silos: Traditionally managed firms, family businesses and businesses led by autocratic leaders will have organizational silos and they do not go for sudden and significant changes.

d) Regulatory Risks: Indian pharma is being operated under stringent regulatory systems. Proper evaluation from all angles is essential and it requires time to execute properly for the benefit of the consumers.

e) Lack of authentic and adequate data: Indian pharma formulations data, clinical experimented data all these are the business secrets of respective companies. No company comes forward to share because of digitization.

f) Psychology of health care professionals: Majority of Indian doctors resist being transparent. They want medical representatives come to their hospitals and wait for longer hours, expect gifts and so on.

g) Patients cost consciousness: Patients are very much cost conscious. More than 80% of health care expenditure is out-of-pocket of the patients. Hardly 5% of the population of India goes for health insurance. People in India feel that digitization is costly. People feel doubt about quality of medicines bought online.

Recently there was news on a TV channel showing that the expired medicines are repacked in a new packaging by changing the expiry date and selling online.

Conclusion

Adoption of digital marketing or selling still is in infancy stage in the Indian pharmaceutical industry. Product and brand managers are looking forward to having a digital strategy core to their business and corporate strategy. Soon, Pharma Digital Marketing in India will become the core of marketing campaigns and the pharma marketing will be covered by different digital channels like media, messaging, web, mobile and social network. The pharma companies need to leverage the available opportunities strategically and avoid certain threats and pitfalls that may hinder their progress. Companies need to have proper vision for the implementation of digital marketing. So, time to move on!

What is going to reshape pharmaceutical marketing in the years to come as new tech trends and breakthroughs become available to embrace.

1. Companies need to have proper vision for the implementation of Pharma Digitization.
2. Companies need to integrate Pharma Digitization into the current marketing strategies.
3. Companies should consider the future of Pharma Digital applications and not just focus on its applications for the present.
4. Companies need to understand the regulatory and legal boundaries and limit the Pharma Digital strategies within those limits.

Assuming all these will be considered in the days to come the patient will get all facilities in healthcare at his doorstep with one click.

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