

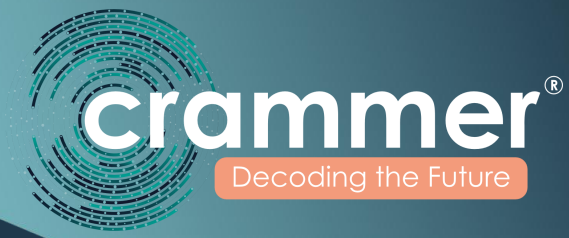


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Decoding the Future

WELCOME!

BREAKAWAY ROOM 1



Mercia Fynn

Futureproofing Innovation: Ip Commercialisation Strategies For Emerging Economies



Best Practices When Dealing with IP



- ▶ Create an IP and information inventory:
 - ▶ What is patentable?
 - ▶ What should remain a trade secret?
 - ▶ What is confidential know-how?
 - ▶ What personal information is included?
- ▶ In university environments especially, innovation is often collaborative, iterative and poorly documented.
- ▶ A clear classification system can avoid accidental disclosures in publications, premature patent filings and loss of proprietary advantage.

Trade Secrets

- ▶ In emerging economies, trade secrets are often more practical than patents because:
 - ▶ Patents are expensive and territorial;
 - ▶ Enforcement can be difficult; and
 - ▶ Timelines don't always match commercial urgency.
- ▶ Trade secrets, however are immediate, cost-effective and can last indefinitely.
- ▶ Protection lasts as long as the information remains confidential. Once public, protection is lost.

What Qualifies as a Trade Secret?



- ▶ Must be capable of use in trade or industry;
 - ▶ Must have economic value to the proprietor;
 - ▶ Must not be in the public domain; reasonable efforts to keep secret.
-
- ▶ **Some examples:**
 - ▶ Technical information, manufacturing processes, designs, source code;
 - ▶ Customer and supplier lists, pricing, business strategies;
 - ▶ Product formulae, marketing information, databases.



Confidential Information and Know-How

- ▶ Confidential information is any information, in any form, that is not publicly available and is disclosed in circumstances importing an obligation of confidence, where the information has value because it is kept confidential.
- ▶ Confidential know-how is a subset of confidential information, consisting of practical knowledge, skills, techniques, and experience that are not publicly known and that enable a person to perform a particular process or achieve a specific result.
- ▶ All confidential know-how is confidential information, but not all confidential information qualifies as know-how.

Confidential Information and Know-How

- ▶ **Examples of confidential know-how:**

- ▶ Manufacturing processes or methods;
- ▶ Laboratory techniques or protocols;
- ▶ Algorithms or optimisation methods;
- ▶ “Tricks of the trade” developed through experience;
- ▶ Technical workflows that improve efficiency or outcomes.

- ▶ Know-how often sits in people’s heads, processes, and systems, not just in documents.



Practical tips for Managing Trade Secrets and Confidential Information



- ▶ Ensure the information meets the legal criteria;
- ▶ Identify and document trade secrets and confidential information clearly;
- ▶ Implement internal policies to ensure robust confidentiality and access control;
- ▶ Use written agreements with employees, contractors, and partners;
- ▶ Regularly monitor access, review and update protection measures;
- ▶ Act promptly if misappropriation is suspected.

Managing Personal Information in Innovation

- ▶ Increasingly, innovation involves personal information, and with that comes regulatory exposure.
- ▶ **In South Africa, under POPIA, and globally under similar regimes, you need to ask the following:**
 - ▶ Are we collecting personal information?
 - ▶ For what purpose?
 - ▶ Do we actually need it?
 - ▶ Is the necessary consent in place or is there a valid alternative justification for using PI?



Managing Personal Information in Innovation

- ▶ **Key principles:**

- ▶ Data minimality: Don't collect more PI than you need;
- ▶ Purpose limitation: Use PI only for its intended purpose;
- ▶ Security safeguards: Protect PI like you would any core IP asset.

- ▶ **In research environments, risks often arise from:**

- ▶ Datasets being reused for new purposes;
- ▶ Insufficient consent frameworks; or
- ▶ Unclear ownership of data.

- ▶ Data is not just a compliance issue; it is increasingly a commercial asset and a liability.



