

RAJAH & TANN



**Case Studies in Successful
Use of Intellectual Property
System: Turning High -Tech
Inventions and Innovations
into Profit - Making Assets**

by

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Outline of Presentation

- Intellectual Property and Capital As Assets
- From Ideas To Profits: Why and How
- Developing, Protecting & Marketing New Inventions
- Commercialisation Through Licensing
- Case Studies
- Conclusion

Intellectual Property and Capital As Assets

- Significance of IPRs in all areas of business has grown dramatically
- Rise of knowledge economy means IP ownership likely to determine company's future economic success
- IP offers product differentiation which holds key to market share and profits
- Many successful businesses in high tech industries rely solely on intangible assets – innovative product ideas, information systems, sophisticated designs, branding and goodwill, knowledge and skills in workforce etc.
- IPR protection enables benefits of innovation and creativity to be reaped, turning ideas into profit - making assets



Intellectual Property and Capital As Assets

- US\$70b for “Coca-Cola”, US\$3m paid by BoA for loans.com, US\$50m paid by Deutsche Telekom for access to Voicestream’s customers
- Employees – assets or expenses? Customer relationships? Value on balance sheet? Worth in money terms?
- Regardless of size of business, inventions and innovations arise from human creativity
- Organizational capital – corporate culture, teamwork, key contacts
- “...everything under the sun made by man is patentable...”

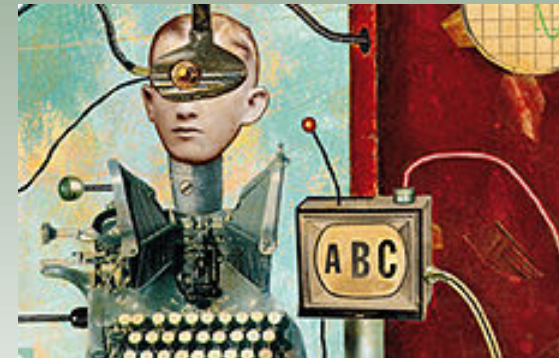
From Ideas To Profits: Why?

- Ideas by themselves have little value - need to be developed, turned into innovative products or services, and commercialized successfully
- Easy to conceive inventions, difficult to commercialise them
- Unless commercially exploited, not worth paper rights
- Need to justify investment, recoup expenses
- Profits can be used to fund new ideas



From Ideas To Profits: How?

- Brilliant ideas don't count unless time, effort and resources go into developing and marketing product
- Key success factors
 - Technical feasibility
 - Economic viability
 - Market potential
- Evaluation of idea necessary, but a cost to be recouped
- PROFIT, FEAR, KNOWLEDGE – highly influential factors
- Good product idea + well thought management/ commercialisation strategy



From Ideas To Profits: How?

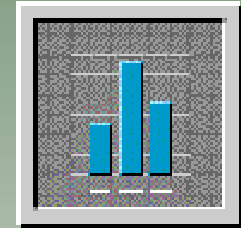
- Commercialisation options
 - manufacture and sale of IP -protected products and services
 - licensing and cross -licensing of IP
 - franchising of operations and systems
 - sale/acquisition of IP assets to other businesses
 - business financing and securitisation of IP assets
 - joint ventures, partnerships and strategic alliances for R&D
- Medium
 - direct business contacts
 - electronic marketplaces
 - trade fairs and exhibitions
 - publications
 - mass media

