STUDY OF DIFFERENT DISTRIBUTION MODELS FOR INDUSTRIAL CONSUMABLES AND APPLICABILITY IN INDIA

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ABSTRACT

Industrial consumable products are the products which are generally consumed by an industrial organization but they are not used as raw material for final product. The switchgear manufacturers are generally multinational organizations and operate in almost all available markets and what differences the operations in various markets is the Distribution strategy as not only this plays a vital role in organizations efficiency to serve customers but also a critical success factor in organizational strategy and since The products are required by the industry to continuously run their operations and the need is random & difficult to predict hence the availability of these is critical for industries and hence the distribution network of these products becomes a critical success factor for the manufacturers of these products. The purpose of this paper is to analyse and understand the different distribution models adopted by organizations across the world and their applicability in different locations for factors related to the business as well as geography. The paper will also comments on the applicability of these models in India.

Paper Type: Literature Review

Research Methodology

This paper will be based on the current and historical literature review. The historical data of switchgear manufacturer’s distribution model approach and its evolution along with the research of various scholars has been referred as the data source for the same. This paper uses descriptive research methodology and the literatures reviewed projects global outlook as both Indian as well as international research work has been included in the review.

Findings

The findings of the paper suggest that a decentralized distribution network where the distributors are appointed at multiple locations and they cater to a smaller geography or a local industrial cluster and providing services as well as managing offer of complimentary products. Since the operating margins in India are lower hence a central distribution or company owned distribution system may not be the most effective one.

Limitations

The paper is based upon the available literature on the public domain data & websites of switchgear manufacturers along with the current and historical literature available on the internal portals and other online resources. The available resources have been used as secondary data for the paper and hence the future scope can be to extend the research as an empirical research by collecting primary data and drawing conclusion based on the data analysis.
Research Gap
Switchgear being a field of specialization, has limited manufacturers and the market size is also corresponding to the same hence there are very limited research papers which are focused on the switchgear market. Also, the entry of new players and the reconciliation they merge & acquisition in between existing players is also impacting the ever-evolving distribution model. The available literature & other publications may not be directly linked with then switchgear market but a bridge is been built between two so that the findings of one can be utilized in other without impacting the sanctity of the subject. The researchers of the paper have attempted to bridge the gap by discussions on available piece of information and how it relates to the achievement of desired results through the distribution model.

Literature Review
The literature review has been divided in to various parts where we will first explore briefly about the Industrial consumable products and later we will analyse the globally practised distribution model for this market and at last we will analyse impact and importance of those in context to the model widely used in India.

Industry & Industrial Consumable Products
Industries are defined as “Economic activity concerned with the processing of raw materials and manufacturing of goods in factories” (Oxford University Dictionary), in simple terms an Industry is an entity which converts raw material to a finished product, which can be sold in market. In order to process the raw material and to manufacture goods the industries install various machines which convert the raw material into finished products by processing, adding additional components, creating finished product & also packing them for transit as well as for final sales. Normally, these machines are capital investment and apart from regular maintenance, these machines does not require reoccurring expense however there are always some products or components which do not bring any value addition to the final products but are extremely critical for the safe and secured operations of these machines. Generally, these products are called the industrial consumables or industrial consumable products and can be used inside machine for maintenance or alongside machine for safety of installations & operating staff.

Specific definition of industrial consumable products is defined by Directorate General of Foreign Trade in India’s Exim Policy (Chapter 9, Clause 9.15) which mentions the This definition clarifies, that the products which are purchased by industries to ensure that their manufacturing operations are continued without any interruption and the same are consumed during the course of manufacturing goods are called industrial consumable products however we need to critically analyse the definition by Directorate General of Foreign Trade that these products do not form part of end product. Typically in an industrial set up the consumable products are fuel, lubricants, tools, electrical and mechanical protection devices, paints etc.

Electrical Consumable Products “Low Voltage Switchgear”
As per international directory of oxford university the term switchgear is defined as” switching equipment used in the transmission of electricity”. Collins English Dictionary gives a little more
elaborated definition and defines switchgear as any of several devices used for opening and closing electric circuits, especially those that pass high currents. Since switchgear is an engineering product hence a more accurate and technical definition can be gathered from the regulatory & governing body for switchgear (International Electrotechnical Commission).

As per IEC 60947 the definition of Switchgear is “generic term covering all low voltage switching devices and the possible combinations which can be derived including metering & protection devices. The assemblies including supports, enclosures and all other accessories which are intended to be used in generation, conversion, transmission & distribution of electric power”. While IEEMA (Indian Electrical and Electronics Manufacturers’ Association) defines it as “switchgear is the combinations of electrical disconnect switches, fuses or circuit breakers used to control, protect and isolate electrical devices” (https://ieema.org/division/mvhv-switchgear/)

Switchgear products are globally governed by multiple standard authorities or institutions like International Electrotechnical Commission (IEC) or Underwriters Laboratories (UL) or Canadian Standards Association (CSA) etc, these authorities or institutions are generally region or geography specific like IEC is a European standard body while CSA is for Canada and UL is more for North America region. In India the governing body is Bureau of Indian Standards (BIS) and in the year 2004 BIS agreed to adopt the IEC Standard for LV Switchgear (National Foreword - IS/IEC 60947-1 (2004)) which has resulted in adoption of the IEC standards for Indian as well as imported LV products getting sold & consumed in India.

