Study on Market Analysis of Surgical Gloves

By

Sonali Dattoba Solankar

Dissertation submitted for the partial fulfillment of the

MBA Pharmaceutical Management

Academic year, 2018-2020

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Voll Santé

CERTIFICATE

Of

INTERNSHIP

We present this certificate to

Ms. Sonali Dattoba Solankar, IIHMR , Jaipur

in appreciation for your successful work as an intern at Mumbai
The internship was conducted between *1st April 2019* and 4th June 2019.

Date : 20th June, 2019

Director – C&OE

Acknowledgement

The satisfaction and euphoria that accompany the successful completion of the project would be incomplete without the mention of the people who made it possible.

Firstly, I would like to express my sage sense of gratitude and indebtedness to our President Pankaj Gupta, The IIHMR University.

I would also like to thank to my guide at The IIHMR University, Dr. Saurabh Kumar for being available whenever I needed for guidance and support.

I would also like to extend my sincere thanks to my analyst Sabyasachi Ghosh at FMI for providing his valuable guidance at all stages of the study, his advice, constructive suggestions, positive and supportive attitude and continuous encouragement, without which it would not have been possible to complete the project.

The compilation of this undertaking would not have been possible without the wholehearted support of the all the people in Healthcare team at FMI, Pune for being a constant source of knowledge, support and guidance throughout the span of time.

I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards the industry in coming future.

Company Profile

Future Market Insights (FMI)

FMI is global information technology service company and provide custom and syndicated research solutions to the healthcare industry. We have brought together best-in-class companies to provide end-to-end solution to complex challenges in healthcare. The company provides traditional consulting solutions to keep the health care industry in lead. FMI reframes these challenges, enabling the customers to see the opportunities.

History

Founded in 2011, Future Market Insights (FMI) emerged as a separate legal entity with the onus on tapping emerging markets with aptly tailored intelligence. The company provides syndicated and client reports on market intelligence. The company has also awarded with the title of 'Brand of the Year' in market research. The aim is to grow as a value driven market research and consulting firm, aiding global leading business materialize their objectives. We are constantly evolving with the focus on helping our clients pick up pace in achieving their most critical goals with smooth execution.

Report Content

Chapter 1 INTRODUCTION

To act as a protective barrier to prevent the possible transmission of diseases between healthcare professionals and patients during surgical proceduresis the essential objective of surgical gloves. Whereas medical examination gloves are different than surgical gloves in every aspect. For instance, sterilityand in terms of quality standards. Manufacturers of surgical gloves are necessary to achieve a greater degree of quality standards. Surgical gloves are individually packaged in pairs and alwayssterile. As compare to themedical examination gloves; these gloves have a more precise range of sizing.

Methodology

The methodology adopted for the research is the amalgamation of multiple approaches to provide realistic scenario of market. Extensive secondary research was conducted for collection of data required for estimations as well as forecasting. All analyst inputs, data obtained by authorized secondary sources and final results were validated and verified through detailed primary interviews with key opinion leaders. (Industry experts with relevant experience, company executives, end-users for the industry etc.)

Study design: Descriptive

Data Collection Tool - Primary data acquired from various interviews of KOL about current market and future estimate market of medical devices (surgical gloves). Secondary data is collected from various journals and articles that has been used to forecast the current market scenario

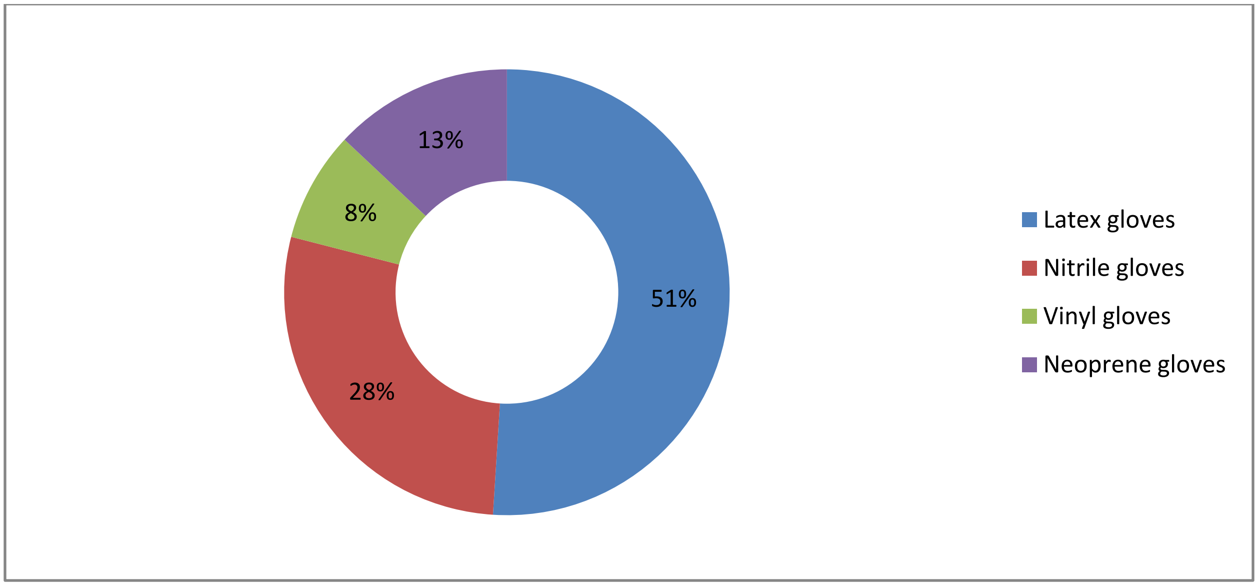
Reference Population- Chemist, Healthcare Professionals and various KOL

Sampling Technique- Purposive Sampling

Data Analysis Tool – The data analysis and modeling are done using MS excel

Ethical Consideration- Permission from the respective organization

Type segment share for global surgical gloves market:



Study Criteria:

1.Inclusion Criteria:

- The revenue generated by the manufacturers from surgical gloves is considered during the course of our study
- Revenue generated by global as well as local players in surgical gloves market is also analyzed while estimating the market size

2. Exclusion Criteria:

- The shipment cost of device and currency fluctuation across various geographies is ignored while calculating the average selling price
- The expected change in the regulatory scenario for device approval in different countries is not considered while forecasting the market value for disposable

Market definitions

- North America includes the U.S. and Canada
- Europe includes UK, Germany, Italy, Spain, France, etc.
- Asia Pacific includes India, China, Japan, Australia, South Korea, etc.
- Latin America includes Brazil, Mexico, Argentina, Chile, etc.
- MEA includes South Africa, Saudi Arabia, Turkey, Egypt, etc.
- Totals have been rounded off
- The market estimates are an output of triangular research and analysis methodology that include secondary research, primary research, and company share analysis. The impact of factors such as regional adoption trends, affordability rates and healthcare facilities were quantified and applied on the market estimates. The regional market estimates are aggregated to arrive at the market valuation.
- Material type segment covers Latex gloves, Nitrile gloves, Vinyl gloves, Neoprene gloves.
- By form segment includes powder free gloves and powdered gloves.
- End-use segment is divided into hospitals, ambulatory surgical centers, specialty clinics, others

Forecast parameters

- The market has been estimated and forecasted taking into consideration the optimistic and pessimistic impact of Covid-19 on the global, regional, country and segment level
- Market forecast is based on analysis of prominent factors that will impact market growth during the projection years
- Market growth impacting forces such as various technological advancements in surgical gloves industry and increase in adoption of medical products across healthcare facilities have been analyzed and their weighted impact are applied to the base line market growth trend to determine forecast trend
- Short term refers to duration less than 2 years, medium term refers to duration between 2 to 5 years and long term refers to duration over 5 years
- Compound annual growth rate (CAGR) is calculated from 2020 to 2023
- GDP and inflation have not been accounted for while estimating the market

- 2019 is the base year for our forecast, thus, up to 2019, data for all the years is based on the actuals obtained via research

Data Sources

Secondary

- Secondary research using general internet searches, corporate profiles, product brochures, journals, articles, company websites, annual reports, government registries, and newspaper & magazine searches to identify articles and various centers of specialization that might serveleads for primary research.
- The information about the major mergers, acquisitions, clinical trials, new product launches which we will have an impact on the market obtained from the secondary research stage builds the foundation for the primary research.