From Ideas To Profits: Main Phases

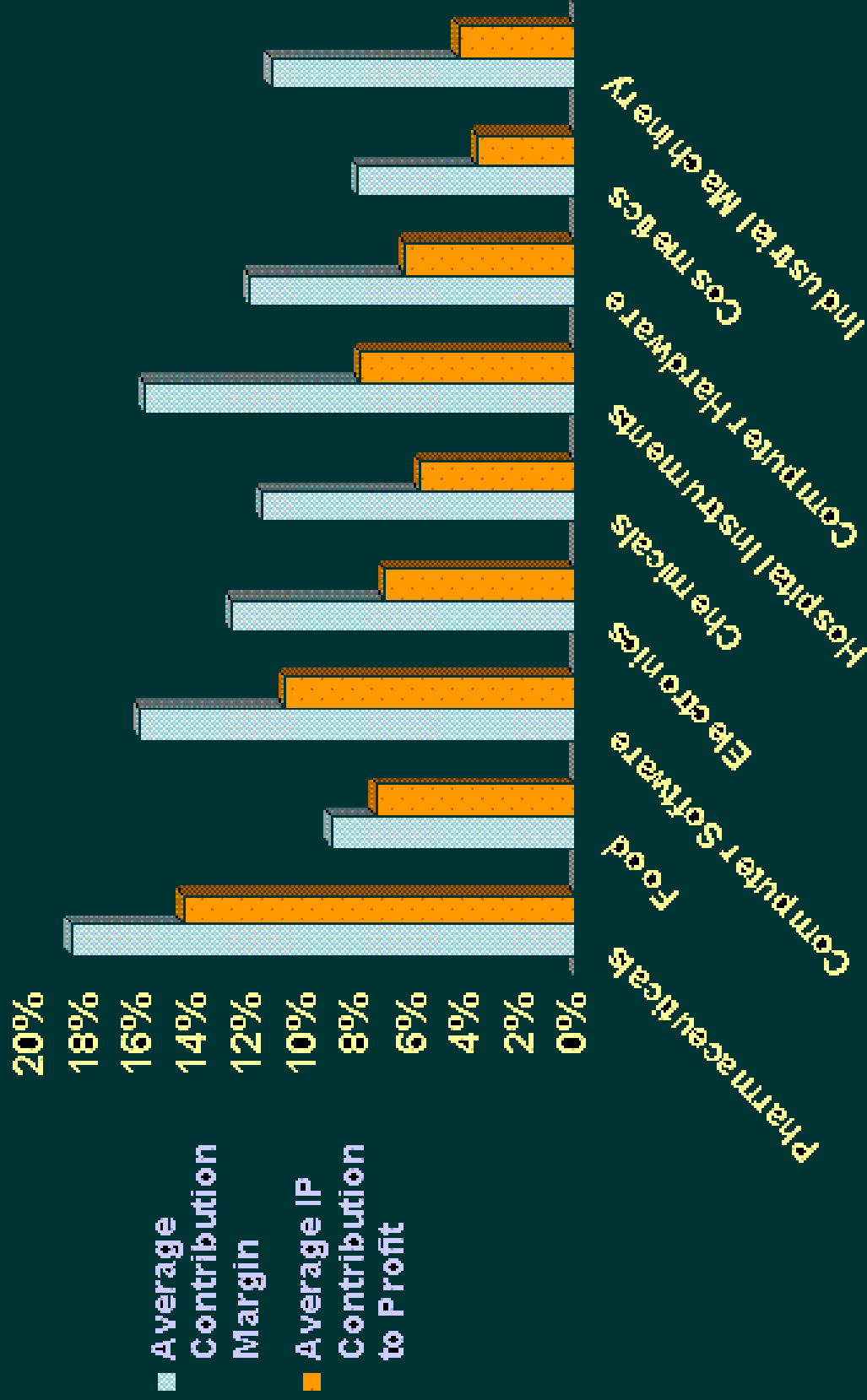
- Evaluation
- IPR protection
- Product development
- Marketing
- Commercialisation
- IPR and contract enforcement
- Investment of Profits

Developing, Protecting & Marketing New Inventions: Key Considerations

- Protection of IPR – strategies to adopt?
- Market analysis – demand? competition?
- Design and development of product – single or packaged?
- Devising marketing strategy – local or regional/global?
- Commercial release of product – when and where?
- Licensing of IPR – to license or maintain exclusivity?
- Monitoring compliance with license terms – payment of royalties, non-licensed use?
- New ventures and strategic alliances – subsidiaries, equity investments, joint ventures?
- Government measures to encourage R&D and commercialisation efforts



