The Relationship Between Expertise and Synergy in Hospital Development

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Quick Case Studies

- **Hospital A – 100 Bed 4 theatre**
  - Complete re-design
  - Re-build the QS Costing
  - Why?
    - No architect/design brief issued to architect
    - Adjacencies not matched
    - No sharing with professional team the planned discipline mix and patient demographics
    - No matching of revenue stream to capital cost
- **Hospital B – 70 bed 2 theatre**
  - Great design and layout as a result of architect brief prepared
  - Costs over the top for the type of hospital
  - Why?
    - No sharing with professional team the vision, discipline mix and patient demographics and medical scheme mix
    - Costs of infrastructure – particularly gas, HVAC and electrical (back up power solar/inverter & batteries) – could support a 200-bed hospital!

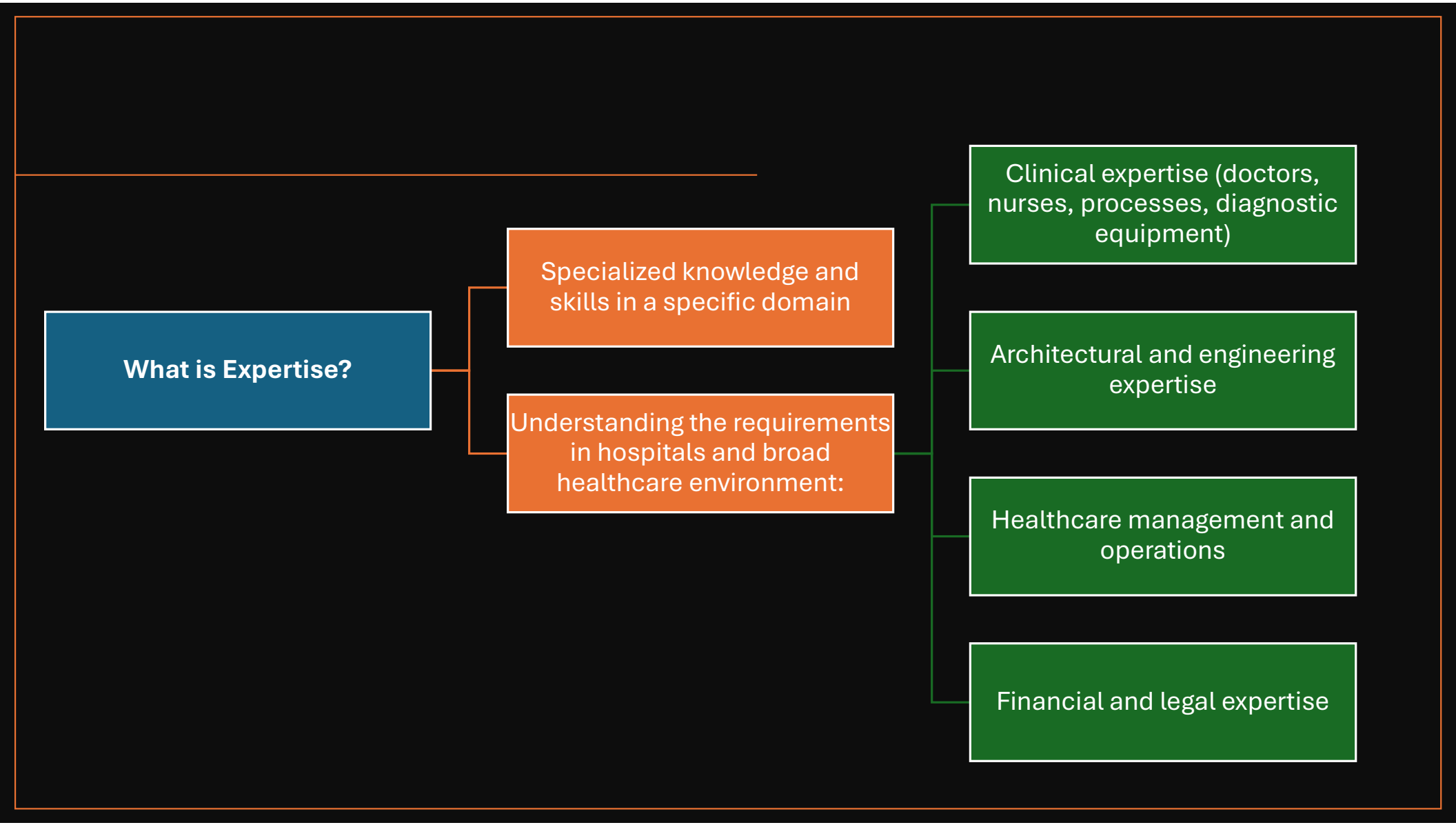
So What is the starting point?

