

University Technology Transfer

Information Processing from the
Attention Based View

By

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BIG ORANGE. BIG IDEAS.®

Clovia's Background

- PhD student at the University of TN Knoxville
 - Industrial & Systems Engineering,
Engineering Management concentration
- Patent attorney
- MBA, JD, LLM in intellectual property law
- Technology Transfer & Business Counseling

University of IL Champaign	Director IP at Old Dominion University
EPA National Vehicle Fuel Emissions Lab	Georgia Tech PTAC
Consultant to AL State Univ SBDC/ PTAC	Consultant to FAMU Tech Transfer Office

Background



- What is technology transfer?
 - “Technology transfer is the process of transferring scientific findings from one organization to another for the purpose of further development and commercialization?”
- AUTM

Background



- What is the tech transfer process?
 - Intellectual property (IP) policy & rules development
 - IP Compliance - requirements
 - Invention disclosures
 - Invention disclosure evaluations
 - Patentability
 - Marketability
 - IP Protection
 - Tech Marketing
 - Execution of Licensing agreements
 - Science
 - Engineering
 - Business
 - Law
 - PhDs, JDs, MBAs

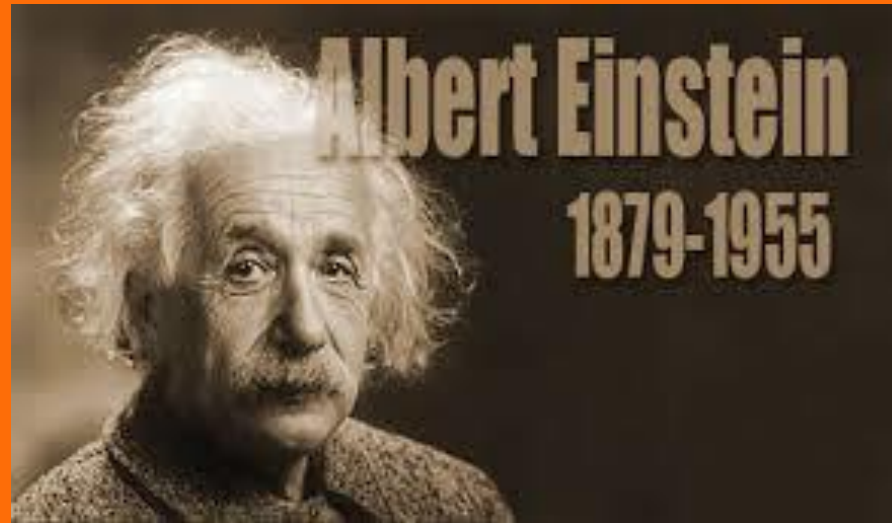
Where are the scholarly tech transfer conversations?

- Association of University Tech Managers (AUTM)
- Technology Transfer Society
 - Journal of Technology Transfer
- Academy of Management – Technology in Management (TIM) Division
- Other Technology Management & Legal trade groups

Problem statement

- Bayh Dole Act of 1980 allows universities to own inventions afforded by federal research funding
- Universities had to learn how to manage the tech transfer process
- Here 35 yrs later, many universities are still struggling & underperform
- Performance is typically measured by licensing royalty revenues
- 2005-2011 no substantial growth in licenses as per AUTM annual survey data

“When the solution is simple,
God is answering” – Albert Einstein



Proposed Simple solution!