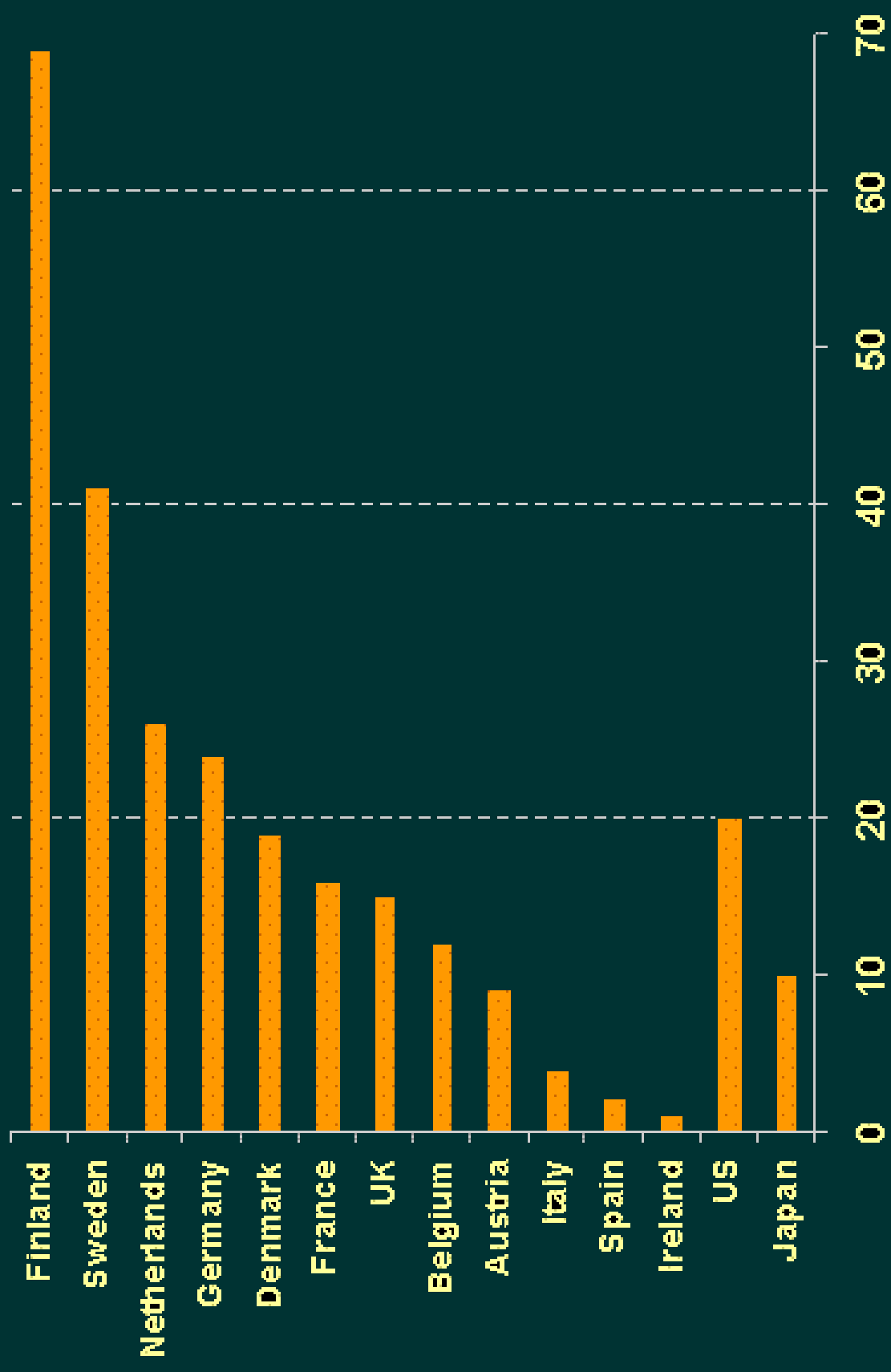
Average Industry Return on Intellectual Property



Developing, Protecting & Marketing New Inventions: Threats and Challenges

- Development time varies with technology/IPR – longer it takes to bring to market, higher the cost, greater the risk
- Changing market conditions and state of art – especially volatile for tech biz
- Relatively short commercialisation lifespan for patents – need to draw up defensive patents, anticipate future developments to justify heavy investment in R&D
- High cost of protecting and enforcing IPRs
- Corporate culture – eg. approach to filing of patents
- Legal environment – eg. restrictive covenants, confidentiality obligations
- Subjectivity in valuation of IP assets used as collateral for financing

