

Marketing Biomedical Inventions An NIH Perspective

Krishna Balakrishnan

NIH Office of Technology Transfer

September 16, 2004

Talk Outline

- **B2B marketing 101**
 - **NIH marketing overview**
 - **Market research & implications**
 - **Information sources**
-

B2B Marketing and Technology Transfer

- **Business to Business marketing is different from consumer marketing**
 - **TT professionals don't sell products; We sell (rent) ideas, intangibles or one-of-a kind materials**
-

B2B Selling Cycle

- **Several layers of decision making**
 - **Several points of intervention or introspection during the sales cycle**
 - **Differing rates of customer movement**
 - **Importance of institutional memory**
-

When Selling Intangibles...

- Brand is king
 - Longevity of supplier
 - Customer need is ill-defined
 - Communicating value is challenging
 - Value perception is asymmetric
 - Ability to return “goods”
-

B2B Buying Decision

- Buying decision is universally the same
 - Emotional decision!
 - Supported by rationalization!!
 - Marketing creates a buying climate
 - Help emotion move forward, provide rationale
-

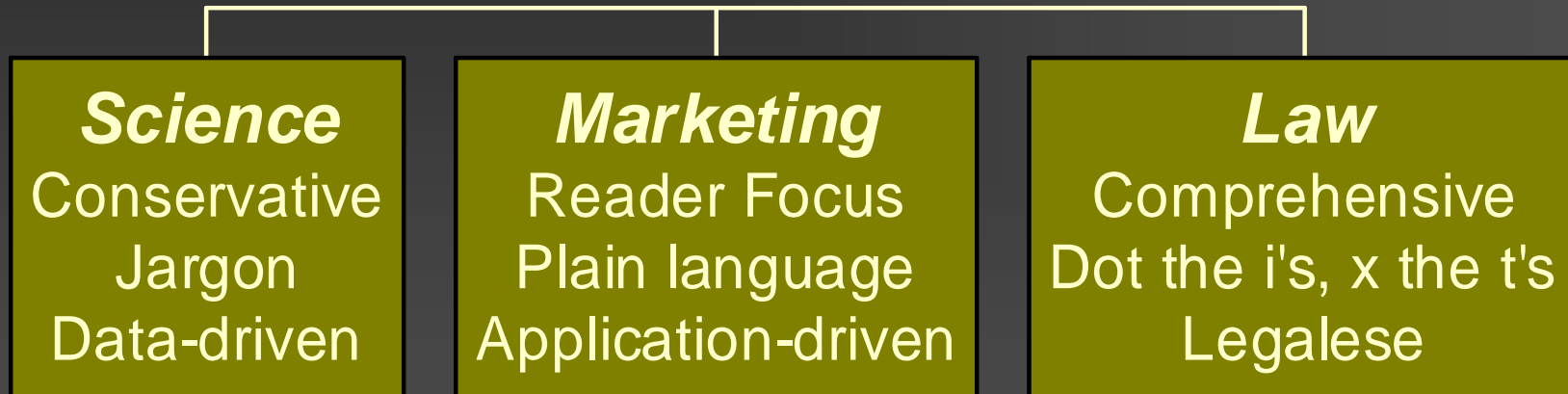
Marketing Needs to Communicate Value

- Translate product features into customer benefits
 - Communicate the benefits
 - Not the features
 - You want to sell a drill, but customer wants a hole in the wall!
 - So talk about the hole in the wall, not the drill!
-

Communicating Value....

- Understand customer needs to showcase benefits
 - Study customer
 - Their challenges and needs
 - How can you help them?
 - Present simple solutions
 - Be direct, address customer's specific needs
-

Communication Styles are Different



When Selling a Technology

DO

- Use plain language, be direct
- Focus on benefits
- Use “so what” and “what next” approach
- Provide supporting data, be credible
- Use business focus

DO NOT

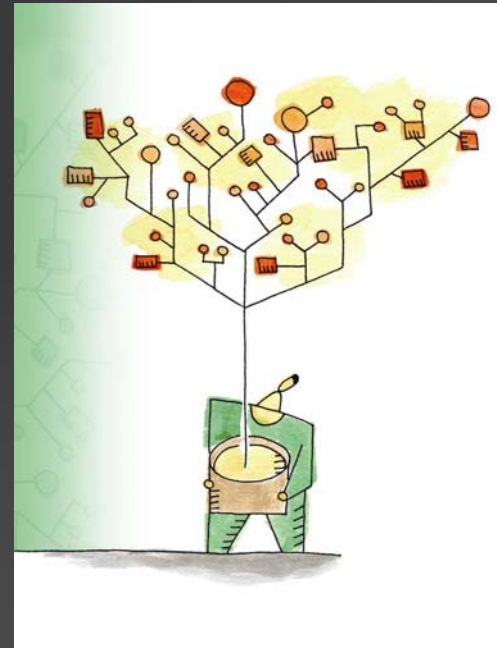
- Describe technology in excruciating detail
 - Smother reader with facts
 - Think like a scientist
 - Put confidential matter
 - Use jargon
-

Branding at NIH

NIH is a well-known brand

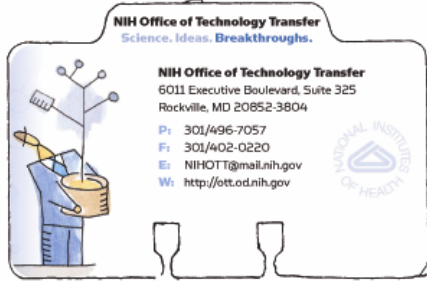
- Real-time observations >> Use NIH Logo
 - Additional elements
 - Tagline
 - Technology transfer “images”
 - Consistent use of all elements
-

NIH Brand Elements



Science. **Ideas.** Breakthroughs.