BREAKAWAY ROOM 1



Dineo Masokoane

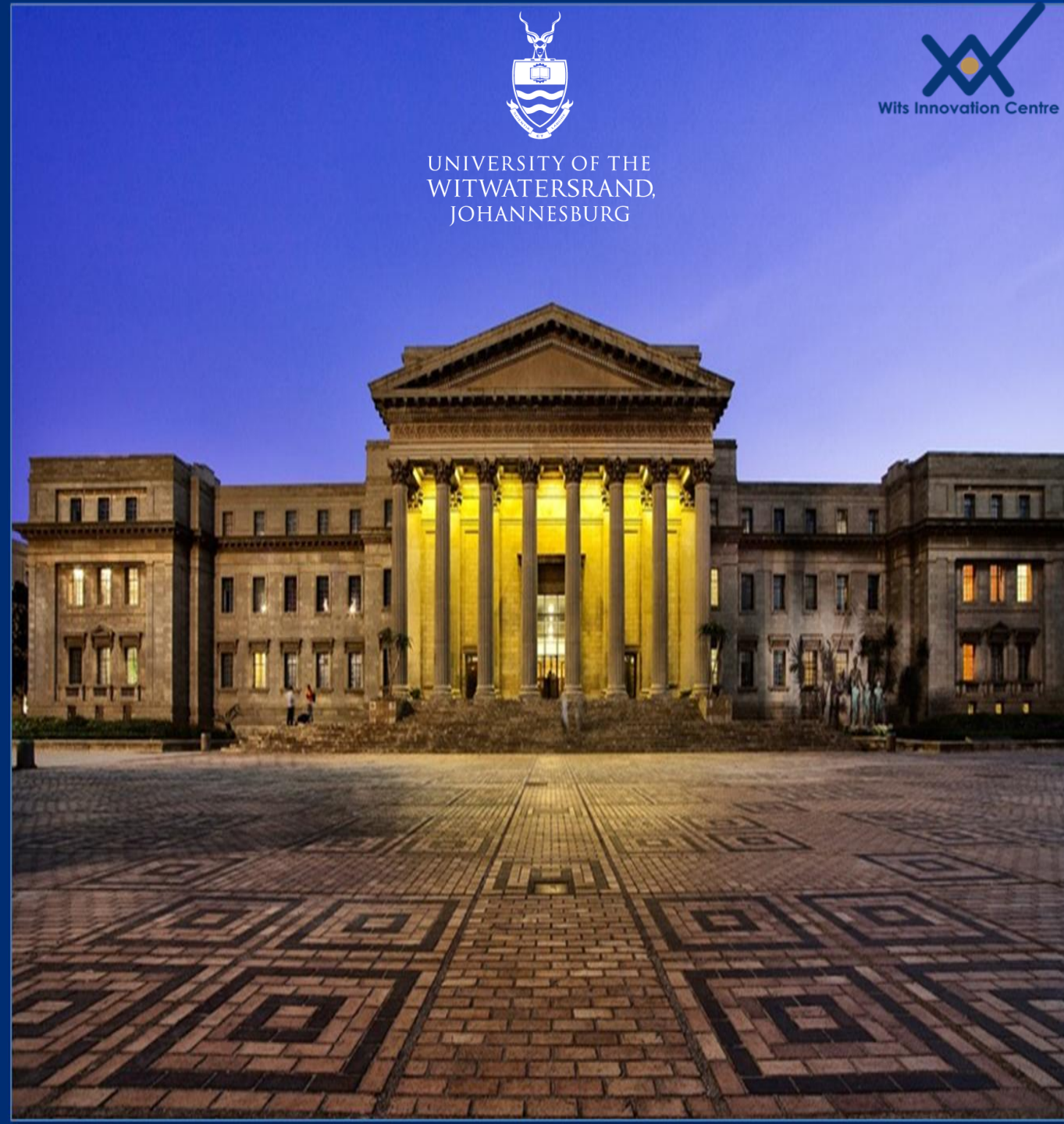
Wits Innovation Centre

Futureproofing Innovation: Ip Commercialisation Strategies For Emerging Economies



Futureproofing Innovation: IP Commercialisation Strategies from a South African perspective

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The Innovation Landscape in Emerging Economies



The "Value Gap" Challenge



Resource Constraints: High intellectual capital vs. limited "Bridge Funding" for prototyping.



The Problem: Many innovations remain "trapped" in academic journals without reaching the market.



The Shift: Moving from R&D-led discovery to Market-led IP strategy.



Strategic Goal: Creating "Futureproof" IP that survives economic volatility and shifts in global health priorities.