Number of High-Tech Patent Applications Per Million of Population, 1998



Source: European Innovation Scoreboard

Commercialisation Through Licensing

- Licensing of IP in open markets has grown tremendously
- \$8 billion worth of global annual retail sales of TM licensed products in 1968, \$130 billion today
- Licensing away of capturing and maximising value in IP
- Adopted when:
 - insufficient marketing, manufacturing or distribution capacity to supply entire market
 - demand for license of IP exist – eg. merchandising
 - technology about to be surpassed by new in-house developments
 - Need for cash flow
 - Challenge to weak IP



The Licensing Process

1. Inventory of IPR and technology	2. Business plan	3. Release of IPR/technology and risk management
4. Develop IPR/technology package	5. Screen potential licensees	6. Contract and negotiation with potential licensee
7. Draft license agreements and complete deal	8. Deliver IPR and technology	9. License management

The Truth About Licensing

- *“Licensing our technology is a bad strategy for my company”*
 - Apple Computer – mistake that limited market share and growth
 - Don’t assume on the other hand that licensing is the best strategy – value of market exclusion may be significant
 - Polaroid v Kodak
 - 3M
 - Intel

The Truth About Licensing

- *“Let’s leave licensing to top management”*
 - not our problem
 - the best people to value IPRs are the IP professionals, the engineers and management.

The Truth About Licensing

- *“A good knowledge company will never license technology from others”*
 - Maybe more cost -efficient to take a license – eg. Korean car manufacturers, computer platform compatibility
 - High R&D costs have to be recouped quickly
 - Benefits of cross -licensing
 - IBM – more than 20,000 patents and \$1 billion in licensing revenue, but licenses in microprocessors and OS for ThinkPad, while licensing out TrackPoint

The Truth About Licensing

- *“We should hush up about licences we grant”*
 - proof that licensor has developed IP that others believe is of value
 - proof that licensor aggressively manages its IP to ensure that value is extracted from R&D activities
 - alert against infringers – eg. Philips CD-ROM
 - good publicity all round if license product is successful

Case Study #1: Bishop Steering

- World renowned engineering innovators, established in 1957 by Dr. Arthur E. Bishop who first designed commercial aircraft steering and landing gear
- Successfully applied ideas to automotive designs
- Multi-national team of engineers and IP protection experts enabled introduction of numerous innovative power steering systems.
- Steering valve and variable ratio technologies have achieved major market penetration worldwide
- Rather than manufacturing its innovative steering systems, it only licenses this technology to car and component manufacturers, then invests income in further R&D
- Patents are defended vigorously and infringers prosecuted



Case Study #1: Bishop Steering



- More than 500 patents and applications, and more than \$7m revenue each year in royalties - 90% from licensees overseas.
- 25% percent of motor vehicles produced every year incorporate Bishop technology
- Since Arthur Bishop first setup, company has developed extensive and very detailed inventory of its IP as part of day today business
- Believed that taking a strategic approach to managing IP is the only sure way of using IP protection system to commercial advantage
- Realised that protecting IP assets is not an end in itself – instead, real commercial objective is to exploit IP assets to generate revenue and maximise profit
- To achieve this, strategic approach, encompassing various elements is needed

Case Study #1: Bishop Steering

- Adopted 10 -point Best Practices IP Management Methodology:
 - ✓ identify all IP owned
 - ✓ record appropriate details about those assets in IP register
 - ✓ audit IP periodically
 - ✓ protect IP using most appropriate legal mechanisms available - not always or necessarily the most expensive
 - ✓ value each IP asset and reflect this in balance sheet
 - ✓ to ensure commercialisation of new IP does not expose company to risk, clear any new products and processes before marketing
 - ✓ commercialise IP - including through new marketing methods available through Internet
 - ✓ attribute ownership of IP so that others know who owns it
 - ✓ enforce IP rights when infringed or threatened
 - ✓ develop and adhere to corporate policies and practices about handling and managing IP

Case Study #1: Bishop Steering

- In Sep 2000, multi-million dollar licensing agreements signed with Robert Bosch GmbH to manufacture Bishop's patented Torque and Angle Sensor – key to replacement of traditional hydraulic steering with electric steering for passenger vehicles
- In August 2001, 30% shares acquired by DaimlerChrysler AG, world's fourth largest carmaker
- Injection of funds will enhance Bishop's ability to create further intellectual property in the transportation and telecommunications engineering field, and accelerate a number of R&D projects already in progress
- A number of technologies already identified for further cooperative development work with DaimlerChrysler – eg. the Warm Forging and Torque and Angle Sensor technology
- Fast tracking of R&D will enable creation to be brought to market faster