Branding in Action



NIH Office of Technology Transfer
 Science. Ideas. Breakthroughs.

NIH Office of Technology Transfer
 6011 Executive Boulevard, Suite 325
 Rockville, MD 20852-3804

P: 301/496-7057
 F: 301/402-0220
 E: NIHOTT@mail.nih.gov
 W: http://ott.od.nih.gov



Office of Technology Transfer

Selected Technologies Available for Licensing

National Institutes of Health
 U.S. Department of Health and Human Services

6011 Executive Boulevard
 Suite 325
 Rockville, MD 20852-3804

Science. Ideas. Breakthroughs.



NIH-Licensed New Products Recently Approved by the FDA

AcuTect™ (Diatide, Inc.)
 A synthetic peptide radiopharmaceutical used for the detection of acute deep vein thrombosis (DVT) affects an estimated 5 million individuals in the U.S. each year and is the leading cause of pulmonary embolism. AcuTect™ is the first in-vivo imaging agent to target lower extremities.
 NIH Inventors: Frank Rober, Raymond...
 Institute: National Institute of Health

CerTiva™ (Baxter, formerly North American Vaccine, Inc.)
 A combined diphtheria, tetanus and acellular pertussis vaccine for use in infants. The process that reduces local and systemic adverse events commonly associated with DTP1 vaccine administration has detoxified the acellular pertussis component. CerTiva™ is the first pediatric vaccine introduced into the U.S. market by a new producer in over ten years.
 NIH Inventors: Ronald Sekura, Yan...
 Institute: National Institute of Child Health and Human Development

KLEPTOSE™ (Roquette Frères)
 Tetacycline formulations for a variety of applications, including excellent remover for fabrics, chemical/fermentation processes, aqueous paints, coatings, and...
 Institute: National Institute of Health

LYMERIX™ (GlaxoSmithKline)
 The world's first vaccine for the prevention of Lyme disease. Lyme disease is a vector-borne disease in the US. It can lead to severe and debilitating problems, including arthritis, and Bell's palsy. (Manufacturer has discontinued selling this product in the US.)
 Institute: National Institute of Health

NeoTect™ (Diatide, Inc.)
 A synthetic peptide radiopharmaceutical used for the diagnosis of lung cancer. NeoTect™ is the first diagnostic test for parvovirus B19 infection. The procedure, being minimally invasive, carries much reduced risk compared to biopsy.
 NIH Inventors: Frank Rober, Raymond...
 Institute: National Institute of Health

Parvovirus B19 Enzyme Immunoassay (MedImmune, Inc.)
 By detecting B19 virus IgM antibodies in human serum and plasma, this procedure allows for the diagnosis of parvovirus B19 infection, which can put pregnant women at risk of fetal loss. This is the first diagnostic test for parvovirus B19 infection approved for use in humans. (Manufacturer has discontinued sales.)
 NIH Inventors: Albert Kapikian, Harry Greenberg, Richard Wyatt, Jr., Joseph Flores, Yezhou...
 Institute: National Institute of Health

Rotashield™ (Wyeth Laboratories, Inc.)
 A live oral vaccine for the prevention of rotavirus gastroenteritis in infants. Rotavirus is an important cause of epidemic severe acute gastroenteritis (diarrhea and vomiting) in children in both developed and developing countries. Rotashield™ is the first live oral vaccine for rotavirus gastroenteritis in infants approved for use in humans. (Manufacturer has discontinued sales.)
 NIH Inventors: Albert Kapikian, Harry Greenberg, Richard Wyatt, Jr., Joseph Flores, Yezhou...
 Institute: National Institute of Health

Office of Technology Transfer
 National Institutes of Health
 U.S. Department of Health and Human Services

6011 Executive Boulevard
 Suite 325
 Rockville, MD 20852-3804

P: 301/496-7057
 F: 301/402-0220
 E: NIHOTT@mail.nih.gov
 W: http://ott.od.nih.gov



Office of Technology Transfer
 National Institutes of Health
 U.S. Department of Health and Human Services