Primary

- Industry experts approached through telephonic interviews of key opinion leaders from various company were conducted through a guided questionnaire.

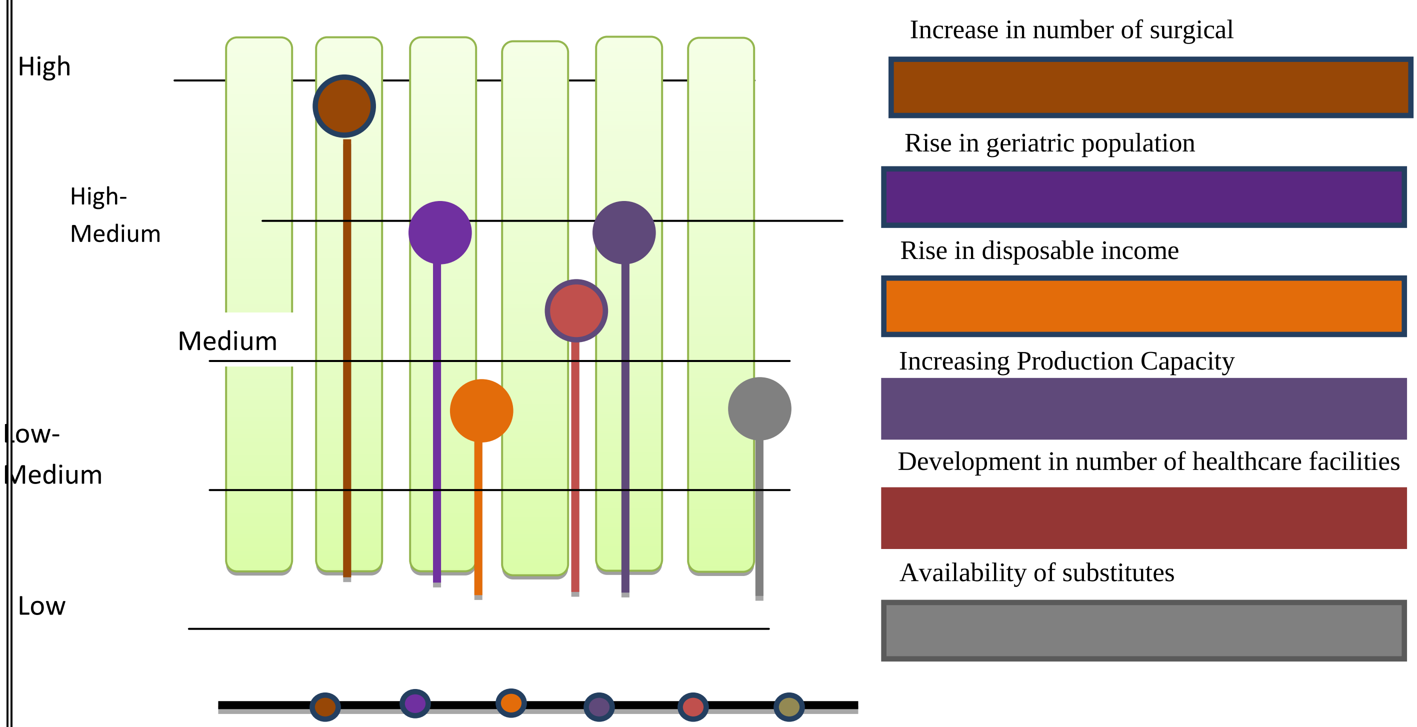
Chapter 2 Executive Summary

Surgical gloves industry synopsis, 2018 - 2023

TABLE 1 Global surgical gloves market, 2018 - 2023, (USD Billion)

2018	2019	2020	2021	2022	2023	CAGR
1.91	2.04	2.11	2.29	2.41	2.55	4.84%

Global Surgical gloves Market: Forecast Factors



Chapter 3 Objective

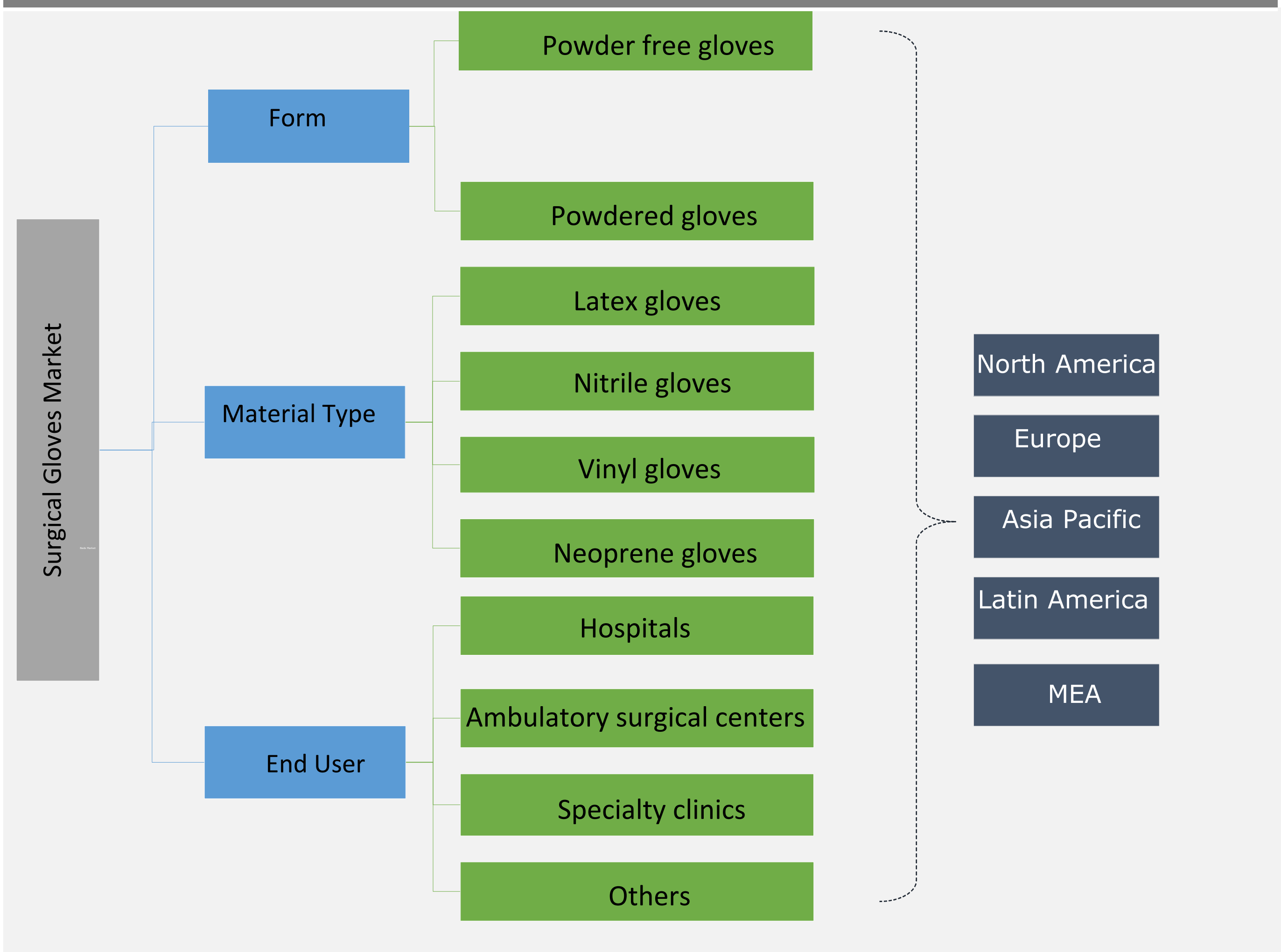
- ***To analyze the highest demanding surgical gloves segment.***
- ***To analyze the high opportunistic surgical gloves segment.***