- Lets study what technology transfer specialists are paying attention to
- Perhaps universities are struggling with increasing their licensing revenues because they are not paying sufficient attention to licensing

Relevant Theories

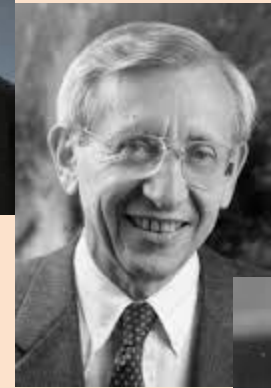
- “Meta-analysis of university tech transfer”
 - By Clovia Hamilton & Dr. Russell Crook Univ of TN
 - Presented July 2015 at Babson Entrepreneurship Conference (BCERC)
 - Literature Review dating back to Bayh Dole Act 1980
 - Hundreds of articles
- No current common theory for tech transfer

Relevant Theories

- Although there's no current common theory for tech transfer, we can look to:

- **Resource Based View**

- Jay Barney 1991
 - Chair Entrepreneurship
University of Utah



- **Attention Based View**

- Richard Cyert & James March 1963
 - from the Behavioral Theory of the Firm
 - Carnegie Mellon, Stanford respectively
- William Ocasio 1997
 - Northwestern



Theoretical Framework

- **Resource Based View**

- Firm internal resources are important to the creation of competitive advantages
- Valuable, rare, imperfectly imitable, non-substitutable
 - Includes intellectual property
 - Barney, 1991

- **Attention Based View**

- Human attention is limited and organizations are limited in what they pay attention to
 - Cyert 1963
- Situated attention connects how individuals make decisions and how organizations shape situational environments
 - Ocasio 1997

Theory - Attention Based View

- Cyert & March 1963 – The Behavioral Theory of the Firm
 - Organizations are **systems that process information** and render decisions
 - Complicated **choices** are primarily the result of factors that **impact behavior** rather than the outcome of attempts to optimize an organization's outputs economically
 - The results of past **strategic moves** are integral to the **decisions** that organizations make
 - **Important aspects of organizations' strategies depend on what organizations pay attention to**
 - Attention is a scarce and very valuable supply

Theory - Attention Based View

- What is attention?
 - Encoding of external stimuli and what occupies ones consciousness (Fiske, 2013)
 - Cognitive thinking - - social cognition
 - Situated attention connects how individuals make decisions and how organizations shape situational environments (Fiske, 2013; Ocasio, 1997)

Theory - Attention Based View

- Ocasio (1997)
 - Used principles from Cyert and March's Behavior Theory of the Firm
 - It is important to situate the attention of individuals that make decisions through information processing and information dissemination avenues
 - Attention based view
 - Used to explain how and whether organizations are handling organizational changes well
 - Are they considering what is relevant?

