### **Professional Work Sample**

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## VALUE CHAIN ASSESSMENT AND CONSUMPTION PATTERNS OF INDWELLING CATHETERS

- Problem Statement
  - The agenda of the study was to understand the demand for Indwelling Catheters
    across various applications like post-surgical care, critical care, urinary incontinence,
    etc. The client was aiming to understand the global perspective with more focus on
    the US, Germany, UK, China, India, and Saudi Arabia markets.
  - Client's focus was major on price competition, understanding the dynamics of regional players, catheter consumption patterns, regulatory landscape, and distribution channels.
  - Understanding the value chain, product margins, material pattern of catheters in target countries along with key market actors, challenges and opportunities
- Research Approach/Methodology

The research methodology for deriving the market value and volume of indwelling catheters comprises thorough & comprehensive secondary research, incorporating both supply-side and demand-side analysis and primary research. It involves multiple steps to ensure the accuracy & reliability of the market estimations.

Demand-side Analysis: Accordingly, while estimating the market size and volume for the indwelling catheters, various factors such as the adoption, consumption of these products among various targeted patient population are among other such factors are considered. Moreover, it focuses on understanding the factors that influence the demand for the products. We referred to information regarding different regions, including North America, Europe, Asia-Pacific, and LAMEA, such as the demand & supply chain scenario, market participants outlook, reimbursement scenario, historical scenarios, penetration rate of the product, global production scenarios, healthcare expenditure.

Data Collection: Data is collected from various sources, which typically include, but not limited to:

 Paid databases and information portals for related data for example, World Heal Organization, Centers for Disease Control and Prevention, U.S. Centers for Medicare & Medicaid Services, American Urological Association, John Hopkins Medicine, National Library of Medicine and others

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 Company SEC filings, annual reports, company websites, broker & financial reports, and investor presentations, Scientific and technical writings. Regional government and statistical databases for macro-analysis, authentic new articles, webcasts, and other related organizations

- Prevalence/Incidence of affected population in urinary incontinence, and benign prostate hyperplasia. Patient population in surgical care and critical care were considered.
- Adoption of these products in treatment for post-surgical care, critical care, urinary incontinence, and benign prostate hyperplasia was analyzed.
- Pricing analysis for country and accordingly region was analyzed for various categories of indwelling catheters. Based on the weighted average selling price (WASP) methodology prices were considered.
- Analysis of usage patterns and preferences of different end-user segments in each country/region was taken into consideration.

Competition Assessment: I have tracked the offerings of various companies across the value chain of the industry. This includes analyzing the number of different categories for instance; 2-way catheters, 3-way catheters and 4-catheters product offerings by the company, varies coating types, geographical presence, pricing, and patents, among other factors. The competition assessment was comprised of detailed product mapping of industry players along with their regional presence. Below are a few steps used to assess the market size.

- Detailed product mapping of competitors in each region/country (10-20 companies/region)
- Sale revenue assessment top competitors in the market. Segmental revenue (target market) calculation of leading providers. This information was collected from various company publications including, SEC filings, annual reports, form 10k, earning call transcripts, and investor presentations. The sales revenue information for private/unlisted companies was collected through premium databases Hoovers, Factiva, Morningstar, and Reuter

Pricing Analysis: For pricing analysis, we refer to company product catalogs and conduct secondary & primary research to estimate average pricing for major countries in each region. Accordingly, pricing information is used to calculate the market size. Average selling price was calculated based on the weighted average selling price (WASP) methodology. WASP methodology considers the % weight of each product type based on their revenue share in the market against the average selling price of the catheter.

The indwelling catheter price (end-user) was collected from primary and secondary research for each country. Primary Research: Interviews were conducted with indwelling catheter

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manufacturers, distributors, KOLs & commentators for data validation, price point comparison, margin, and company share validation. The market valuation (value and volume) estimates were also validated from the primary respondents through paid interviews.

#### Solution Offered

The study has been presented in a detailed report and high-level presentation format. It highlighted the key findings captured during desk research and primary interviews. The finding of the study was mainly categorized into numerical valuation of the market in terms of value and volume, country-wide qualitative insights on trends, patient population, per capita usage, regulatory and reimbursement landscape, market dynamics and opportunities. The stakeholder presentation has provided critical insights for the client's new product launch. It has also shown the current level of competition across target countries and key challenges faced by the competitors

### Study Outcome

The client was able to achieve the long-term objectives associated with this assignment. They have received a much clearer picture of the US, Germany, UK, China, India, and Saudi Arabia markets for their future expansion plans. Also, the internal CI and marketing team of the client has gained a comprehensive understanding from a pricing and distribution perspective.

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# THERAPEUTIC APPLICATIONS AND MARKET INSIGHTS FOR LIQUID EMBOLIC DEVICES IN EMERGING MARKETS

### o Problem Statement

- Market growth rates, trends, and other relevant insights on embolization products during peripheral and neurovascular intervention.
- Utilization of embolization devices especially liquid agents in neovascular interventions in Asia, focused on China and in Latin America focused on Brazil.
- Market valuation and trends tracking across therapeutic applications of embolization devices across Asia and Latin America.
- Emphasis on indication, procedure volume, per procedure utilization of liquid embolic agents like Onyx Liquid Embolic System, LAVA Liquid Embolic System, Trufill n-BCA Liquid Embolic System, Squid, Menox, PHIL (Precipitating hydrophobic injectable liquid)
- Detailed assessment of competitors' market share and positioning in liquid embolization o Cross validation of in-house research conducted by the client's CI team. including market share (value and volume), industry trends, and competition.
- Segmentation by indications within the regime to understand usage patterns, reimbursement landscape, price point, etc.

### Research Approach/Methodology

- Designed hybrid methodology to track the on-ground data on sale volume through competition intelligence study. This involved tracking detailed product offering of competitors along with their financials, business performance, strategic initiatives. Primary research with KOLs has been conducted to gather and validate the data captured during desk research activity.
- Developed an epi-based forecasting data model to assess the market valuation in terms of value and volume. Defined the scope of work and gathered data for parameters of the data model like treatment procedures volume, availability of alternative treatment, usage pattern of embolic agents, cost of the procedure, reimbursement landscape, price of an embolic agent, eligibility criteria of embolization procedure etc.

### Solution Offered

- The study outcome was presented in 3 different formats as follows: o Detailed report
  with all key takeaways, literature-based findings, market dynamics, forecasting,
  competition dashboard, key market trend, impact factors etc.
- High-level presentation developed for stakeholder and business development activities for the client. This involved key insights generated from the report, comparison of the target market with alternatives, CI on various market models

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- including PESTLE, Brand share assessment, historical revenue and volume trend at country level, epi-based finding on penetration, utilization etc.
- Data representation in data analysis tool (Power BI) for self-assessment. This
  involved a creative dashboard to get hidden insights into the study

### Study Outcome

- The client has successfully received the desired outcome from the assignment. The
  assignment has demonstrated the new findings that have helped the client in its
  expansion strategy. The tracking has been conducted for less penetrated regions
  like Asia-Pacific and Latin America.
- The study also validated the hypothesis of existing data available with the client. This has increased the confidence in forecasting provided in the research.