Apart from the standard authority whose major contribution is setting up the guidelines for design and manufacturing of the products, India also has a national representation organization called Indian Electrical and Electronics Manufacturers Association (IEEMA), which works as an intermediary between switchgear industry and government. It also manages the reporting for various actions including production as well as import - export of Switchgear in India and as per IEEMA LV Division, Low voltage switchgear is one of the well-established industries in India. The estimated volume of the low voltage switchgear industry including the modular switches used for domestic applications world be almost INR. 11,050 Crore. This Industry covers Low Voltage switchgear products such as Air Circuit Breakers, Moulded Case Circuit Breakers, Miniature Circuit Breakers, Residual current devices, Fusegear products, H.R.C fuses, Thermal overload and protection relays, Contactors, Starters, Distribution boards and Factory- built assemblies. The industry caters to end-user segments such as manufacturing industries, buildings – residential and commercial, agriculture, infrastructure entities, utilities and OEMs. The low voltage switchgear represents 10.1% if the whole electrical market. (Source – IEEMA Divison LV Switchgear - https://ieema.org/division/lv-switchgear/)

With the increased production output from existing industrial set up & also a keen focus from Centre and State Governments on industrialization which includes initiatives like ‘Make in India’, the average consumption of consumables has increased in India and this growing trend means the sales for such products will see gradual rise in coming years as well. With each and every new installation the scope of consumables is also expanding and the need of having a network to serve these needs is also on a rise. The new entrants in India are also keen to take a share of this pie and the existing players are also fighting for the same and in order to be relevant in market. Since the market is competitive and consists of potential substitutes and complimentary products hence the business model of distribution makes it even more important.

Business Models of Industrial Products

Typically there are three kinds of distribution models prevailing in the industrial markets

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- Manufacturer owned & operated distribution model:
  Typically for very high value equipment or equipment which require extremely high level of application engineering, manufacturers prefer to have their own distribution network and the company employees manage the sales & service network, these kind of networks generally not feasible for consumable products as the revenue per product is extremely low and also the potential replacement concern via the competing products makes it a very competitive market where such operations are not economically viable.

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- Centralized / Exclusive or Master distributor model:
  For the markets where the average cost of skilled manpower is high and also the transactional margins are significant, this model works well. The primary reasons for this model to work are that manufacturers are focused on their expertise of manufacturing & services while the distribution companies exhibit their expertise of creating & managing the channel for the distribution of the product.
This generally has a fair share of margin for distributor as they have to spend significantly on creation & managing the secondary distribution setup. These distributors are typically one for the whole nation or large regional geography.

Decentralized / Scattered nation or geography wide distribution:
For the markets where the manpower is available in abundance and even the cost of skilled manpower is not significant it is physically more viable to have decentralized distribution model however it is not the only parameter for selection, for large geographies which require the representation at multiple locations and inventory as well as services are required at multiple clusters, this can be a useful model, since the cost of operations will be lower for distributor and they can operate at a lower margin than the above two cases. The selection is also dependent on nature of product and also the market practises in that specific geography.

Since the products which are in discussion are typically the consumables and have characteristics of potential replacement or complimentary goods so in a market of complimentary goods, where distribution costs exhibit economy of scale, its advisable to have multi brand distribution rather than single brand or exclusive distributor (Coughlan, Journal of Research in Marketing 4, p.85-97, 1987)

The selection of distribution model is also dependent upon the maturity of the market as the matured markets have a different characteristics then the markets which are not so matured (Designing channels of distribution, Harvard Business School, 1994), for mature markets the design seem more like the one below while for markets which are still in progression mode will have entirely different characteristics.

Large Customer Segment

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<tbody>
<tr>
<td>Seller's Current Channels</td>
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<tr>
<td>Competitor's Current Channels</td>
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</table>

**Electrical Consumables Distribution Business Models**

The end user or the consumer of the switchgear is always the industrial application where the product is used as industrial consumable however the route from the manufacturing facility of switchgear to the end user can be different in different countries.

The definition of this route is known as business model & this may include multiple agencies including the manufacturer and the consumer. Now, hypothetically if we can divide the markets or countries in terms of their size then we can have two categories where on one side we can have nations with relatively smaller geographical area (say, up to 500 thousand Sq KM) & on other side the nations which are larger than the criteria of 500 thousand Sq KM. With such demarcation we will have a list which will have similarities in their business models as well.

Typically the countries in Europe or other smaller geographies, the industrial installations are located in a specific part of that geography and generally the industries are found in clusters or industrial zones which are the major consumers of...
Switchgear hence for switchgear manufacturers the need for coverage is only for a small geography. Under such conditions it is viable for switchgear manufacturers to have a representative office in those industrial clusters and possible to have a warehouse also in those areas to serve the customers.