Development Process and Integration

- Concept Phase: Architects interpret vision
- QS builds elemental costing
- Operator builds financial model to prove viability
- Engineers develop infrastructure concept & feasibility
- Funding dynamics – equity raising and debt funding
- Detail design Phase: Costing update
- Developers align funding with technical needs
- Funding approval
- Construction Phase: Continuous collaboration reduces risk
- Operations Phase: Engineers ensure long-term asset performance

Hospital Design

- Each hospital is different:
  - Geography – position, urban, rural
  - Demographic – population mix?
  - Site – size, contours, services
  - Discipline/case mix – major/minor surgeries
  - Theatre and bed mix – volume estimation
  - Layout – single/multiple stories
- Apply benchmark bed/m^2
- Patient expectations?
- Bauhaus – strip the ornamentations (leave some features?)


What is Expertise?
Specialized knowledge and skills in a specific domain
Understanding the requirements in hospitals and broad healthcare environment:
Clinical expertise (doctors, nurses, processes, diagnostic equipment)
Architectural and engineering expertise
Healthcare management and operations
Financial and legal expertise

Expertise vs Synergy

- **But Expertise Alone is Not Enough**
  - Silos can lead to inefficiencies
  - Misalignment between design and clinical needs
  - Increased costs due to rework:
    - **Value engineering** can help by re-looking at design concepts and re-assessing the match between revenue stream and capital cost

- **Why Synergy is Critical**
  - Ensures all stakeholders work toward common objectives
  - Enhances innovation through collaboration
  - Reduces risks and errors
  - Improves project timelines and cost control

Covert Conflict! (Possible Silos?)

- **Architects**
- Experienced in hospital design?
  - Beauty
  - Vision
  - Space
- Criticisms
  - Over design – “5 Star” instead of “3 Star”
  - Destroy good design by cutting costs

- **Engineers**
- Experienced in hospital infrastructure?
  - Functionality
  - Reliability
  - Systems
  - Long term efficiency
- Criticisms
  - Developers underestimate costs of infrastructure
  - Beautiful hospitals that cannot function efficiently are failures

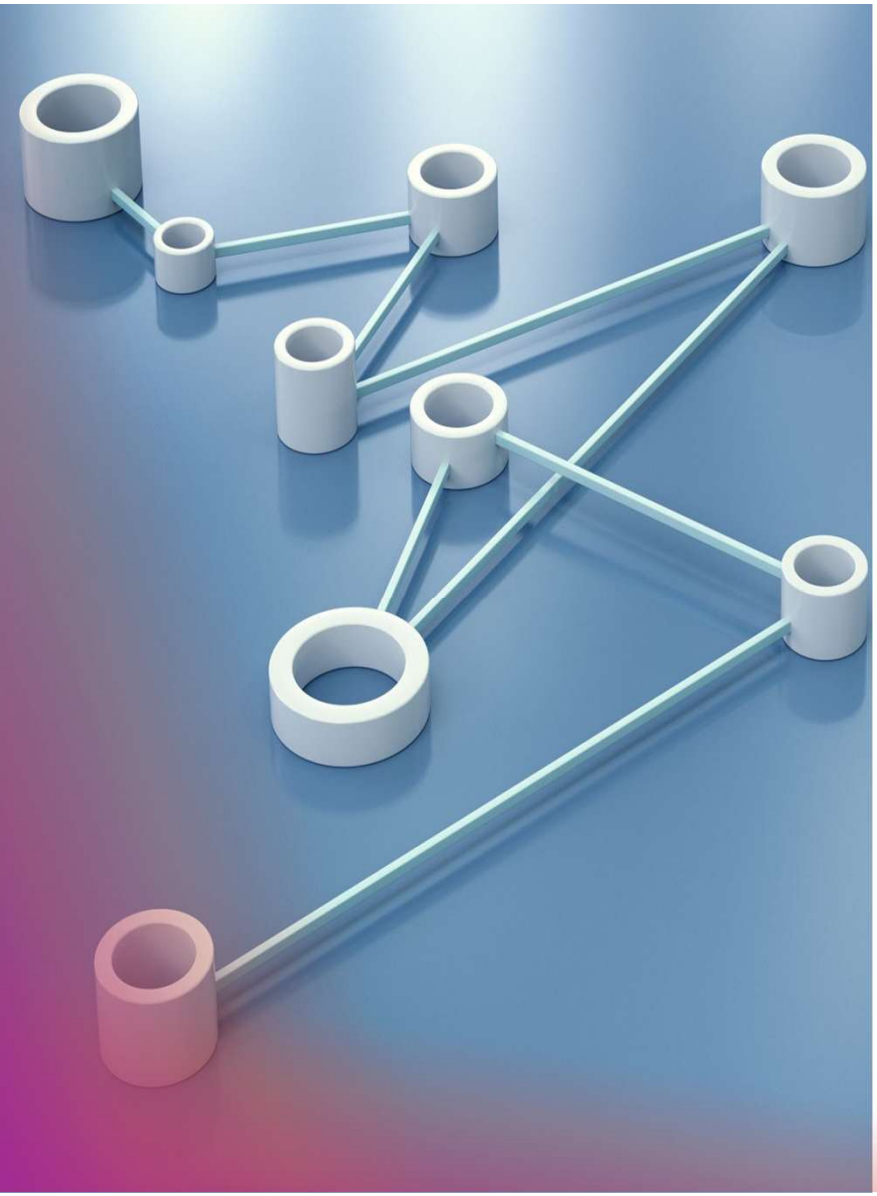
- **Developers**
- Vision/Concept
  - Funding
  - Viability
  - Return on investment
  - Revenue
- Criticisms
  - Engineers “gold plate” systems