Chapter 4 Result and Discussion

Surgical gloves Industry Insights

Industry segmentation

FIG. 1 Industry segmentation



Industry impact forces

TABLE 2 Industry impact forces

Growth drivers	Short term	Medium term	Long term
Growing number of surgical procedures	◐	◕	◕
Rise in geriatric	◐	◐	◕
Increase in disposable	◕	◐	◐
Increasing Production Capacity	◐	◕	◕
Industry pitfalls & challenges	**Short term**	**Medium term**	**Long term**
Regulatory Considerations Hampering	◕	◐	◔
Natural Rubber or Synthetic Rubber Cost	◕	◐	◔

4.1.1Macroeconomic Factors

❖ **Global Increase in Healthcare Expenditure**

- The per capita healthcare expenditure across the globe, particularly in developing countries, the disposable income is increasing, owing to which people are willing to pay for better healthcare, which in turn will increase the revenue of hospitals.
- Besides, hospitals and various other healthcare facilities are also increasing their spending to provide high-quality services and with advanced equipment. Thus, increasing healthcare spending is expected to positively impact growth of the surgical gloves market.
- As per the Centers for Medicare and Medicaid Services,in 2016, healthcare spendingin the U.S., grew by 4.3 percent.

- InIndonesia, India and China increasing trend of urbanization accelerating healthcare spending by governments.

❖ Increasing number of distribution channels and suppliers also availability of investors in developing countries

- Surgical gloves companies have focused considerable attention on emerging markets, due to increasing number of distribution channels and suppliers also availability of investors in developing countries. However tremendous opportunities are present for sales and marketing of surgical gloves in places like BRIC (Brazil, Russia, India and China) due to large patient population and unmet medical needs.
- For instance, in February 2020 to escalate rapid growth of surgical gloves sales in emerging markets, Ansell limited completed joint venture with Careplus group.

4.1.2Drivers:

Growing number of surgical procedures due to expanding and aging population around the globe

- Growing number surgical procedures across the globe is the primary parameter to escalate the growth of surgical gloves market.
- The population is widening at very high rate. As per the US Census Bureau, the population will escalate7.9% by 2010, and 17.0% by 2020.
- The individual over the age of 65 is the rapidly growing segment of this population. Whereas their numbers are foreseento increase 13.3% by 2010 and 53.2% by 2020.
- This prediction indicating the increasingrequirement for surgical gloves market.
- Increasing health-related concerns that are leading to surgeries have increased tremendously, majorly in the emerging economies countries.

Rise and development in number of healthcare facilities, technologies and professionals

- Demand for surgical gloves market is increasing from developed as well as developing countries due to development and rise in number of healthcare facilities, technologies and professionals.
- Moreover recent development in surgical gloves market will fulfill the demand and requirement of healthcare sector.
  - For instance, in 2017 exclusively for the dental professional sector Ansell launched advanced designedmicro touch denta glove series.

- Ansell healthcare surgical glove packaging gets smarter in March 2016, through global launch of new innovative smart packtechnique,.
- In September 2017 Ansell healthcare introduced microflex 93-850; it is a ultimate barrier for a disposal nitrile glove.

Increasing Production Capacity Activities

- Increasing demand for surgical gloves across the globe owing to increase in awareness regarding cross contamination and infections during surgical process.
- Increasing production capacities by the major market players due to growing demand from developed countries and emerging markets.
  - For instance, in October 2016 Cardinal Health Expands distribution units in Asia to introduce powder-free gloves.
- To meet growing demand a company increases production capacity. To achieve an immediate increase in capacity, a company focusing on joint venture, partnership agreement and collaboration.
  - In Jan 2020, Medline acquired Médi-Sélect in Quebec, which is a distributor of dental and medical supplies such as defibrillators, surgical gloves.

4.1.3Restraints:

Regulatory Considerations Hampering Market Growth

- Powdered surgical gloves are a banned medical device in the U.S.
- Powder on latex gloves can aerosolize latex allergens, and produces allergic reactions. Allergies caused by powdered surgical gloves acts as a major restraining factor, as well as it is hampering demand for global surgical gloves market growth in the healthcare sector.
- Moreover it produces airway conjunctivitis, dyspnea and inflammation.
  - For instance, WRP Asia Pacific SdnBhd class 2 Device Recall AmerisourceBergen Sterile Latex Surgical Gloves, powder free.
  - In 2018, American Contract Systems, Inc Class 2 Device Recall Powdered Surgical Gloves.
- High sterile product intended for use in surgical applications is also restraining factor for the growth global surgical gloves market.
  - For instance, in 2020, Medline is recalling certain lots of Sensicare Aloe Surgical Gloves (MSG1070). MSG1070 is a sterile product intended for use in surgical applications. It was determined that Medline Canada received 18 cases of the Sensicare Aloe Surgical Gloves that had not undergone proper sterilization.

Natural Rubber or Synthetic Rubber Cost

- Consumption of synthetic rubber or natural rubber is a major part during the manufacturing of surgical gloves. For the production of synthetic rubber gloves nitrile material prices playing very important role. Whereas cost of the raw material (natural rubber or synthetic rubber) is nearly half of the overall operating cost.

4.1.4 Opportunities:

Increasing demand from emerging market

- Increasing average per capita income, recent rapid growth, partnership with local market leaders, development and change in distribution strategy, as well as MNCs enters and introduces new, innovative technologies of unparalleled quality and with cost effective price; fueling the global market growth of surgical gloves.
    - For example, Medline Named E&I 2017 New Partner of the Year.
- Moreover the regional government are collaborating and coordinating standards in order to accelerate innovation and production of surgical gloves, which is likely to provide enormous opportunities for the market during forecast period.
    - For instance, Cardinal Health, Inc. contracts with U.S. government entities, due to continuously increasing demand from the U.S. and to meet emergency demands,.

High demand for nitrile glove segment

- High demand for nitrile glove segment, by harnessing untapped opportunities both in developed and emerging markets, as they are made of synthetic rubber, making them okay to wear for those with allergies to latex, 3x stronger than your standard latex gloves, powder-free, leaving behind no signs of residue even if you wear them to paint.
- As well as less likely to suffer from puncture wounds while dealing with sharp objects such as needles.
- Moreover they are chemical resistant. Many hospitals use them due to their resistance to blood borne pathogens, harmful toxins.
    - For instance, in March 2019 Ansell limited introduce nitrile gloves for enhanced fentanyl protection.

4.1.5 Trends:

Synthetic gloves as most health safety trends

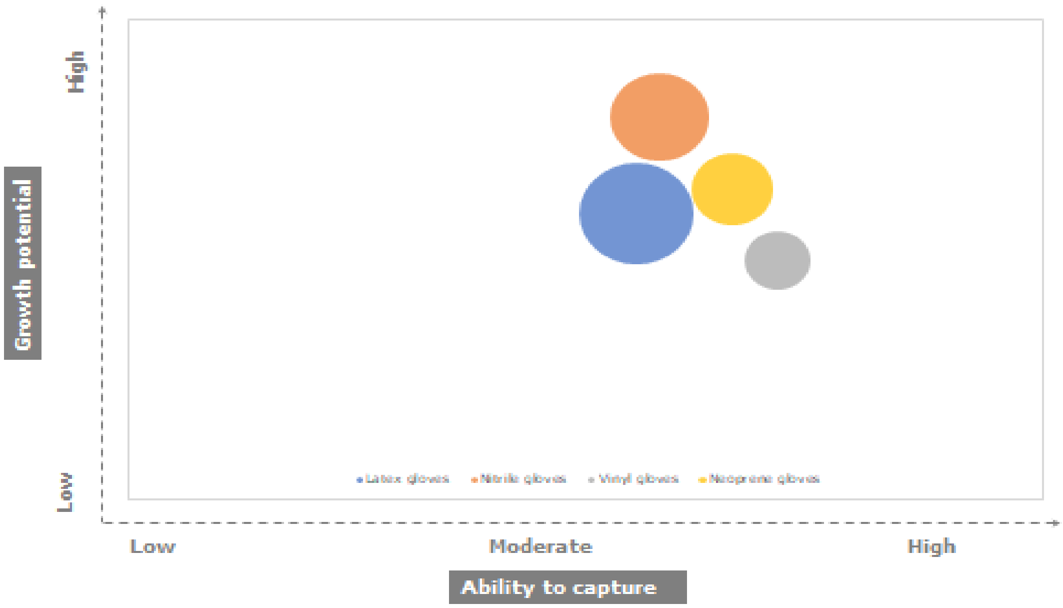
- By most health safety authority's,synthetic surgical gloves are suggested as a preventive measure to latex allergy, including the Occupational Health Department, UK, Irish Health Ministry Spanish Society of Allergology and Clinical immunology and the Pediatric anesthesia.
- Because of their comfortable fit and feel they are in high trend. Moreover to make synthetic gloves more closely mimic thefeel, fit, and comfort of latex they have upgraded by technological enhancement.

