

Coding Tree

CONTEXT		
Scientific		
	Public vs private research	
	Characteristics of research finding	
		Specific regulatory issues
		Potential profit
		Applicability
		Patentability
		scientific
		potential public health benefit
		Complexity
	Characteristics of research area	
		Relevance for developing countries
		Competitiveness
		basic vs applied
	Research community	
R&D funding system		
Public Opinion		
Societal		
	Prices	
	Other	
Legal regulations		
ACTORS		
Scientist		
	Personal characteristics	
		career specifics
		Resources
		Motivation
		Can't develop alone
		Protect your intellectual property
		Get resources for further research
		Improve human health
		Interest, fun
		Financial incentive
		other
		Age
		Personality
	Negotiating position	
		Post-license
		spin-off
		Patenting decision
		Finding company
		Negotiation w/ company
		other
Institution		
	Institutional characteristics	
		tech transfer policies
		reputation
		Size
		type - govt, uni, private, public
		Resources
		Patent revenues important source of income
		Knowledge
		Financial resources
		Legal resources
	Negotiating position	
		Equality
		Legal resources
Companies		
	Characteristics	
		Location
		Resources

Appendix B – Coding Tree

Jahn, Müller, Nöst, Bozorgmehr, Public-Private knowledge transfer and access to medicines: a qualitative study of perceptions and roles of scientists involved in HPV vaccine research

			human resources
			financial
		Motivation	
			profit
		Scientific work	
			industrial research: highly specialised on very few processes
		Organisation	
			Ease of communication/ finding the right person to talk to
			Changing management of the company
		nationality	
		size	
	negotiating position		
Funders			
CONTENT			
Publications			
	encouraged not to publish if wish to patent		
	publish includes poster presentations, talks		
Joining an existing firm			
Advice /Service for companies			
	Service agreement		
	Providing test/model/compound to a company		
	Confidentiality agreements		
	Expert reports		
Research agreements			
Patents			
	types of patents		
	Patenting cost		
	Patent revenues		
	Ownership of IP		
Licensing agreements			
	down-payment, share of profit		
	Milestones in licensing agreements		
	Non-exclusive licenses		
	License - field of use		
	Exclusive license		
Spin-off			
	aim: develop IP and then sell		
	spin-off very common, epidemic		
Other			
	Differential pricing for access		
	WHO advisor		
	Company scientist visits lab		
Research grants			
Informal transfer			
	talks at conferences/meetings		
	Informal advice to companies directly		
Collaborative research in general			
Relative importance of TT pathway			
	Money for patent determines the worth of research		
	Publication more important than patent		
	Black mark if you miss opportunity to patent		
	Peer review process makes article more valuable than patent		
	Peer reviewed paper more important that patents for career		
PROCESS			
Patents/Licenses			
	Early research stages		
		In early stages: naive, open exchange	
	Discussing results with research group		
	Disclosing an invention		
	Patenting		
		Decision-making	
			Interaction TTO - scientist
			Interaction TTO - institution
		Patenting process	

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			Institution applies for patent
			If institution doesn't patent --> researcher can file
			If patent not followed up -->public domain
	Marketing the patent, finding a company		
		Marketing the patent	
		Financial pressure to find a buyer quickly or give up patent	
		Establishing contact with a company	
	Negotiating an agreement with industry		
		Using TTO as hard bargainer	
		Negotiating a price	
		Other	
	Founding a spin-off		
		funding	
		dog and pony show	
		influence of inventor	
Research agreements			
	Establishing contact with companies		
		not organized, word of mouth	
		based on publication	
		other	
	Writing contract		
		confidentiality agreement	
		other	
	Applying for industry funding		
Collaboration in general			
Evaluation			
Neutral			
	Evaluation is difficult - time will tell		
	No negative personal consequences of patenting		
Positive			
	Working with companies offers new perspectives		
	Patent revenues		
	IP protection necessary to incentivize companies to develop		
	No development possible without companies, need to engage		
	Companies pre-select promising innnovations		
	Collaborations are important and can be fruitful		
	commercialization without partner requires boring work		
	patent revenues pay for research		
	Spin-offs are a good way of developing an invention		
Negative			
	The more money involved the more problematic		
	Conflicts in collaborations with companies		
	Contract research limits freedom to do what's interesting		
	Different interests - comp and scientist		
	Comp license IP to keep it off the market		
	Unreasonable patenting leads to problems		
	Patents are expensive und often unexploited - not worth it		
	Patenting delays publication		
Evaluation of specific transfers			
	Goal to achieve access in developing countries not yet realized		
	Pleased with outcome of HPV vaccine transfer process		
Change			
What has changed?			
	Patenting more common, increased awareness		
	Less tech transfer, more collaborative research		
	Unis/inst's have more expertise, experience, policies, structur		
	Opinion on commercialization - used to be seen as negative		
	No change		
	Unis and comp. less willing to take risks, translation harder		
	Old days - scientists always protected IP - eg publication		
Whv has it changed?			

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	TTOs, scientists now know patents are valuable
	negative experience with unprot. IP -> more patenting
	TTOs more sophisticated
Assessment of change	
	neutral
	positive
	negative
Impact	
	Time
	Conflict of interest
	More thinking about implementation issues, cost-effectiveness
	chicken and egg - more translational research <> more transfer
	No impact
	Other