

Animal Healthcare Industry in India: Trends and Challenges

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Abstract—Animal husbandry forms an integral part of the Indian economy alongside agriculture, making it arguably one of the oldest industries known to mankind. The country boasts of occupying the top spot in milk production, and has the largest livestock population of around 512 million. All this is indicative of the immense opportunities that lie in the veterinary sector of the country. But being such a growth driving sector of the economy the Indian animal healthcare industry is not getting the proper attention. This paper provides an overview of the current trends in animal healthcare Industry in India covering the different segments of animal husbandry that includes livestock, poultry, companion animals and other animals. The study also tries to identify the challenges before the industry starting from low level of awareness to treatment, nutrition, scientific management and productivity. The research has great implications for government policy makers, researcher and the Indian pharmaceutical firms to take strategic decisions for growth.

Keywords: Animal healthcare industry, pharmaceuticals, farmers, livestock, poultry.

1. INTRODUCTION

The Veterinary sector has huge impact on the animal husbandry business and on the Indian economy. Few realize that the term Animal Husbandry refers to a branch of agriculture, making it arguably one of the oldest industry known to mankind. After all, early civilization was essentially farm based, and besides growing crops, families reared cattle, sheep, goats, poultry, pigs, etc., not just for their domestic use but also for trading with others. Sadly, this potential has not been tapped well. And, therein lies the opportunity for Veterinary firms in India. But this is fast changing. From the early days when veterinary products were an add-on business to the main-line pharmaceutical portfolio, it has emerged in its own right with stand-alone, specialised firms charting out their own destiny. This makes sense given the vast market waiting to be served with latest, research based products. Their record of acceptance of global practices has been uneven across industry players & skewed at best. The rate of change can be much faster and can lead to multiplier benefits to the economy & customers. Other issues of concern include lack of penetration of modern veterinary care and unscrupulous unorganized sector activities. Given the vast spread of India's

rural population, and the fact that modern animal husbandry concepts are not uniformly present, the industry still has long strides to make. The reach of modern veterinary care is indeed limited with market penetration impacted both by cost of distribution & price of modern medical care, apart from knowledge gaps in customers.

2. OBJECTIVES

1. To study the current trends in animal healthcare Industry in India.
2. To find the potentials and trends in the different segments of animal husbandry that includes livestock, poultry, companion animals and other animals
3. To know the real business challenges before the animal health industry starting from low level of awareness to treatment, scientific management
4. To prepare a suggestive roadmap for growth of the Animal Healthcare sector in Indian.

3. REVIEW OF LITERATURE

The main goal of this paper is to address the gaps by studying in depth the research articles from different journals and conferences on the topic. A considerable work has been done on animal husbandry on various fields like dairy production, dairy marketing, dairy enterprises, livestock composition, livestock composition and fodder demand, livestock production and development, livestock economy, livestock in mountain and hills, mixed farming, trade of livestock products, women participation, breeding technology, marketing and management, animal feed, meat production, farms model, broiler production and problems and prospects have been largely undertaken by these scientists of different fields from different universities and institutions. Later on researchers felt the need and importance of livestock husbandry and started the work seriously. After 1970's it speeded up with the introduction of white revolution i.e. Operation Flood First. Halstead, P. (1996) focussed on the need to consider the full

range of recent models of animal husbandry and suggested. To making livestock user-friendly, so that the developing countries/regions can export more livestock and livestock products to the developed countries and other developing regions without risking human or animal health, efforts are progressing to clarify international standards for livestock trade (Catley, A. 2008). In order to compete in the world market it is 29 necessary to look at the bacteriological and hygienic quality of raw milk and find ways and means to improve, right from the point of milk production in the village upto consumption point (Patil, G. R.2003) Committee on Agriculture (2005), addressed the ways in which globalization is changing the livestock sector and affect the small scale livestock producers, traders and processors of developing countries. It further concluded that globalization of livestock markets is a deriving factor for changing the livestock sector. In doing so it summarized the evidences to examine the impacts of market changes on society, the environment and public health and proposed a framework to assist member nations in balancing the positive and negative impacts of globalization on the livestock sector. Khan, et al. (2006) tried to find the behaviour of livestock marketing in agriculturally developed area of India. Socio-Economic variables affecting the marketing process of the livestock have been also taken into consideration. He concluded that the livestock marketing system is very rudimentary and the transaction is spatio-temporal and socio-economic motivated in the study area Aligarh district, India. Meat production was discussed by Kulkami .