- **Key Stakeholders in Hospital Development**
  - Clinicians and healthcare providers
  - Architects and engineers
  - Project managers
  - Government and regulatory bodies
  - Investors and financiers
  - Community representatives
  - Operational management

Areas Where Synergy is Essential

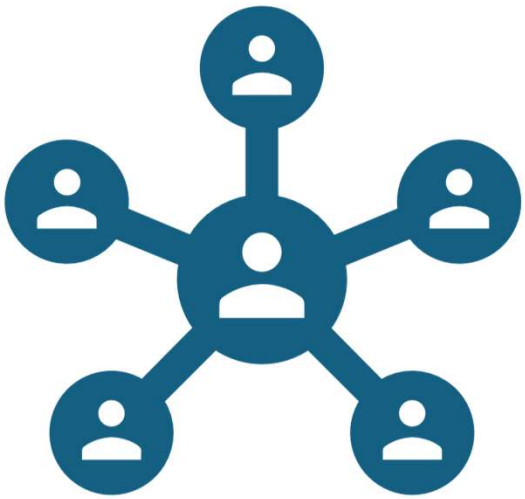
- Facility design and clinical workflow alignment
- Medical equipment planning and infrastructure
- Adjacencies of services e.g. Casualty/emergency next to radiology, ward services access
- IT systems integration (EMR, digital health)
- Infection control and patient safety
- Sustainability and energy efficiency

- **Broad Case Examples**
  - Lack of synergy:
    - Operating theatres designed without clinician/operator input (what procedures?)
    - No attention to adjacencies
      - Results: workflow inefficiencies and potential redesign costs
  - Strong synergy:
    - Early collaboration between hospital operator, clinicians and designers
    - Result: optimized layouts and improved outcomes



- **Strategies to Achieve Synergy**
  - Early stakeholder engagement, particularly operational management
  - Interdisciplinary workshops and planning sessions
  - Integrated project delivery (IPD) models e.g. digital clinical systems, IT integration, innovative patient care services
  - Clear communication channels
  - Strong leadership and governance

- **Role of Leadership**
  - Leadership team to have powers of decision making:
    - Project Manager
    - Hospital Operator
  - Facilitate collaboration across teams
  - Break down silos – no independent actions in isolation to the “team”
  - Align vision and objectives – bring the professional team on-board regarding vision and concept
  - Ensure accountability – objectives, targets and time frames to be met



- **Challenges to Achieving Synergy**
  - Conflicting priorities among stakeholders
  - Communication barriers
  - Budget constraints
  - Resistance to change
  - Expectations of visionary
  - Finding the “balance” between what is desired versus what is practical and affordable

- **Overcoming Challenges**
  - Establish shared goals and KPIs
  - Use digital collaboration tools
  - Continuous stakeholder engagement
  - Training and change management

- **The Bottom Line is:**
  - Rising health care costs requires efficient hospitals (capital and operational)
  - Functional efficiencies, adjacencies, least people movement throughout
  - Power and water security
  - Maintenance efficiencies
  - Improved patient care and safety
  - Future proofing hospital infrastructure
  - ***Build small, make money then expand***
  - ***Hospitals succeed when architects, engineers and developers co-design value, not just buildings***

Thank you for your attention!

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