Increasing trend of double-gloving for invasive surgeries

- Association of perioperative Registered Nurses and The British Journal of surgery has recommended double-gloving for invasive surgeries.
- High health concern in developed and developing countries fueling the demand for surgical double-glove market
- When the outer glove is punctured in operating room,double-glove cut down infection risk as well asdefendsbloodborne pathogens.
    - For instance, Cardinal health come out with new hydrogel, powder-free, latex surgical gloves.

4.2 Growth potential analysis

4.2.1.1 By Material type

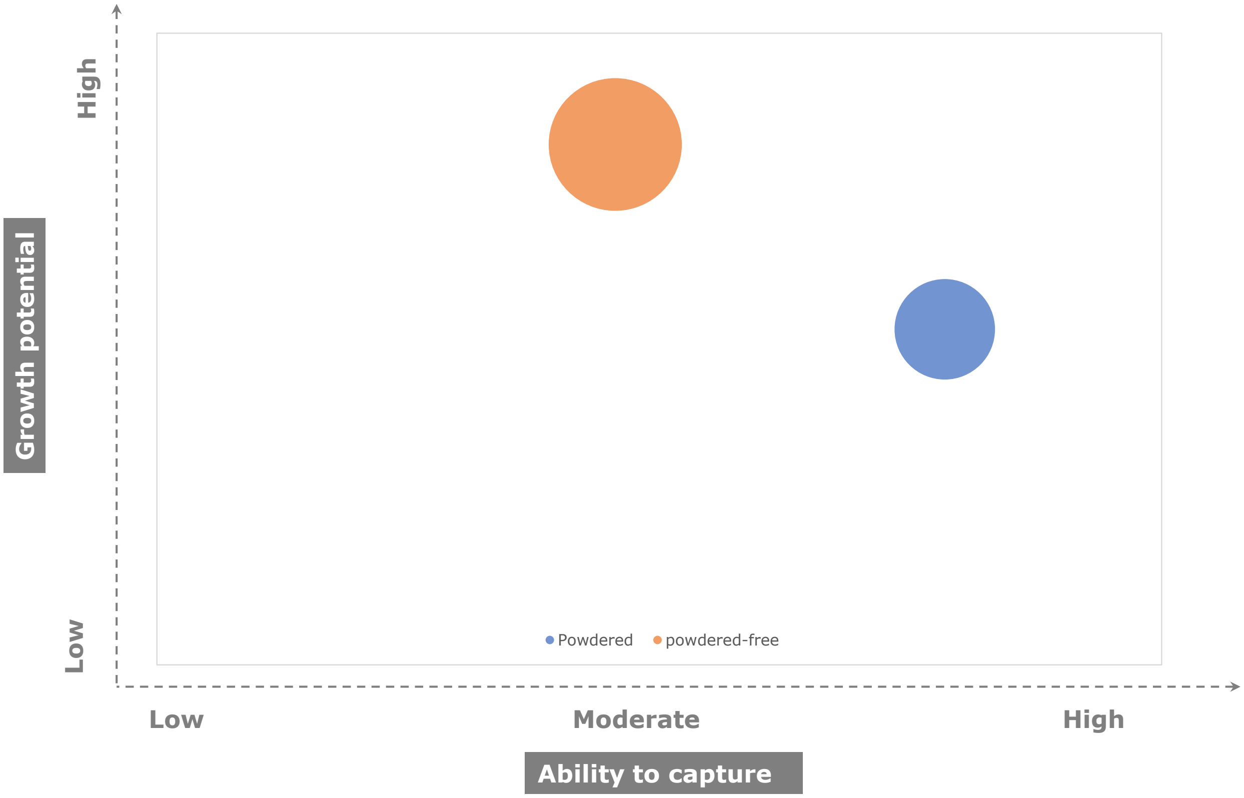


Note: The size of the bubble indicates the incremental opportunity during the forecast period

Growth potential denotes the revenue opportunity offered by the segment while ability to capture denotes the potential of a new entrant to capture market share, taking in to consideration the intensity of competition. Bubble size represents present revenue

For Latex gloves, ability to capture the market is moderate and the huge opportunity during the analysis timeframe. The trends of Nitrile gloves are high as compare to others and the incremental opportunity is also high during the forthcoming years. For Neoprene gloves, the ability to capture the market is high, whereas the opportunity is moderate owing to the high usage of Nitrile gloves.

4.2.1.2 By Form



Note: The size of the bubble indicates the incremental opportunity during the forecast period

Growth potential denotes the revenue opportunity offered by the segment while ability to capture denotes the potential of a new entrant to capture market share, taking in to consideration the intensity of competition. Bubble size represents present revenue

For powdered gloves, ability to capture the market is low and the incremental opportunity is also moderate during the analysis timeframe. The trend of powder free glove is high as compare to powdered gloves and the incremental opportunity is high during the forthcoming years.

4.2.1.3 By End User

Note: The size of the bubble indicates the incremental opportunity during the forecast period

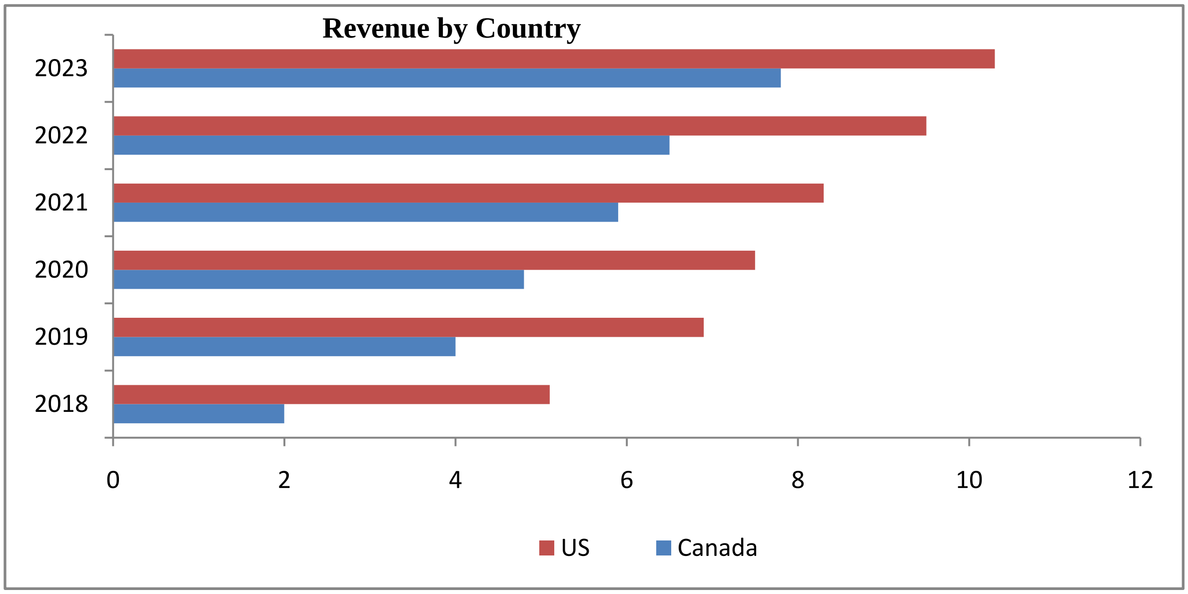
Growth potential denotes the revenue opportunity offered by the segment while ability to capture denotes the potential of a new entrant to capture market share, taking in to consideration the intensity of competition. Bubble size represents present revenue

.