Proposed New Theory

Integrate the
Attention Based View
with the
Resource Based View

Literature Review

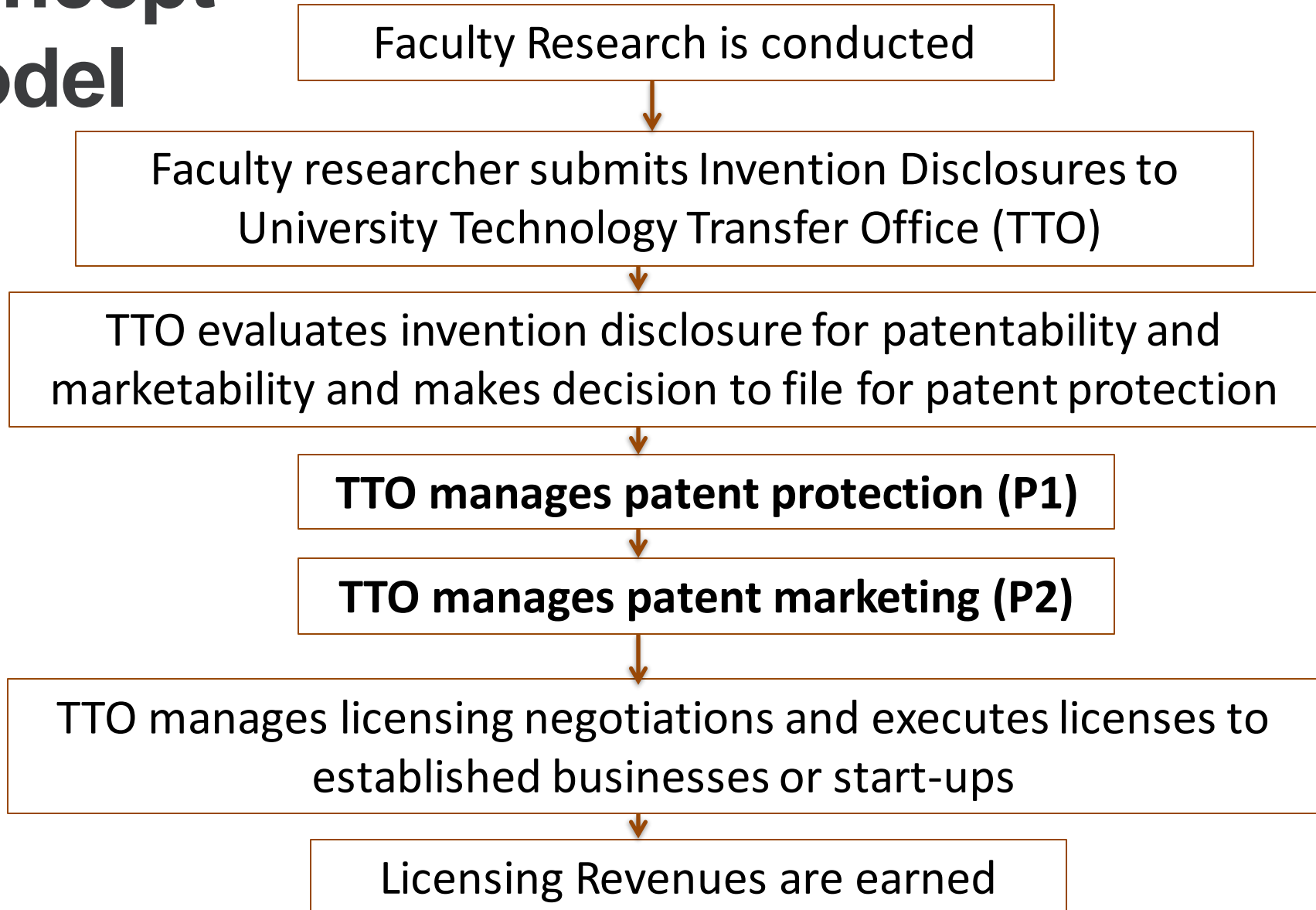
- Recall our problem statement – low licensing revenue growth at universities ... is there lack of marketing? What are they paying attention to?
- A survey of 26 Tech Transfer Offices (TTOs) noted that only 33% hired staff with either a MBA or PhD (Swamidass, 2009)
- A 2005 study revealed that many faculty researchers communicated grave frustration with the inadequate business and marketing experience of the TTO Staff (Link, 2007)

Literature Review - Gap

- Although the TTO staff may lack business and marketing experience, what the staff pay attention to in relation to their experience has not been established

Concept Model
of
University Tech Transfer
Information Processing
from the
Attention Based View

Concept Model



Hypotheses

P1 - Tech transfer office staff (TTOs) pay more attention to intellectual property protection than licensing and this results in lower licensing revenues

P2 - TTOs pay more attention to intellectual property marketing and this results in lower licensing revenues

Future Research



- From Concept Paper ...
- To Next step = Empirical Research
- Given competing task responsibilities, what are TTOs paying attention to?
 - Measure attention with a psychological assessment used in personnel psychology
 - E.g. driver & pilot cognitive neuroscience studies of how attention is allocated and degree to which people get distracted
 - Conduct a Time Study
 - Employee engagement assessment

- TTO**
Competing Responsibilities
- Invention Disclosure Solicitation
 - Disclosure evaluations
 - Patent applications
 - Patent Maintenance
 - Training Faculty
 - Compliance Issues
 - Marketing
 - Licensing

Any Questions?

Let's stay in contact!

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