4. RESEARCH METHODOLOGY

To investigate about the trends and the problems of animal healthcare industry, interview methods used among practising veterinarian and paravets from different places, Relevant sources of publications were identified regarding development in the field. The Data taken from the internet, literature, annual reports and manuals, journals, newspapers, articles, magazines published at national and international level are also referred for the purpose.

5. ANIMAL HUSBANDRY IN INDIA

The animal healthcare industry plays a pivotal role in the Indian economy. The animal healthcare industry in India serves dairy, poultry, companion animals and the aquaculture segments with dairy, poultry and aquaculture contributing to the protein requirements of the country while the companion animal segment caters to the well-being of dogs and cats. We consider ourselves as an integral part of the food chain ensuring safe and nutritious supply of animal proteins through milk, eggs and meat. India is the largest producer of milk in the world by virtue of its animal population but per animal productivity is one of the lowest in the world. Census figures from 2012 indicate that India is the world's highest livestock owner at over 512.05 million, including the highest buffalo population (over 105.3 million); the second largest population

of cattle and goats (over 140.5 million); the third largest sheep population (over 72 million), etc. While the most well-known fact of India's farm sector is that India is the world's largest milk producer (over 150 million tonnes, about 19% of the world's production) a lesser known fact is that India also is the second largest poultry market in the world (production of over 63 billion eggs and over 650 million poultry meat). All these figures indicate one reality: there is vast scope for animal healthcare business in India The poultry industry is well organized and growing fast due to the high acceptance of chicken and eggs. The size of the industry would be approximately US\$ 1 billion and growing at 7-8% per annum and has both Indian and multinationals operating in the market. The regulations are similar to human pharmaceutical products so there is no difference in quality standards.

6. CURRENT TRENDS IN INDIAN ANIMAL HEALTH CARE

Coupled with this is the reality of the urban segment of customers who now generously lavish attention & money on their pets and who are willing to pay any amount on vaccines & medicines apart from grooming products. Consequently, some reports indicate there are over 50 firms operating in this sector fighting for ever larger slices of the market which is currently estimated to have a size of Rs. 6,000 crores for the Indian animal healthcare industry, broadly comprising of livestock (50%), poultry (40%), companion animals (5%) and other animals (5%). While the industry is in a growth phase, some challenges remain to be tackled. While the dairy & poultry sectors have become significant contributors to India's GDP, their productivity remains a major issue for tackling.

In India, all major multinationals operate in the animal healthcare sector and bring in new technology at the same time as the global launch particularly in poultry and companion animals. In dairy, though new solutions are launched but due to access and low awareness, it is usually slow to take-off. The poultry sector has adopted cutting edge technology in vaccines with automation for vaccination coupled with improved feed formulation and genetic improvements. With this, the production efficiency has gone up by several notches. The same is true for the companion animal business - new product introduction and focus on balanced nutrition have helped more pet owners to become compassionate pet owners. In the dairy sector, the awareness about clean and healthy milk has led to an increase in packaged milk consumption. This helps the dairy farmer to focus on producing good quality milk to get better realization enabling him to use good quality products for dairy management.

In the recent past, there are various initiatives by different companies to educate customers on best practices across the world, be it general management, nutrition, disease management, productivity enhancement, reproduction, etc. Poultry has been a fast adopter of global practices with new

technologies due to the organized nature of the industry. Disease identification up to the causative agent level and specific treatment options are being practiced. Remote diagnostic, hatchery vaccination and complete bio security solutions are some of the best practices which have been adopted in India in the recent past. In dairy, dry cow mastitis and calf management are areas coming in from global best practices.

The last few decades have also witnessed sudden crisis in the animal care sector (with Avian flu, SARS, etc.) causing both global & sporadic local panic. While adversely impacting the business of the farmers, this has also spiked veterinary sales and led to greater awareness for preventive care including vaccines. New products from the R&D stables of the larger firms will definitely be advantageous to the global firms but one hopes that Indian firms too can pluck some lessons from the playbook of Indian pharmaceutical firms and be bold enough to make sizeable investments with an eye to the future. Overall, the prognosis for the industry is certainly positive

India pet care industry advanced with a value CAGR of 23% during 2012-17 and its outlook for the forecast period remains bright. Dog food is the engine of pet care market in India and the category accounted for over 80% value share in 2017. Other pet product like pet toys, pet accessories etc. also saw strong CAGR growth of over 21% during 2012-17. Change in the urban lifestyle & consumption pattern coupled with rise in the disposable income has helped pet care market considerably.