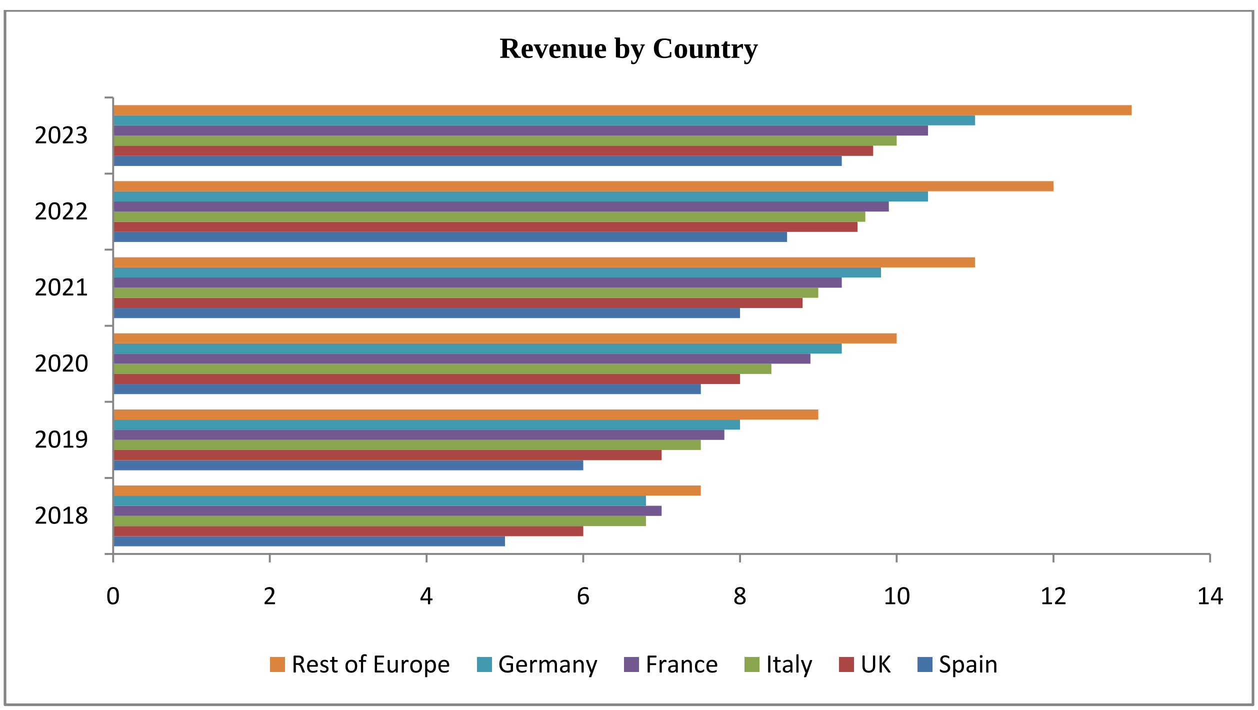
For hospitals, ability to capture the market is moderate and the incremental opportunity is high during the analysis timeframe. The future demand inSpecialty Clinics is high as compare to others and ASCs, whereas the ability to capture is moderate. For ASCs, the ability to capture the market is moderate, while the incremental analysis is also moderate, as moderate number of patient pool visits the ASCs.