Drug development process

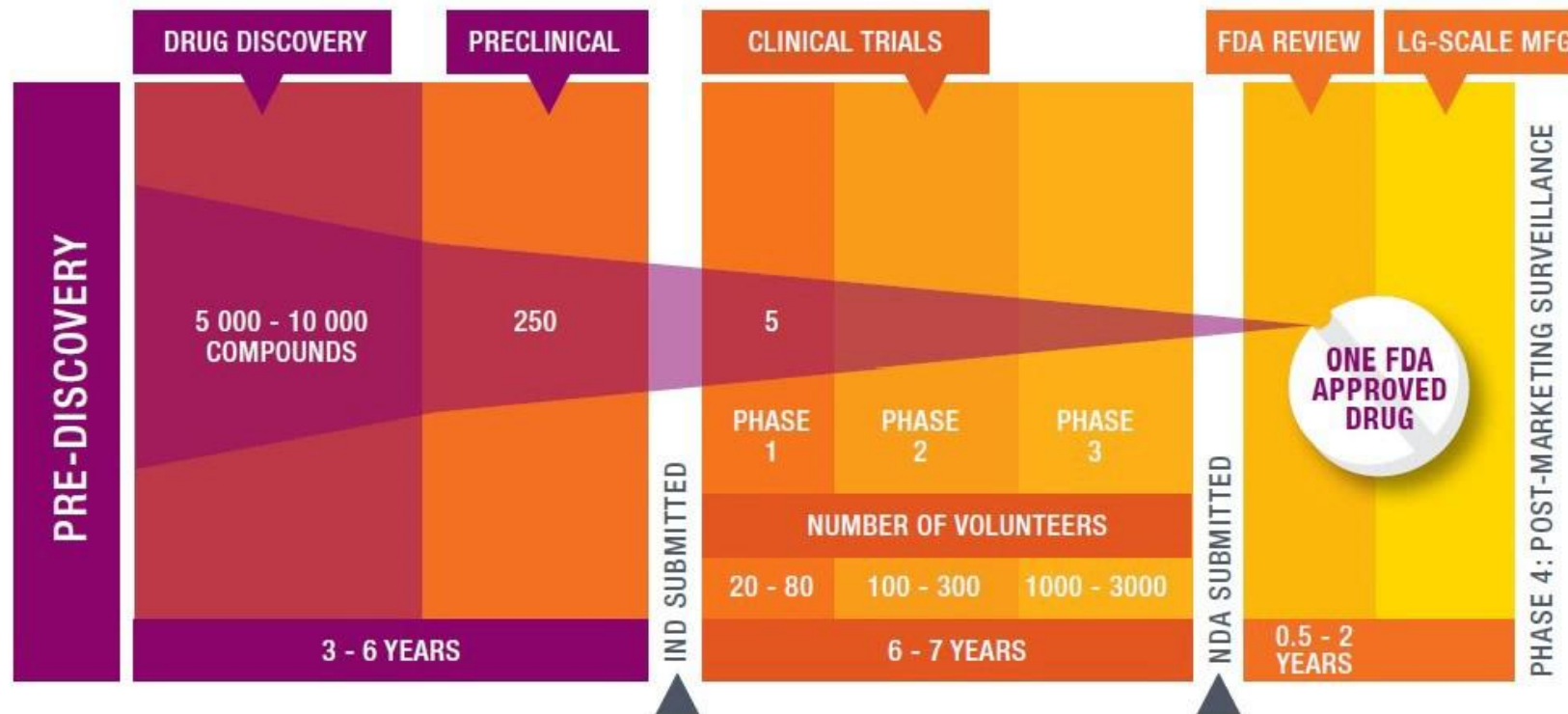


Figure 1: Drug Discovery and Development: A long, risky road (based on PhRMA drawing¹)

Spotlight on the Case Study – The Predictive Mathematical Model

- **The Innovation:** A model designed to aid in screening and activity ranking of chemical compounds against SARS-CoV-2.
- **Value Proposition:**
 - **Efficiency:** Accelerates drug discovery by prioritizing high-potential compounds before expensive laboratory testing.
 - **Cost-Reduction:** Minimizes "trial-and-error" costs in the drug development pipeline, which can typically reach \$2 billion globally.
- **Project Lead:** Professor Simon Mukwembi, School of Mathematics, University of the Witwatersrand.

The Mathematical Edge (Technical Validation)

Developed a
technology



From Equations to Commercial Assets

- **The Logic:** Utilizing predictive variables (as detailed in the TIA application) to simulate compound interactions.
- **Commercial USP (Unique Selling Point):** Speed. In a pandemic, the time-to-market is the most valuable currency
- **Scalability:** While built for SARS-CoV-2, the underlying mathematical framework can be "pivot-ready" for future viral threats (Disease X).

IP Strategies: Protecting the "Algorithm"

- **The Patentability Dilemma:** Pure mathematical formulas are often non-patentable.
- **The Solution:** Patenting the *application* of the model (the technical process of drug screening).
- **Trade Secrets:** Maintaining the proprietary nature of the datasets used to train or validate the model.
- **Copyright:** Protecting the specific software code implementing the mathematical logic.

Commercialisation Pathways



Spin-off Company: Forming a specialized biotech consultancy through Wits Commercial Enterprise to offer screening services.



Licensing: Partnering with established pharmaceutical firms to integrate the model into their R&D workflows.



B2B Service Model: Offering "Screening-as-a-Service" to smaller labs in emerging markets who cannot afford full-scale wet-lab screening.

Conclusion & Key Takeaways

- **IP is a Tool, Not a Trophy:** It must be used to drive investment and solve local problems.
- **Collaborative Strength:** The Mukwembi model proves that regional partnerships (RSA-Zimbabwe) increase the commercial "gravity" of a project. Futureproofing requires cross-disciplinary teams (Mathematics + Pharmacy + Industry) to turn academic models into market-ready tools.
- **Final Thought:** We don't just need better math, we need better ecosystems to bring that math to the bedside.



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THANK YOU