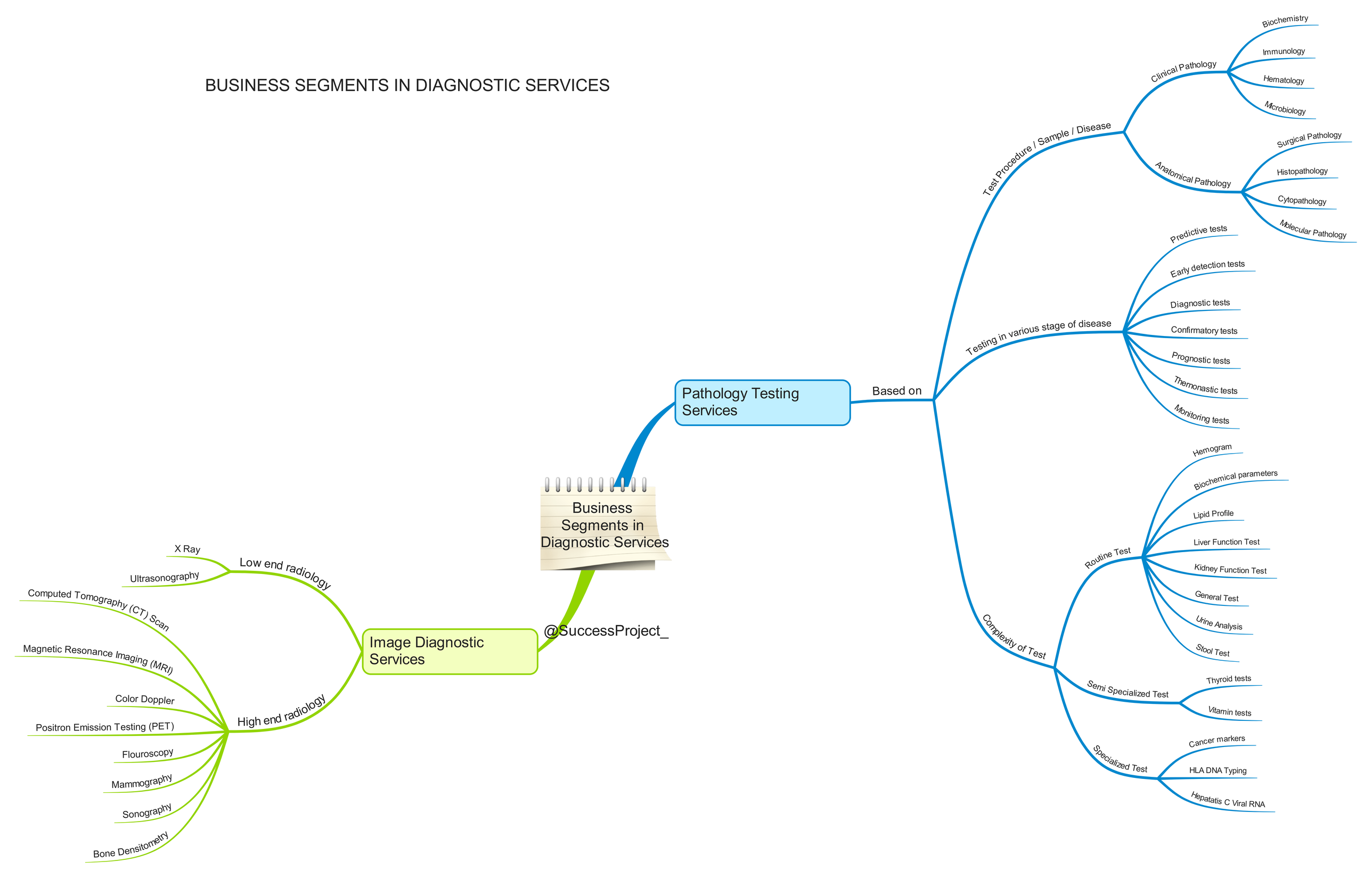
DIAGNOSTIC INDUSTRY ECOSYSTEM

- Diagnostic Industry Ecosystem
  - Regulatory framework
    - Mandatory
      - Shop establishment license
      - Pollution control board
      - Clinical Establishment Act, 2010
      - Imaging Centres
        - Pre-natal diagnostic technique act
        - Atomic Energy Regulator Board guidelines
    - Voluntary
      - NABL - National Accreditation Board for Testing and Calibration Laboratories
      - APLAC - Asia Pacific Laboratory Accreditation Co-operation
      - ILAC - International Laboratory Accreditation Co-operation
      - CDC - Centers for Disease Control and Prevention
      - CLIA - Clinical Laboratory Improvement Amendments
      - CAP - College of American Pathologists (CAP) laboratory accreditation
  - Information Technology
    - Types of systems
      - Lab Information Management Systems
      - Enterprise Resource Planning
    - Purpose
      - Standardization
      - Scale operations
      - Less errors
      - Less human interference
      - Monitor performance metrics
    - Customer convenience
      - Book appointment
      - Reports online
    - @SuccessProject_
  - Logistics
    - Support Hub and Spoke Model
      - Reference Lab
        - National
        - Regional
      - Satellite labs
      - Collection centre
    - Mode of transport
      - Air
      - Rail
      - Road
    - Purpose
      - Scale operations
      - Greater economies of scale
      - Cover multiple locations
    - @SuccessProject_
  - Customers
    - Reach out network
      - Owned centers
      - Franchises
      - Managed labs
      - Home collection
    - Type
      - B2C
        - Individual patients
      - B2B
        - Hospitals / Clinics
        - Labs
        - Physician
        - Corporates
  - Diagnostic Companies
    - Unorganized (84%)
      - Standalone centers
      - Hospital based centers
    - Organized (16%)
      - Diagnostic Chains
        - Pan India
          - Thyrocare
          - Metropolis
          - Dr Lal Pathlabs
          - SRL
        - Regional
          - North
            - Quest Diagnostics
            - Core Diagnostics
            - Max Labs
          - East
            - Suraksha Diagnostics
          - West
            - Sub Urban Diagnostics
            - iGenetic Diagnostics
          - South
            - Medall Healthcare
            - Vijaya Diagnostic Center
            - Apollo Diagnostics
  - Diagnostic Professionals
    - Pathologist
      - Chemical Pathologist
      - Cytopathology
      - Dermatopathology
      - Forensic pathology
      - Hematopathology
      - Medical microbiology pathology
      - Neuropathology
      - Pediatric pathology
    - @SuccessProject_
    - Radiologist
      - Diagnostic Radiologist
      - Interventional Radiologist
      - Radiation Oncologist
    - Phlebotomist
    - Medical Technologist
    - Microbiologist
    - Biochemist
    - Analytical Chemist
  - Vendors
    - Supply
      - Equipments
        - Analyzers
        - CT Scanners
        - X Ray Machines
      - Reagents
      - Diagnostic Kits
    - Business Model - Sale of...
      - Equipment at low cost
      - Pre determined quantity of Reagents @Predetermined prices