4.3 Surgical gloves Market, By Region

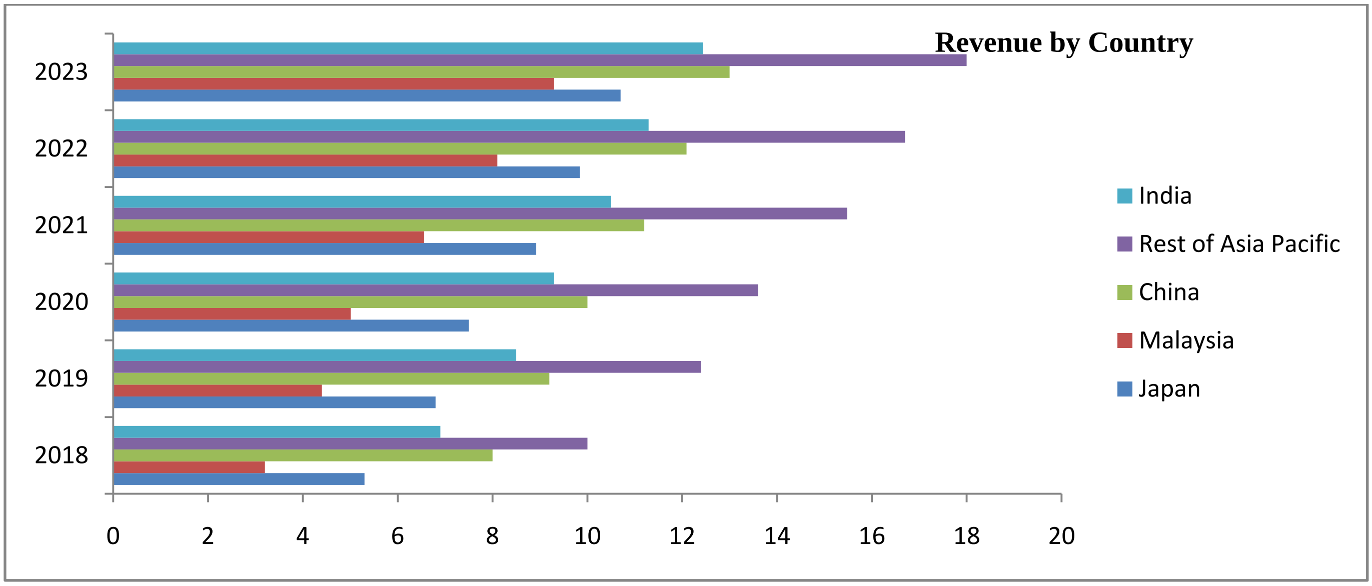
North America



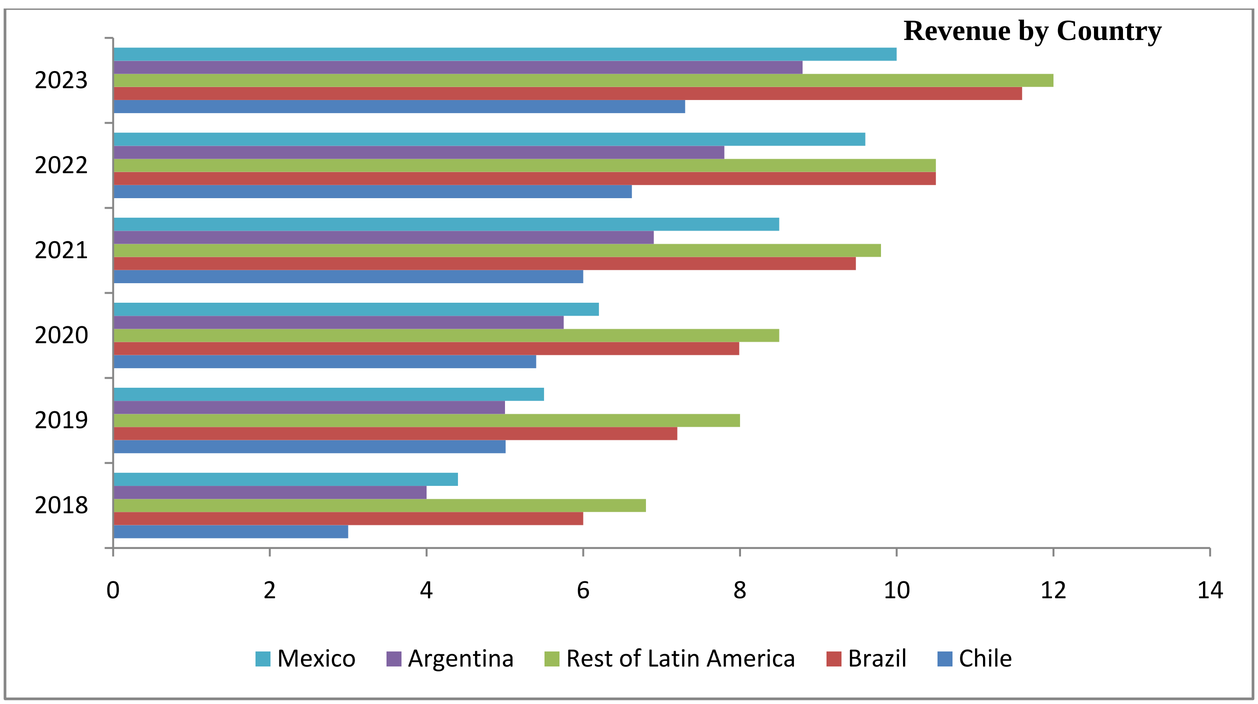
Europe



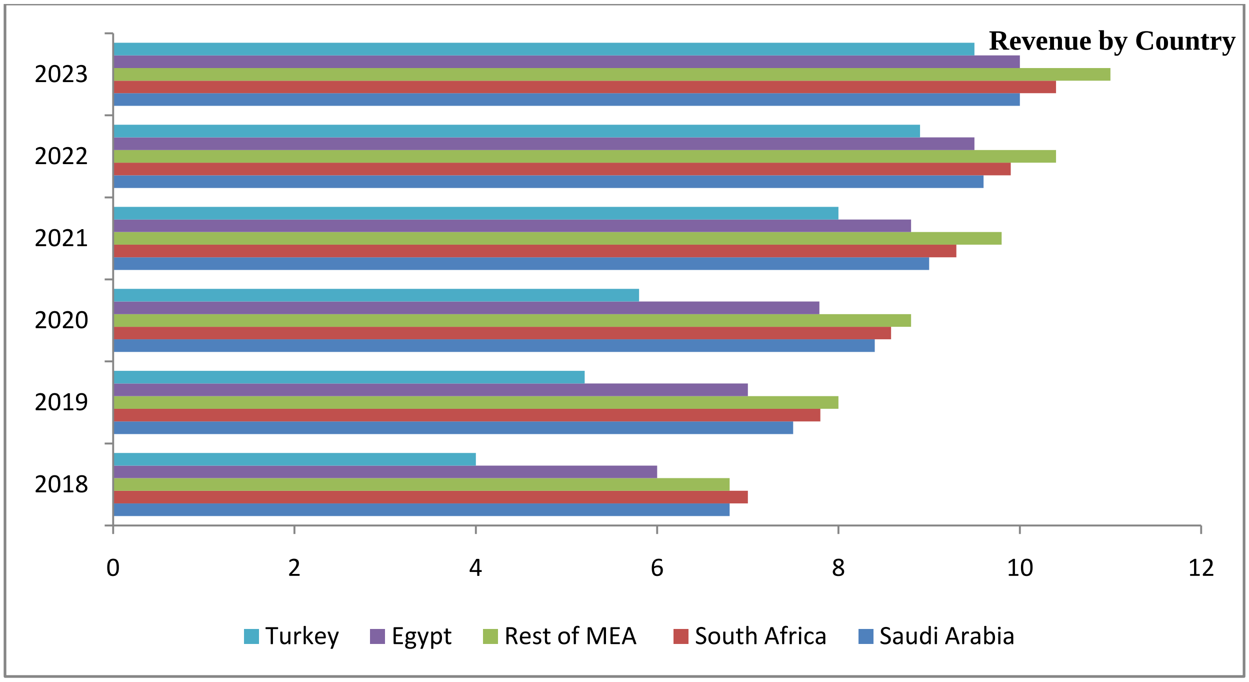
Asia Pacific



Latin America



MEA



4.4 Competition Analysis

1. Semperit AG Holding

Founded: 1824, Vienna

CEO: Martin Fuellenbach

Number of employees: 6902

www.semperitgroup.com

Overview:

Semperit AG Holding company is develops, produces, and sells rubber products for the medical and industrial sectors, cable car rings, industrial hoses, products for railway superstructures and the global R&D centre is in Wimpassing, Lower Austria. Semperit AG Holding has 14 manufacturing facilities worldwide and numerous sales offices in Asia, Europe, America and Australia.

Product Portfolio:

- Natural rubber latex powdered gloves
- Natural rubber latex lightly powdered gloves

- Natural rubber latex powder free gloves
- Synthetic polyisoprene gloves

Profitability by Market Segments (Drug/Channel/Region)

- Semperflex 26%
- Sempertrans 16%
- Semperform 23%
- Sempermed 35%

Sales Footprint

Europe

Strength

- Focus on customer intimacy.
- Digitisation& innovation – exploit new growth potentials.
- Regional diversification with stronger focus on North America.

Weakness

- Lower sales due to strategic modification in production portfolio (focus on Nitrile) and less outsourcing, thus less traded goods.
- Organizational risks: The organization of the Semperit Group is not fully developed yet on a global scale and partially includes potential process overlaps, inflexibility and inefficiency.

Threat

- Pandemic outbreak of COVID-19
- Outbreak of COVID-19 in Malaysia bring up production at risk due to restrictive measures od the government.
- Large number of alternative suppliers available across the globe.

Opportunities

Medical Sector: Product, megatrends, and service portfolio the medical sector benefits from the continuous increase in the demand for examination, protective and surgical gloves, which is largely independent of economic cycles.

Strategy overview

- “SemperGrowth200” strategy- Separation from the medical segment.
- Ongoing continuous focus on profitability, process optimisation, quality improvement and reduction of complexity.

- New industrial rubber strategy with focus on regional and application-related customer intimacy.
- Semperform split into two (Semperform and Semperseal) to enhance focus on new markets.

2. Cardinal Health, Inc

Founded: 1971, Dublin, Ohio, United States

CEO: Mike Kaufmann

Number of employees: 50,000

www.cardinalhealth.com

Overview:

Cardinal Health is providing customized solutions for health systems,ambulatory surgery centers, pharmacies, clinical laboratories and physician offices worldwide. The company's strength is in four areas: product, logistics, patient solutionsand business.

Product Portfolio:

- Synthetic polyisoprene (PI)
- Synthetic neoprene
- Natural rubber latex

Profitability by Market Segments (Drug/Channel/Region)

- Pharmaceutical: $129,917(Billion)
- Medical: $15,633(Billion)

Sales Footprint

United States

Strength

In the medical segment, company transforms commercial, operational and data capabilities which will begin to translate into results in fiscal 2020. Continue investment in Cardinal Health at-home solutions and medical services, and continue efforts to optimize company portfolio and infrastructure across the segment.

Weakness

Company rely on third-party service providers' information systems for a wide variety of critical applications, including to rapidly process, obtain, analyze and manage data in which facilitate the purchase and distribution of inventory items from large number of distribution centers.

Opportunities

- Increasing demand from developing countries and emerging market.
- Due increasing demand from the U.S. and to meet emergency demands companycontracts with U.S. government.

Strategy overview

Acquisitions: Company has acquired a number of businesses over the years that have enhanced company's core strategic areas of Cardinal Health Brand medical products. For instance in fiscal 2015, the acquisitions of Tradex International, Inc., a supplier of disposable gloves, and Metro Medical Supply, Inc., a distributor of medical and surgical products.

Divestitures: Over the past two fiscal years, company has also completed several divestitures. In February 2018, company completed the sale of medical products distribution business in China to Shanghai Pharmaceuticals Holding Co., Ltd.

