

Art of the Possible:

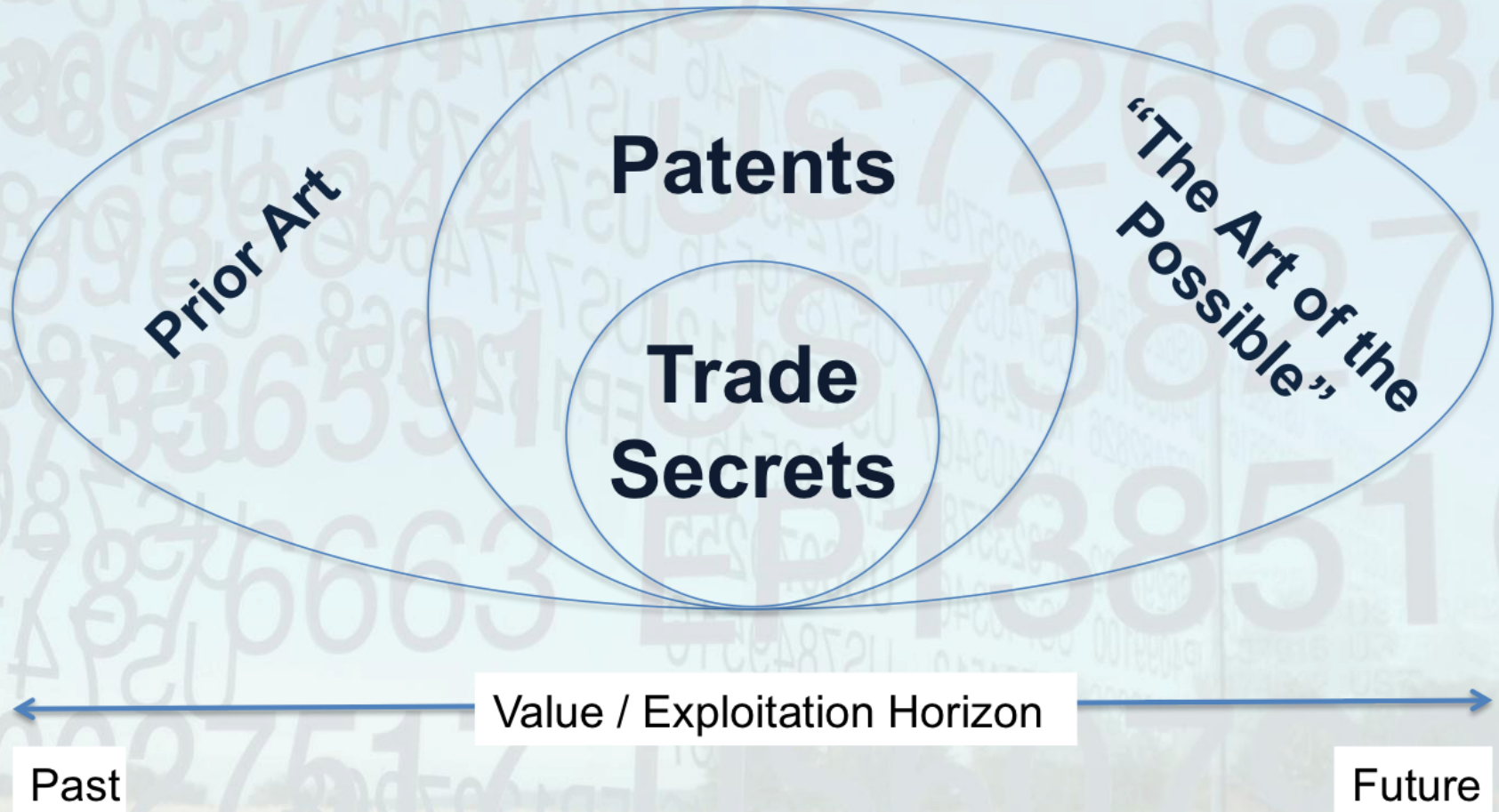
Increasing value of nascent technologies using Strategic Disclosure

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The Art of the Possible



Art of the Possible

Current, most common approach:

- Prospect Theory in patenting (Kitch, 1977)
 - Patent nascent technologies not well understood
 - Angle for broad scope
 - Use IPR to control further development
 - Appropriate future value through licensing
 - "Kitch was the earliest, and perhaps most extreme, licensing optimist." (Menell & Scotchmer, 2007)
 - Scherer: Prospect theory "little influenced by any concern for reality." (1980)

Strategic Disclosure

- Prior literature
 - Parchomovsky (1999) promoted SD as ideal for patent races
 - Eisenberg (2000) challenged this but noted broader uses
 - Predominant literature is based upon modeling of patent races (Baker & Mezzetti, 2005; Bar, 2006; Gill, 2008; Pacheco-de-Almeida & Zemsky, 2012)
 - Henkel & Lernbecher (2008) provide evidence this is not the case, but firms use it for other purposes
 - Other than Henkel & Lernbecher, no empirical evidence in literature

Research Questions

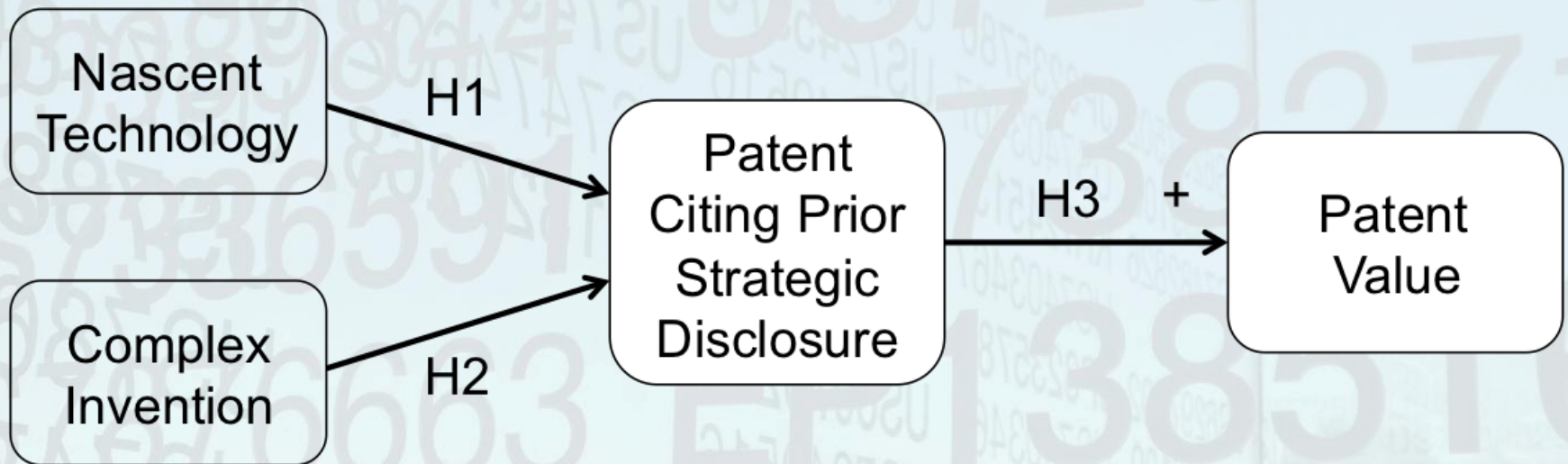
- What evidence is there that firms use SD?
- How do firms use strategic disclosure?
- Is there a value proposition for SD?