      - Contract for period of 3 - 7 Years

BUSINESS SEGMENTS IN DIAGNOSTIC SERVICES



TREND IN DIAGNOSTIC INDUSTRY

References:

DRHP of listed diagnostic companies

https://wearableworldlabs.com/types-of-wearable-biosensors/ http //www.mepits.com/tutorial/180/biomedical/wearable-biosensors

Trends in Diagnostic Industry

@SuccessProject_

@SuccessProject_

- Technology
  - Point of Care Testing
    - Locations Used
      - Patients Bed-side
      - Outpatient clinics
      - Retail Pharmacies
      - Ambulances
      - Patient's home
    - Market segment
      - End users
        - Trained medial professionals
        - Self monitoring kits
      - Prescription
        - Over the counter
        - Prescription based
    - Kits
      - Urinalysis testing kits
      - Glucose monitoring kits
      - Coagulation monitoring kits
      - Infectious diseases testing kits
      - Cholesteroal test strips
      - Hematology testing kits
      - Blood gas/Electrolyte testing kits
      - Food pathogens testing kits
      - Tumor/Cancer market
      - Drug abuse test kits
      - Fecal occult testing
      - Cardiac markets
      - Pregnancy kits
  - Digital Pathology
    - Benefits
      - Quality
        - Improved analysis
        - Reduced errors / Misidentification
        - Better views
        - Eliminates breakage
      - Productivity
        - Improved work flow
        - Reduced TAT
        - Increased innovation
      - Lower cost
        - Eliminates courier services
        - Speeds up work flow
        - Avoid travelfor peer reviews
  - Whole Slide Imaging
    - Also called as
      - Virtual Microscopy
      - Whole slide scanning
  - Wearable Biosensors (WBS)
    - Combination of
      - Biosensors
        - Other names
          - Immunosensors
          - Optrodes
          - Biochips
          - Glucometers
          - Biocomputers
        - Contains
          - Transducer
          - Biosensor reading device
          - Biological element
      - Wearables
    - Benefits
      - Real time information
      - 2 way feedback between doctor / Patient
      - Early detection of health events
    - Common WBS
      - Heath Patch Biosensor
        - Pulmonary
        - Neurologic
        - Cardiovascular
      - Eyewear
      - Mouthpiece
      - Arm/Wrist band
      - Smart watch
      - Ring
      - Smart shirts
      - Belts
      - Shoes
- Growth Trends
  - Network Expansion
    - Higher volumes
    - Lower cost
    - Needs improved logistics
  - Emphasis on a Doctor Referral Network
    - Doctor referrals >50%
    - Patient walk-in & corporate customers (<50%)
  - Emphasis on Brand Building
    - Means
      - Healthcare camp
      - Wellness & Preventive test packages
      - Advertising campaigns
    - How?
      - Quality & Accuracy of Results
        - Lab equipment
        - Testing Reagents
        - Pathologist & Radiologists
      - Timely services
- Business Model
  - Consolidation, Unorganized -> Organlized market
  - Focus on preventive and wellness services
  - Growth Trend of Evidence Based Medicine
  - Emergence of Online Aggregators
  - Asset Light Model of Growth
    - Hub and Spoke Model
    - Shop-in Shop model
    - Home collection