7. VETERINARY PHARMACEUTICALS AND BIOLOGICALS

A wide range of veterinary pharmaceuticals and biologicals are produced in the country. The pharmaceuticals industry is mainly in the private sector, while the production of biologicals (vaccines) is shared by the Public and Private Sector. The total number of manufacturing units for pharmaceuticals are many—a large number of them in the small scale sector. Modernization is urgently needed, both for equipment and skills. Some of the production units however have excellent, state of the art, facilities, and can serve as models for others. Veterinary vaccines and biologicals products are manufactured in India primarily by the Government institutions, both central and state. There are now 29 biological production units – 22 in the government sector, 7 in the private sector. 21 viral vaccines 14 bacterial vaccines and 13 diagnostic reagents are now produced in the country. Most of the government units are owned and operated by state governments. Each state institute is trying to produce all the requirements of the state for all the diseases. Among them there is no product specific specialization or a common product policy. Most of the state owned units barring a few are ill equipped and do not have adequately trained staff. In most of the units the technologies used and skills available are out dated. In the private sector most of the units are owned by

larger companies and have modern and up to date facilities and skills. Those in the small scale sector are often ill equipped and ill conceived. But, quality assurance and quality control both in the public and private sector leaves much to be desired.

The major player in the industry – Glaxo (now virbacc) accounts for approximately 10 percent of the market due to its strong presence in the poultry and cattle segments. This is followed by Zydus, Intervet etc. The top ten companies account for more than 60 percent of the market. Competition is intense not by the number of companies in the market, but more due to the fact that most of these companies have competing “me-too” products. The two major FMD vaccine manufacturing companies- M/s. Indian Immunologicals Limited and M/s. Intervet are ranked among the first five companies in the Industry. Biologicals contributed more than 15 percent of the total revenue of the AH Industry during the year 2003-04. In fact the biological segment has witnessed the fastest growth during the last one decade with more than 50 percent contribution coming from the commercial poultry sector. In cattle segment the FMD vaccine continues to be the biggest revenue earner with a contribution of more than 30 percent. The introduction and implementation of FMD-Disease Free Zones concept in the country and continued support to States under ASCAD programme by the Central Govt. has helped expanding this market. Anti-infectives: These constitute the biggest therapeutic segment—28 percent, of the Indian Animal Health Industry. Poor level of farm hygiene and sanitary conditions coupled with traditional husbandry practices amongst the farmers across the country usually results in a number of diseases amongst their livestock due to high bacterial count. The therapeutic use of use of anti-infectives therefore, is widespread in all the sectors - Cattle, Poultry, Sheep and Goats amongst farmers. The anti-infectives’ market in Cattle & Sheep/ Goat segment is dominated by the use of Strepto pencillins and Tetracycline’s. Zydus’s DCR (Dicrystacin) is the leading brands in this segment followed by Moxel (Amoxycillin+Cloxacillin) from Alembic. The use of 3rd and 4th generation cephalosporins is not yet widespread and is limited to treating specific infections like mastitis etc. Quinolones: Enrofloxacin and P-Floxacin are the most popular antibiotics being used in Poultry sector. The existing scenario offers a good opportunity and scientific rationale for one to come out with a new generation broadspectrum injectable antibiotic for use in Cattle. Marbofloxacin (a quinolone) and cefquinome (a 4th generation cephalosporins) can be the best alternatives fitting in to the current market requirements. Similarly for fast growing canine segment, a combination of (Amoxicillin + Clavulanic acid) can be an antibiotic of choice. The Indian Animal Health Market is essentially a dairy oriented market. The main focus in cattle rearing continues to be getting the more productivity from animals in form of milk. Mastitis in milch animals continues to be one of the major diseases of livestock

8. CHALLENGES IN ANIMAL HEALTHCARE

Competition and profitability

Market efficiency result is also contingent on there being adequate competition in the market which, in turn, derives from the assumption of multiple service providers and users in the market. Private services have been shown to generally work well in high potential high-density areas where farmers are relatively wealthier and more educated. But, in a large number of poor marginal areas, aggregate demand often falls short of the level required to sustain profitable private veterinary practice both due to the subsistence nature of production system resulting in poor willingness of the farmers to pay for the services and due to the high transactions costs of service delivery in these areas. This implies that conventional model to be upgraded and increasing farmers income is a key challenge for growth.

Economies of scale

Some of the animal health services such as veterinary research and extension, diagnostic services and the delivery of clinical services in remote areas require high fixed costs. This can act as a deterrent for the private sector to undertake the delivery of these services until they can achieve significant scale to make the delivery of these services profitable.