4. Hartalega Holdings Berhad

Founded: 1988, Malaysia

Executive Chairman: KuanKam Hon

Number of employees: 7,700 plus

www.hartalega.com.my

Overview:

Hartalega was the inventor of the world's first lightweight Nitrile glove in 2005, which caused a demand shift from latex to nitrile gloves all over the globe. Company is producer of nitrile gloves in the world, capable of manufacturing 36 billion gloves a year and will progressively expand to 43.7 billion gloves in 2020. Hartalega has gone on to win many prestigious accolades, including recognitions from Forbes Asia, KPMG and Asia Money.

Product Portfolio:

- Nitrile surgical gloves

- Latex surgical gloves

Sales Footprint

North America

Profitability by Market Segments (Drug/Channel/Region)

- North America: 1,528,310,615
- Europe: 716,268,025
- Asia (excluding Malaysia): 383,581,063
- Australia: 93,394,444
- Malaysia: 10,038,861
- South America: 70,026,543
- Middle East: 24,191,416
- Russia: 1,407,443

Strategic overview

Over the years, company has embarked on numerous community-related programmes through a wide variety of initiatives and strategic partnerships. Moreover high focus is on manufacturing expansion. For instance manufacturing expansion to 43.7 billion gloves in 2020.

5. Supermax Corporation Berhad

Founded: 1987, Selangor, Malaysia

Cecile Jaclyn Thai (Executive Director)

Number of employees: 1,033

www.supermax.com.my

Overview

SUPERMAX Corporation Berhad Company is latex glove conglomerate listed on the Main Board of Bursa Malaysia Securities Berhad. Supermax currently exports to over 160 countries worldwide in the regions of America, Europe, Middle East, Asia and the South Pacific. Supermax has eight (8) own distribution centres cum corporate offices based in the United States of America, Brazil, Canada, Germany, United Kingdom, Hong Kong, Singapore and Japan, and collaborates with over 1,200 independent distributors around the world.

Sales Footprint

America

Product Portfolio:

Latex surgical glove

Profitability by Market Segments (Drug/Channel/Region)

- America: 769,078,370RM (17,59,86,511.43 USD)
- Europe: 399,920,752 RM (9,15,12,985.85 USD)
- Asia and Oceania: 323,012,915 RM (7,39,14,334.71 USD)
- Africa: 46,144,702 RM (1,05,59,190.64 USD)

Strategic overview

SUPERMAX Corporation Berhad strategies includes the execution of the company's long-term business growth and development; as well as the strategic planning and implementation of its global marketing initiatives in Brazil, Canada, Hong Kong, Singapore, UK and USA.

Strength

- Continuous acquisition and expansion on production. For instance, in 2020 glove producer Supermax Corporation Berhadetsthmbs-up from RHB research on its land acquisition in Kapar, due to strategic location of land as well as increase in production over the five years.

Weakness

- Lacking new innovative improvement in the stretch and strength properties of the gloves.

Opportunities

As a Malaysian players have significant opportunities including geographical advantage (proximity to raw materials), technological know-how, economies of scale and operational efficiency, all which contribute to Malaysia's huge success in the industry.

Threats

- High unpredictability in raw material costs
- Increased competition in the global marketplace.

6. Top glove corporation berhad

Founded: 1991, Shah Alam, Malaysia

Tan Sri Dr Lim Wee Chai (Executive Chairman)

Number of employees: 18000

www.topglove.com

Overview

Top glove corporation berhad captured 26% of the world market share for the rubber glove. The company has manufacturing operations in Malaysia, Thailand and China. It also has marketing offices in these countries as well as USA, Germany and Brazil and exports in 195 countries worldwide. Listed on the Malaysian Bourse (2001) and Mainboard of the Singapore Exchange (2016), Top glove has demonstrated steady growth with a compound annual growth rate (CAGR) of 21.7% for revenue and 19% for profit over the past 18 years.

Product Portfolio:

- Natural High Grade Rubber Latex
- Synthetic Nitrile surgical gloves
- Synthetic Polyisoprene latex surgical gloves
- Chloroprene surgical gloves

Sales Footprint

America

Profitability by Market Segments (Drug/Channel/Region)

- 46% - Nitrile
- 21% - Latex powdered
- 18% - Latex powder-free
- 12% - Surgical
- 2% - Vinyl
- 1% - TPE/CPE

Strength

- Company is capturing growth in both emerging and developed markets.
- Moreover nitrile gloves capacity increased by 54% over the past 2 years

Weakness

- Top Glove Corporation is lack of brand portfolio because this company has fewer brands.

- High currency exposure.

Opportunity

- High demand for nitrile glove segment, by harnessing untapped opportunities both in developed and emerging markets.

Threats

- Particularly in the natural rubber glove segmentexcessivemarket competition is present.

Strategic overview

High focus is on collaboration and partnership agreement. For instance, Top Glove has forged R&D partnerships with universities, suppliers and third-party research institutes towards enhancing company's ability to develop commercially viable products and process advancements for the glove manufacturing industry. In February 2019, the Top Glove Industrial Collaboration Grant (TGICG) was also introduced with a view to enhancing research collaborations with universities.

7. Shijiazhuang Hongray Group

Founded: 1997, china

Yaping, Chang, Vice President

Number of employees: 18000

www.hongray.com

Product Portfolio:

- Vinyl surgical gloves
- Nitrile surgical gloves

Overview

Shijiazhuang Hongray Group is the largest manufacturer of disposable protective gloves in the world. Shijiazhuang Hongray Group has five major production bases in Shijiazhuang, Jinzhou, Xinji, Zanhuang, Shenze of Hebei Province; with the annual output of 14 billion pieces of gloves. Products are widely used in fields of medical examination, first-aid, nurse, dentistry, laboratories, food processing and electronic industry protection etc.

Strategic overview

Shijiazhuang Hongray Group takes advanced Lean Six Sigma management model of production, and strictly follows the requirements by U.S. FDA QSR and the standard of ISO9001, ISO13485 in management, production process and quality control, to ensure company's products meet or even surpass the ASTM or other countries standards. All of company's group's PVC gloves, nitrile gloves have awarded the EU CE certificate, US FDA 510K letter and CHEMO certification.

8. B. Braun Melsungen AG

Founded: 1839, Melsungen, Germany

Yaping, Chang, Vice President

Number of employees: 63,751 employees

www.bbraun.com

Sales Footprint

Europe

Product Portfolio:

- Natural rubber latex
- Polyisoprene

Profitability by Market Segments (Drug/Channel/Region)

- 3,388.18 USD- B. Braun Hospital Care
- 1,973.91- B. Braun Aesculap
- 910.12 - B. Braun OPM
- 1,170.93 - B. Braun Avitum

Product Portfolio:

- Polychloroprene surgical gloves
- Polyisoprenesurgical gloves
- Natural rubber latex

Overview

B. Braun Melsungen offers supplementary services and consulting and develops the solution forpatients in close partnership with company's customers. The Company offers product range for intensive care units, anesthesia, emergency care, extra corporeal blood treatments, and surgical core procedures. B. Braun Melsungen caters to different medical fields like hospital, surgery, and private practice. In total, the B. Braun product range comprises 5,000 different products, 95 percent of which are manufactured by the company.

Strategic overview

GROUP STRATEGY: The strategic period that started in 2015 includes the period through to 2020. During this year, company continued the strategic initiatives and launched further initiatives to achieve company's strategic goals. Collaboration, system partnerships and profitability are the core lines which are to be pursued in all regions as well as divisions with the support of the centralized units and departments.

9. Cypress Medical Products, LLC

Founded: 1988, United States

www.cypressmed.com

Sales Footprint

United States

Overview

Cypress Medical Products, LLC distributes medical products. The Company serves to Healthcare (including Acute Care, Primary Care, Home Care, Extended Care, and Dental), Research Laboratory / Scientific / Safety, First Responder (EMS, Fire, etc.), Hospitality, Veterinary industries.

Product Portfolio:

- Nitrile surgical gloves
- Latex surgical gloves
- Vinyl surgical gloves

Strategic overview

Cypress Medical Products, LLC focuses on various certifications which are beneficial to escalate its market growth. For instance, Cypress has received C-TPAT certification. C-TPAT certification allows Cypress to be considered a lower risk importer.

