Growth drivers and enablers for the rubber products manufacturing industry

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Rubber products in our daily life:

Rubber in healthcare

Rubber in transportation

Rubber in construction

General rubber goods

Exploring the critical factors contributing to the sustainability of the rubber product manufacturing industry.

End uses of rubber

	%
Tyres	68
Latex products	8
Industrial rubber products	8
Footwear	5
Adhesives	3
Others	8

70-75% Tyres

10 -15% Non-tyres

Industrial rubber goods

General rubber goods

10-12% Latex products

IRRDB 2007

Types of rubber products

- **Latex-based products** –gloves, latex thread, catheters, condoms, foam products (mattresses, pillows, bolsters, cushions), carpet underlays, glue, teats and soothers , finger stalls, latex coated apparels, etc.

- **Tyres**– pneumatic, solid, retreaded.

- **Footwear** - boots, sports shoes, rubber-soled footwear, and footwear components (heels and soles).

Types of rubber products

- **Industrial rubber goods-** hoses, beltings, seals and O-rings, bridge and seismic bearings, engine mountings and cables, etc.

- **General rubber goods**– sports goods, rubberised fabric, rubber bands, hot water bottles, rubber rollers, rubber mats, etc.

Medical Rubber Products

Surgical and **examination gloves**,
Condoms,
Catheters,
Tubes for Infusion and Transfusion Set,
Caps/Tabs in injection port,
Rubber bladders
Breathing bags,
Prosthetics,
Implants and
Cushioning or supporting materials.

Industry	Rubber Products
Automotive industry (E-Vehicles)	New tyres, Retreaded tyres, hoses, seals and o-rings, noise and vibration isolators, wipers, cables
Aerospace industry	Same as above
Assembly industry	Conveyor beltings, oil hoses, gas hoses, rollers, vibration isolators, seals and O-rings
Medical industry	Medical gloves, condoms, catheters, canopy, tubing, implants, hot water bottles,

Industry	Rubber Products
Optic and electrical industry	Insulators, electrician gloves, computer and cell-phone parts
Infrastructure and marine industry	Water stops, bridge bearings, seismic bearings, expansion joints, fenders, oil hoses, rubber dam, rubber raft
Sports and leisure industry	Major sport balls, floor slabs, walk paths, rubber threads, racket handles, toys, arm rests, diving hoses, sports shoes

World market of latex-based products 2018

	US$ Bn	%
Disposable gloves	7.10	
Surgical gloves	1.10	
condoms	6.48	
Urological catheters	2.74	

World market of dry rubber products 2018

	US$ Bn	%
Tyres	80.00	
Retread tyres	8.60	
Industrial rubber products	151.00	
Seals	66.55	
Automotive mould products	33.29	
Industrial hoses	19.97	

Transformation from a NR producing and exporting country to a rubber-based products manufacturing and exporting country

- Improved utilization of locally produced rubber,
- Creating quality job opportunities
- Import substitution and
- Accessing new export markets once the products meet the international standards
- Creating suppling industries

“INCREASE IN DOMESTIC CONSUMPTION FOR INFRASTRUCTURE DEVELOPMENT, E.G.: DOCK FENDER, RUBBER ASPALT, WATER GATE, RUBBER PAD FOR TRAIN, BRIDGE BEARING, SEISMIC BEARING”

Value-added Industrial Rubber Products

Industrial Rubber Products

Beltings -. transmission and conveyor belts

Rubber hoses - fuel hoses, hydraulic hoses, suction hoses

Wire cables

Engineered rubber products

Bridge bearing, Seismic bearing

Marine fenders

Rubber automotive components

Material required for rubber products

	NR	SR	Others
Tyres	√	√	√
Automotive components	√	√	√
Fenders	√		√
Industrial Rubber products	√	√	√
Medical device	√	√	√
Gloves	√	√	√

Synthetic Rubbers

- Butadiene Rubber (BR)
- Butyl Rubber (IIR)
- Ethylene Propylene Diene Monomer (EPM, EPDM)
- Fluoroelastomers (FKM)
- Isoprene Rubber (IR)
- Nitrile Rubber (NBR)
- Silicone Rubber (SiR)
- Styrene Butadiene Rubber (SBR)

Chief Driver : Government Policy

- Government's commitment to establish a policy to develop and drive the rubber product manufacturing industry is the utmost important.

- Conducive environment must be created, such as tax-incentives, to attract relevant Foreign Direct Investments (FDI) and Domestic Direct Investments (DDI)
- Seeking G to G support

Foreign Direct Investments

The direct benefits are

- the investment funds,
- transfer of technology,
- creation of jobs and
- readily export and domestic market

Domestic Direct Investments

- Being SMEs dominated, they lack R&D and market intelligence
- Do not have recognized brand names
- Lack of funding for potential growth

Enabler: Internal resource capacity and capability,

- Financial Resources (FDIs vs SMEs)
- Human Resource (Rubber Technologists vs Factory workers)
- Materials Resources (Domestic vs Imported)
- Innovations (Process and Product Innovations vs Organizational and Marketing Innovations (OMIs))

Resources

- *Physical capital resources*:plant and equipment, technology and geographic location,
- *Human capital resources:* experience, judgement and intelligence of personnel, and
- *Organizational capital resources*: company structure, planning, controlling and coordination systems, and the informal relations among different groups within the firm.

Create competitive advantage

Up the resources: creating more patents, proprietary technology, enhanced reputation of the company, create company and products' reputation

Upgrade the technology capability: faster supply of products to customers, automation and introduce state of the art technology to enhance productivity, These are difficult to imitate unlike other items such as low labour cost which may be easily imitated.

Enabler: the external market environment

- US-China Trade War
- Access to Asean Market
- Access to finance
- Meeting international standards and regulatory requirements

Promotion of products

- Organize promotion campaigns and participate at Trade Shows
- Reach out to local representatives and major players
- Present comprehensive marketing tools
- Establish local presence via partnering
- Participate actively on online platforms

Enabler: the vision of the business entrepreneur

- Obtain significant benefits from using business information and advice
- Strive on managerial capacities of firms
- Transform business model to deliver additional economic growth

Market oriented

- Traditionally is to make the product, and then figure out how and to whom it will be sold.

Versus

- Consumer demand drives product design..

Create competitive advantage

Create distinctive competencies and differentiations

Engage customers /suppliers into strategic alliances, conduct market orientation and value creation.

Identify and focus the business sectors

Enabler: Industry 4.0

- Smart Manufacturing
- E-Commerce
- Aware of global innovations and apply them into local market
- A networked enterprise that uses "big data" and analytics

Conclusion

- In summary, government policy and commitment is the chief driver.
- The enablers include attracting FDIs, encouraging the DDIs, access to finance, access to technology, access to markets, capacity to compete, meeting quality and regulatory requirements and the entrepreneurial abilities and human capital for the Industry 4.0
- This will ensure the sustainability of the rubber product manufacturing industry in the country.

Thank you for your attention.

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