Case Study #2: Jim Frazier

- Camera man shooting wildlife films for David Attenborough
- Notimetosetupandpositioncamerainwildlifephotography,difficultto focusonbothsubjectandbackground
- Needforversatilelens,noneavailable,R&Dstarted
- 10-yeartrial,newrevolutionarylensbuiltwhichheldeverythingfrom frontoflens toinfinityin focus,swiveltiptoallowlensmovementwithout movingcamera,andbuilt-inimagerotator
- Began shooting with new lens, work noticed by *Line of Fire* director, asked to show to Panavision – world's best lens manufacturer
- Panavision sent 3-page contract; Frazier's lawyers rewrote to 30 pages to protect IP and ensure substantial income

Case Study #2: Jim Frazier

- Negotiation over contract terms in neutral Hong Kong, Panavision required to sign confidentiality agreement before being allowed to see lens
- Panavision agreed to patent lens at their cost, Frazier gets to own patent, Frazier gets a lens set free for everyone made, percent age of rental fee when Panavision rents lens out, and US\$1m royalty fee
- Lens lowered production costs, new shooting angles without complicated setups, popularity grew
- Every 2nd commercial in US and many feature films now made using Frazier's lens

Case Study #3: Moonraker Australia Pty Ltd

- World leader in high-tech communication systems for military, professional and leisure operations
- Produce telemetry equipment that allow transmission of data through use of high powered antenna systems and satellite-tracked buoys
- Allows for underwater tracking of whales and seals, communication with remote and isolated areas of the world, operations in harsh weather conditions
- Started by communications engineer who was a keen sailor with desire for high powered antenna
- Trade secrets and know-how the most important elements in IP strategy – maintained through confidentiality provisions in employee, sub-contractor and other third party user agreements
- Vigilant enforcement to discourage unauthorised use and dissemination of technology

Case Study #4: Max Moorhouse

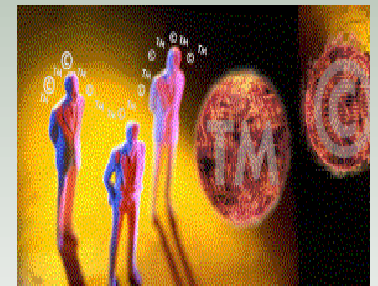
- Professional squash coach in Australia, faced risk of eye injury caused by high-speed flying squash balls and racquets
- Unsuccessful attempt to find suitable protective eyewear locally and overseas – tough, shatter-proof, unobstructed vision, comfortable, attractive in design
- Approached moulders with design, quoted US\$40,000 just for mould
- Had idea, but no clue as to how to develop into commercial reality, or of patent process
- Filed provisional patent in Australia for prototype by himself – did not proceed due to non-alignment of patent with commercial viability
- A year later, engaged patent attorneys, teamed up with marketing and IT consultants, filed another application based on substantial improvements to prototype, as well as design and “i-MAX” trademark applications

Case Study #4: Max Moorhouse

- Initial production run ordered, sponsorship contracts arranged with professional players for trial use of Max protective eyewear and t-shirts, with feedback required at end of trial
- Feedback used to modify product, local marketing commenced
- Lobbying to get national squash association require compulsory use of protective eyewear by under-19s due to recent injuries
- Popularity spread to European Squash Federation which also required all players under 19 to wear
- IPR protected in more than 30 countries around the world, especially in countries where squash is a popular sport
- R&D and IPR protection expenses recouped through product sales

Conclusion: What You Need To Succeed

- A clearly defined strategy – Develop, Protect, Commercialise
- Unique product, good marketing, legal protection
- Greater the IPR protection from the outset, better the prospect for commercialisation
- Proper valuation of IPR – know the value of your assets
- Manage your licenses, contracts and IPR portfolio
- Strategic alliances and ventures – seek out synergistic relationships
- Periodic IP audits – take stock of your profit -making assets
- Adapt to change – pace of innovation faster, product cycles shorter, new laws get passed



Questions ?



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