However in larger geographies (example – USA, China, India etc) there are multiple industrial clusters where every demography has its own specialisation towards industrial installation as well as towards the nature and need of industrial consumable products and that is the reason that in larger geographies the switchgear manufacturers decided to have the well spread network of distributors who represent the switchgear manufacturer in a pre-defined area or territory and cater to the local or regional industrial consumer product needs.

If we take India as an example then it has 8 large industrial regions (Source – Industrial Regions: 8 Major Industrial Regions of India by Smriti Chand - http://www.yourarticlelibrary.com/industries/industrial-regions-8-major-industrial-regions-of-india/14159):

- Mumbai-Pune Industrial Region
- The Hugli Industrial Region
- Bangalore-Tamil Nadu Industrial Region
- Gujarat Industrial Region
- Chotanagpur Industrial Region
- Vishakhapatnam-Guntur Industrial Region
- Gurgaon-Delhi-Meerut Industrial Region
- Kollam-Thiruvananthapuram Industrial Region

Apart from these 8 Industrial regions, India also has 13 Minor Industrial Regions.

**Minor Industrial Regions**

1. Ambala-Amritsar in Haryana-Punjab.
3. Indore-Dewas-Ujjain in Madhya Pradesh.
7. Middle Malabar in Kerala.
13. Brahmaputra Valley in Assam.

**Figure : 8 Major Industrial Regions of India.**
Now in order to cater all these locations it is essential to have local presence which is impossible for a manufacturer to have and manage, hence the industrial distributors are appointed in such areas that can cater to the regular and reoccurring requirements of industrial consumable products.

In order to validate the statements about the business model of leading switchgear manufacturers, I have taken the below three examples where all of the companies are originated from Europe (France & Germany) where they have the direct transaction business model (as the geographies are smaller in size) and having almost no distributors however their Indian operations consist of manufacturing locations, distributed warehousing arrangements & wide spread of distributors across India to cater to the needs of the industrial clusters. We have added the example of UAE where none of these have manufacturing base and the business is more about serving the local needs and still for a consortium of seven Emirates the number of distributors are much lesser than India as the concept of centralized distribution works well there. In the same contrast USA which consists of 50 states and works like a group of 50 independent legislatures & trade norms has similar number of distributors as in India as the nature of geography and presence of multiple industrial and user clusters exists there as well.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Company</th>
<th>Distributors in India</th>
<th>Distributors in UAE</th>
<th>Distributors in USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Schneider</td>
<td>599</td>
<td>41</td>
<td>592</td>
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<td>2</td>
<td>Hager</td>
<td>178</td>
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<td>3</td>
<td>Socomec</td>
<td>111</td>
<td>3</td>
<td>19</td>
</tr>
</tbody>
</table>

There are many more countries like Malaysia or Thailand or Maldives where the same central distribution works well because of the limited geography and only a few clusters of users however for a country like USA or India needs to have a decentralized and closer to user approach where not only product but associated services can also be made available.

There can always be exceptions in the theory and such exceptions like China where inspite of being significantly larger geography the approach is still centralized distribution model and only a handful companies manage the distribution either by their own outlets or by managing the secondary distribution while examples like Japan are also present where the geography is small but still a decentralized distribution model is adopted and it works well for Japan. With the mentioned explanation the selection factor is not a aritmathical formula but it’s a rather complicated method as something which works well at one country may not work well in another.

These examples also demonstrate that in a wide spread nation like India the Distribution Network is the only possibility to serve the customers and the typical model for the same would be as below, which integrates all the components of value chain:
Figure 6: Typical model of Value Chain / Influencers for Industrial Consumable Products Purchase.

**Findings & managerial implications**

On the basis of the literature review and distribution models adopted in industrial consumable products it can be suggested that the out of the three most common distribution model, India is a place where the decentralized distribution model suits the best as India is significantly large in geography and also has multiple industrial clusters where to maintain the customer service, provide delivery support and also to address potential case of complimentary products by offering alternate products. India being a large nation, the transportation and commute is also a time consuming as well as expensive exercise with a complex network of manufacturing and distribution hubs so it is advisable to have a local inventory partner in shape of a distributor to make it more effective. Financial aspects is also a critical factor as Indian distribution system operates at a single digit margin and as a result they may not have enough resources to spend on development of secondary distribution or provide any value addition to customer, their expertise is to execute a transaction and provide the required consumable or its alternate and under such financial situation their capability to invest in business development activity or dedicated marketing activities is also limited hence the work is well spread between manufacturer who takes care of manufacturing, quality, services and marketing while the distributor is a commercial entity managing only financial transactions.

**Limitations & future Research**

The paper is based upon the available literature on the websites of switchgear manufacturers and the current and historical literature available on the internal portals and other online resources and hence can be considered as secondary research only. The future research can be on one of the specific cases in form of a case study where we discuss and analyse each aspect of marketing actions in detail.

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