Ethno veterinary practices

This methods are often used inn animal treatment but very localised the scope for their further dissemination. Cures are variable in their effectiveness Ruminants according to season, method of preparation etc.

Highly fragmented Indian dairy market

With an average farm size of 3-5 animals as backyard farming. Though India has good veterinary infrastructure, access and awareness are the major issues in the dairy segment as is represented by per capita expenditure on animal healthcare in India. Poultry is more organized but has high disease challenges leading to high mortality and uncertain producer profitability. The companion animal segment is small but growing fast but will take its own time to reach a critical mass as spending on pet dogs is still very low

High Potential Area Identification

Such areas can be identified based on high density of large ruminants, concentration of crossbred animals, relatively progressive agriculture, lower poverty incidence, better general infrastructure, and easier access to markets due to their proximity to the main urban centers. Given these characteristics, these areas can support private delivery of curative veterinary services

Awareness and Training need

Awareness is required at farmers level towards bwttter nutioon and treatment . The companies' low level of automation in current situation required specialist staffs and research in that area is lacking. As the pharma sector becoming ready towards implementation of industry 4.0 huge trained manpower also required to in related areas currently not available.

Require Huge Investment

The main obstacles cited included high investment requirements for modernisation and machineries as well as in effective plant layout for smart factory. Indian animal Healthcare companies are not ready for the huge investment required for infrastructure and technology update to adapt healthcare

9. DISCUSSION

As this study find the gap in research in this domain and to explore the opportunities and challenges lies in animal health care sector.. The animal healthcare market is very slow growing in totality, but it found that poultry market is growing in a faster rate followed by companion business though the volume is very low. pets in India has increased substantially over the past decade and this has contributed towards increased demand of pet care products. High growth potential has attracted more investments and many pet start ups. There is a good market and scope for introduction of a Animal Health for Poverty Alleviation but the challenges found that low level of awareness among farmers, low income of farmers, Less investment, modernisation and training by corporate and proper area potential mappings like many other issues are the key future driving factors.

10. SUGGESTIONS

- 1.Promotion of ethical practices, and enhance animal health industries contribution and value in the society.
- 2.proper pricing for farmers and their awareness about controlling diseases, provide effective treatment and improving productivity of animals.
- 3, Establishing standard laboratories and preparations to be used as reference materials in biological assays and the industry needs to be addressed more efficiently and effectively by veterinary professionals.
- 4.A collective scientific approach by manufacturers, distributors ,government purchase as per with nessecities. Recommending licensing of manufacturers of veterinary vaccines, biologicals, drugs, diagnostics and other animal health preparations in the country.

11. CONCLUSION

In India the success of Animal Healthcare Industry depends on numerous factors and different dimensions. a major competitive advantage over global competitors in economy. But first and foremost we need to have the essence of speed in order to capture this opportunity. The challenges of production efficiency, treatment accuracy, and the interoperability of the system Current and future **India veterinary healthcare market** outlook in the developed and emerging markets. Analyzing various perspectives of the market with the help of Porter's five forces analysis The segment that is expected to dominate the market of innovative veterinary technology helped in enhancing the performance of this sector. The industry's growth journey can only be upward. The growing consolidation & professionalization of the dairy, poultry, piggery & other related sectors (coupled with the government's professed aim of doubling farm income), and the emergence of the pet-loving urban class, only spells good times for the vet care business. The change of focus by the animal husbandry farmer from treatment to prevention not only aids productivity improvements but also ensures steady growth for the animal health business. Most of the public sector units do not follow good manufacturing practices and the private sector, barring a few units, often cuts short the procedures to avoid expensive quality control procedures. Continued presence of public sector units in vaccine manufacture results in wasteful utilization of resources while raising costs of vaccine production due to poor economies of scale and unnecessary public sector overheads. Given the private sector capacity in vaccine production, there does not appear to be any logic for the state governments to continue to engage in the manufacturing of vaccines and biologicals. The government should therefore gradually move out of vaccine production and shift its own demand to private sources. Even in case of niche vaccines where aggregate demand may not be large enough to attract private sector investment, the government should evaluate the possibility of providing tax breaks and lump sum subsidies to encourage private sector vaccine manufacturing instead of continuing to engage in producing them.

The issue of Industry has a very little attention in India and these bottle necking's in the context of Indian animal healthcare industry, thus making it easier for future researches. This study opportunity for Foreign direct investment and Indian pharmaceutical companies to grow by indenting the latest developments, market shares, and strategies for the animal healthcare players. This paper has implications for both theoretical and managerial contribution towards animal health industry in India... And these identified challenges may help researchers and developers in the field with possible directions for the further research.

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