Strategic Disclosure Framework

Strategy	What It Is	Benefits & Applicability
Reveal-Level	Disclose prior art (including "ancient" art) to prevent others from patenting	<ul style="list-style-type: none"> • Ensure that obscure prior art is in the open • Prevents competitors "grandfathering" prior art as part of patent claims • Refreshes old art in examiners' awareness • Patent potential has low NPV • Disclosure as a form of Real Option
Reveal-Patent	Disclose prior art, patents, and techniques to establish a level playing field and prepare common ground for subsequent invention that is intended to be patented	<ul style="list-style-type: none"> • Enable a creative commons • Possibly a market in future where patent would lead to a market > 10 years • Immature / uncertain future market • Useful in collaborative ventures • Establish the baseline technology standard for Open Innovation partnerships
Patent-Reveal	Patent, then reveal during 18-month blackout window	<ul style="list-style-type: none"> • Avoid conflicts about prior art • In a technology development race • To signal superiority and force rivals to move on • May help when seeking to establish dominant design
Patent-Extend	Patent technology, then disclose possible applications, permutations, modifications, etc.	<ul style="list-style-type: none"> • Strong core patent • In place of Device + Method patents • When applications/methods may not qualify as claims (marginal inventive step, unknown utility) • Unable to move into multiple markets simultaneously • Protect entrepreneurial options

Source: Peters, Thiel & Tucci, 2013

Conceptual Model



Data

- Searched PATSTAT NPL citations for cites to corporate disclosure journals
 - IBM Technology Disclosure Bulletin
 - AT&T, Motorola, DEC, Intel, Xerox, TI, RCA, HP
- Identified all patents citing back to own NPL
 - “Recursive Patents”
- Dataset consists of all patents by those and their acquiring firms

First Stage Results

VARIABLES	(1)	(2)	(3)
	Recursivity	Recursivity	Recursivity
Amount of scientific literature Cited (nascency)	0.815***	0.811***	0.750***
	(0.0254)	(0.0254)	(0.0268)
Number of Claims (complexity)	0.00364***	0.00271***	0.00220***
	(0.000580)	(0.000610)	(0.000627)
Application filing year		0.00664***	0.00573***
		(0.000912)	(0.000938)
Tech domain dummies (25)			18*
Constant	-1.756***	-14.95***	-13.37***
	(0.0112)	(1.813)	(1.865)
Observations	99,402	99,402	98,722

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Second Stage Results

	(4)	(5)	(6)	(7)	(8)	(9)	(10)
VARIABLES	fwd10	fwd10	fwd10	fwd10	fwd10	fwd10	fwd10
Stage 1, model 1 results	8.125***					4.842***	1.416***
	(0.181)					(0.156)	(0.0946)
Stage 1, model 2 results		10.23***			7.300***		
		(0.181)			(0.160)		
Stage 1, model 3 results			7.349***	6.027***			
			(0.112)	(0.118)			
Control for early citations							0.0970***
							(0.000631)
Control for grant lag				3.62e-05***	-6.33e-05***	-9.22e-06	-6.30e-07
				(1.16e-05)	(1.12e-05)	(1.14e-05)	(7.14e-06)
Control for family size				0.0146***	0.0137***	0.0286***	0.00748***
				(0.00137)	(0.00130)	(0.00127)	(0.000782)
Control for scope				0.0769***	0.0678***	0.0648***	0.0297***
				(0.00408)	(0.00416)	(0.00399)	(0.00248)
Control for patents cited				0.0183***	0.0191***	0.0126***	0.00470***
				(0.000537)	(0.000525)	(0.000496)	(0.000310)
Firm dummies (15)				14*	15*	13*	11*
Year dummies (35)						17*	9*
Tech dummies (34)					27*	26*	28*
Constant	2.204***	2.076***	2.231***	1.979***	1.671***	1.893***	1.571***
	(0.0108)	(0.0108)	(0.00761)	(0.0166)	(0.0204)	(0.306)	(0.261)
Inalpha	-0.00631	-0.0230***	-0.0329***	-0.123***	-0.181***	-0.231***	-1.144***
	(0.00510)	(0.00512)	(0.00521)	(0.00519)	(0.00521)	(0.00517)	(0.00948)
Observations	99,402	99,402	98,722	98,722	99,372	99,372	99,372

Robust standard errors in parentheses

Conclusions

- Previous literature focused on modeling of patent races
 - We provide a demonstrable alternative value proposition
- Empirical qualification of when SD is useful
 - Nascent technologies
 - Complex inventions
- Quantitative examination of effects of SD
 - Evidence of value proposition for SD
 - Robust for 5-year and 10-year citation window
- Unique in positioning SD as a future option

Thank You!
Questions?