10. Comfort Rubber Gloves Industries

Founded: 1993, Malaysia

MR LAU CHEE MENG (Chairman)

Number of employees: 63,751 employees

www.comfort-rubber.com.my

Sales Footprint

United States of America and Canada

Profitability by Market Segments (Drug/Channel/Region)

- Malaysia (32%)
- United States of America and Canada (34%)
- Asia (excluding Malaysia) (25%)
- Europe (7%)
- Others (2%)

Product Portfolio:

- Nitrile gloves
- Latex gloves
- Powdered and powder free gloves

Overview

Comfort Rubber Gloves Industries Sdn. Bhd. (CRG) is the glove manufacturing subsidiary of Comfort Gloves Berhad (Formerly known as Integrated Rubber Corporation Berhad (IRCB)). Currently CRG's gloves are exported to the Northern American, Oceanic Countries, Middle East Countries, Europe, South America, Africa and Asia-Pacific region.

Weakness

- Less number of product portfolios.
- Less number of recent development and new launched.

Opportunities

- Increased demand for synthetic premium speciality gloves across the globe.

Threats

- Presence of high number of competitors in market.
- Higher taxation expenses as compare to previous year.
- Outbreak of COVID-19 in Malaysia bring up production at risk

11. Barber Healthcare

Founded: 2007, UK

www.barberhealthcare.com

Sales Footprint

United States

Overview

Barber Healthcare is manufacturers as well as distributors of a wide range of disposable gloves. Barber Healthcare owns the Glove Plus, Ebony and Panthera glove brands, each of which is distributed through world-wide network through distribution Partners.

Product Portfolio:

- NR Latex gloves
- Nitrile gloves
- Vinyl gloves

12. Ansell Limited

Founded: 1929, Richmond, Australia

Magnus RenaeNicolin (CEO)

Number of employees: 12,000 employees

www.ansell.com

Product Portfolio:

- Natural rubber latex gloves
- Neoprene (polychloroprene) gloves
- PI (polyisoprene) gloves

Sales Footprint

United States

Profitability by Market Segments (Drug/Channel/Region)

- US 44%
- LAC 7%
- EMEA 37%
- Australia 4%
- Asia 8%

Overview

Ansell Ltd. runs as a distributer as well as manufacturer of markets protective products and services, related to professional, occupational, and consumer healthcare. Ansell Ltd. product line includes examination and surgical gloves, household gloves, condoms and industrial hand protection.

Strength

Distributor Partnership The development of a stronger channel partnership program is an essential pillar of Ansell's for the delivery and sustainability of organic growth. For instance, North America & Europe Distributor partnerships contributing to market growth.

Weakness

High quantity of water, energy and space per unit consumed in Ansell Ltd. production processes.

Threats

The Group's presence in over 55 countries globally and its growing presence in emerging markets exposes the Company to geopolitical, regulatory and other factors beyond the Group's control.

Strategic overview

Ansell's focus on efficient manufacturing, innovation, organic growth and new launched to outperform, outgrow and outlast there competitors. For instance, in March 2019 Ansell introduce nitrile gloves for enhanced fentanyl protection.

Recent development

2014-

- Ansell launched GAMMEX Silver Barrier Burn Glove.
- Acquisition of BarrierSafe Solutions International (BSSI), a leading NA supplier of single use gloves and boots.

2015-

- Opening of a new state-of-the-art Medical Solutions Innovation Centre in Melaka, demonstrating company’s commitment to innovation.

2016-

- Ansell embarks on operational transformation installed new manufacturing equipment, increasing capacity, and streamlining company’s overall processes.

2017-

- Ansell launched the revolutionary double gloving solution, GAMMEX PI Glove-inGlove System™

2018-

- This Ansell technology uniquely enables the elimination of chemical accelerators known to cause chemical Type IV allergies and the manufacture of more durable and softer PI surgical gloves.
- Ansell R&D team’s optimization pursuit for a skin friendlier polyisoprene (PI), safer glove culminates in a state-of-the-art glove innovation called PI-KARE Technology.

13. Kossan Rubber Industries Bhd.

Founded: 1979, Malaysia

CEO: Tan Sri Dato' Lim KuangSia

Overview:

Kossan Rubber Industries Bhd. runs manufacturing facilities and sales offices in Hong Kong and Malaysia. Its subdivisions are occupied in trading of latex examination gloves; fabrication and installation of machinery; marketing as well as manufacturing of rubber based products as well as parts; manufacturing of latex examination gloves; trading as well as investment holding of cleanroom products; distribution, and manufacturing of examination and surgical procedure gloves, among others.

Product Portfolio:

- Latex Surgical Gloves
- Polyisoprene (Non-Latex) Surgical Gloves
- synthetic polyisoprene latex gloves

- Nitrile material gloves

Profitability by Market Segments (Drug/Channel/Region) [USD '000]

- Technical Rubber Products: 42,255.50
- Gloves: 4,29,672.75
- Cleanroom: 18,556.94
- Others: 66.69

Sales Footprint

North America and Europe

14. Riverstone Holdings Limited

Founded: 1989, Malaysia

CEO: Mr. Wong Teek Son

www.riverstone.com.my

Product portfolio:

- Nitrile gloves

Overview:

Riverstone Holdings Limited is manufacturers of the nitrile gloves, healthcare gloves, packaging bags, finger cots, face masks etc. Company's products are widely qualified, and used in the semiconductor, Hard Disk Drive (HDD) and healthcare industries in Malaysia. Riverstone Holdings Limited exports beyond 85% of products to the high technology countries around Asia, America and the European region.

Profitability by Market Segments (Drug/Channel/Region):

- Nitrile Gloves: 95.0%
- Other Non-glove Consumables: 2.4%
- Other Non-glove Consumables: 2.6%

Recent development:

2016-

- Construction of Phase 4 new glove factory building underway in Taiping.

2017-

- Total annual production capacity increased to 7.6 billion gloves and completed 4th Phase of expansion plan in Taiping.
- To support the expansion of production capacity for cleanroom gloves and Group's operations Riverstone Holdings Limited Acquired a piece of land with built-up factory at KawasanPerindustrian Bukit Beruntung, Malaysia.

2018-

- Started the construction of Phase 6 – new glove factory building in Taiping.
- Set up sales office in Shenzhen, China

2019-

- Machinery installation and commissioning of Phase 6 underway which will bring the Group's annual production capacity up to 10.4 billion gloves upon completion.

Strategy overview:

High focus is on partnership-agreement, collaboration, expansion of manufacturing and acquisition. For instance, 2019 for expansion of manufacturing Riverstone Holdings Limited acquired a 3.8-acre land contiguous to the 14.64-acre land acquired in 2018 located at the Kamunting Raya Industrial Estate, Taiping, Malaysia.

15. Natalie Group

Head quarter: Malaysia

C.E.O: RyadMaarrawi

www.nataliegroupgloves.com

Overview:

Natalie Group is disposable gloves and Medical Gloves factories. Natalie Group has a glove product with wide range such as to utilize in surgery centers, Physician's offices, hospitals, and dental offices, extended care facilities, medical and scientific laboratories, Fire Rescue, EMS and many others.

Product portfolio: Natural high quality latex

Chapter 5 Conclusion

The global surgical gloves market attributable to rising number of surgeries coupled with increasing concerns regarding hygiene and safety among the healthcare professionals in developed and developing countries; which will positively influence surgical gloves market growth. Several factor such as increasing healthcare expenditure across the globe;product availability and accessibility, implementation of several strategies such as collaborations and partnerships by the key market players as well as increase in usage of latex surgical gloves owing to their advantages will boost the global surgical gloves market demand. Furthermore advancement in surgical gloves such as double-gloving for invasive surgeries andnewly developed non powdered synthetic gloves will influence the business growth however regulatory considerations and natural rubber or synthetic rubber cost are the key factors which may hamper the surgical gloves market growth.

On the basis of analysis it is concluded that latex surgical gloves and nitrile surgical gloves are highly opportunistic and demanding surgical gloves over the forecast period.