Top 20 Commercially Successful Inventions

VACCINES AND THERAPEUTICS

Invention Description	Inventor	Rank
AIDS Drug ddI	Mitsuya et al. (NCI)	(2)
Monoclonal Antibody for Treatment of RSV	Murphy et al. (NIAD)	(3)
Paclitaxel as a Cancer Treatment	Wilson et al. (NCI)	(4)
Cancer Chemotherapeutic Drug: Z-F-AraA	Montgomery (NCI)	(5)
Synthetic Thyrotropin as Adjuvant in Thyroid Cancer	Wondolowski et al. (NIHDC)	(6)
Hepatitis A Vaccine (Strain HM-17S)	Daemer et al. / Funkhouser et al. (NIAD)	(7)
AIDS Drug ddC	Mitsuya et al. (NCI)	(12)

DIAGNOSTICS

Invention Description	Inventor	Rank
Serological Detection of Antibodies to HIV-1	Gallo et al. (NCI) / Montagnier et al.	(1)
DNA Probe for Breast Cancer Diagnosis	King et al. (NCI)	(9)
Serological Detection of Antibodies to HTLV-1	Papas et al. (NCI)	(11)
Production of Virus-free AIDS Antigens	Falls et al. (NIAD)	(13)
Genotyping of HIV Protease Gene	Oroszlan et al. (NCI)	(18)

INSTRUMENTATION/DEVICES

Invention Description	Inventor	Rank
Enhanced Magnetic Resonance Imaging Through Magnetization Transfer	Balaban et al. (NHLBI)	(8)
Laser Capture Microdissection	Liotta et al. (NCI)	(10)

RESEARCH MATERIALS

Invention Description	Inventor	Rank
Neurotransmitter Antibodies	Wessendorf (NIHDC)	(14)
Recombinant Cytochrome P-450	Gelboin et al. (NCI)	(15)
Reconstituted Basement Membrane	Kleinman et al. (NIHDC)	(16)
Anthrax Protective Antigen	Lapella (NIHDC)	(17)
Neutrophil Chemotactic Factor (Interleukin-8)	Matsushima et al. (NCI)	(19)
Microdissected Chromosome Libraries and Probes	Trent et al. (NHGRI)	(20)

Science. Ideas. Breakthroughs.

*By FY 2003, based on royalty income

Why is a Brand Important

- Brand familiarity increases comfort
 - Especially for intangibles/ service
 - Brands deliver/ reinforce essential message
 - Brands differentiate and increase recall
 - For NIH, brand acts as proxy for its attributes
 - Cutting edge science
 - Public health mission
 - Longevity/ stability
 - Fairness...
-

Protecting and Sustaining a Brand

- Use branding elements consistently
 - Don't cheapen brand by overuse
 - Avoid brand clutter, use fewer details/ elements
 - Brand should deliver: Truth in advertising!
 - Whole organization has to "live" brand's promise
-

The NIH Marketing Mix



Communication Channels

- E-mail ListServ: 1700 patrons, 25-30 e-mails/ yr, 5-8 abstracts/ e-mail
 - OTT website: ~50,000 visits per month, home page, gen info and lic opp heavily trafficked
 - Technology brokers: some enhance information; TechEx, PharmaLicensing, Global TechnoScan
-

Communication Channels, contd.

- Tradeshows: 8-10 per year, 10-30 leads/ show
 - Talks, panel presentations, workshops and posters at conferences
 - Brochures, and other print materials: distributed at meetings, mailed, handed out during personal meetings and given to walk-in visitors
 - CD-ROM to complement/ replace print media
-

Communication Channels, contd.

- Federal Register notice: Requirement, free perk
 - Targeted marketing: Narrower target of companies, richer information; Expensive but **most valuable tool** in a B2B setting
 - Personal contacts: license specialists, inventors
-

Targeted Marketing Elements

- Good list of companies
 - Good cover letter; short list of benefits
 - Additional supporting documents
 - Follow-up/ tracking is very important
 - Learning from the customer
 - New application areas
 - Market information
 - Is technology too early or restrictive?
 - Even a “no” is useful information
-

Market Research

- The NIH study of 150 licenses
 - The Harvard study with focus groups
 - Implications
-

NIH Marketing Research Goals

- To identify sources through which licensees learned about NIH inventions
 - To evaluate current marketing practices
 - To identify additional marketing strategies
-

NIH Study: Data Sources

- The License Application
 - Internal license database
 - Conversations with licensing professionals
 - Follow-up with licensee when feasible
-

Information from License Application

- License category
 - Application Date and Effective Date
 - Foreign/ Domestic, Small/ Large Business
 - How did Licensee learn about Invention:
Inventor, Publication, OTT, Prior Contact...
-

NIH License Application

APPLICATION FOR LICENSE TO PUBLIC HEALTH SERVICE INVENTIONS

Thank you for your interest in the technology transfer activities of the U.S. Public Health Service. Your answers to the following questions will provide the foundation for licensing decisions. Please return this form and the required attachments to: Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, MD 20852.

Identification of Invention(s) For Which License is Sought (Complete all relevant sections)

U.S. Patent Application(s) Serial Number(s), Filing Date(s), and Patent Number(s) (if issued):

Title of Patent Application(s):

Biological Material(s):

Inventor(s):

Source from which you learned of availability of a license to the present invention(s):

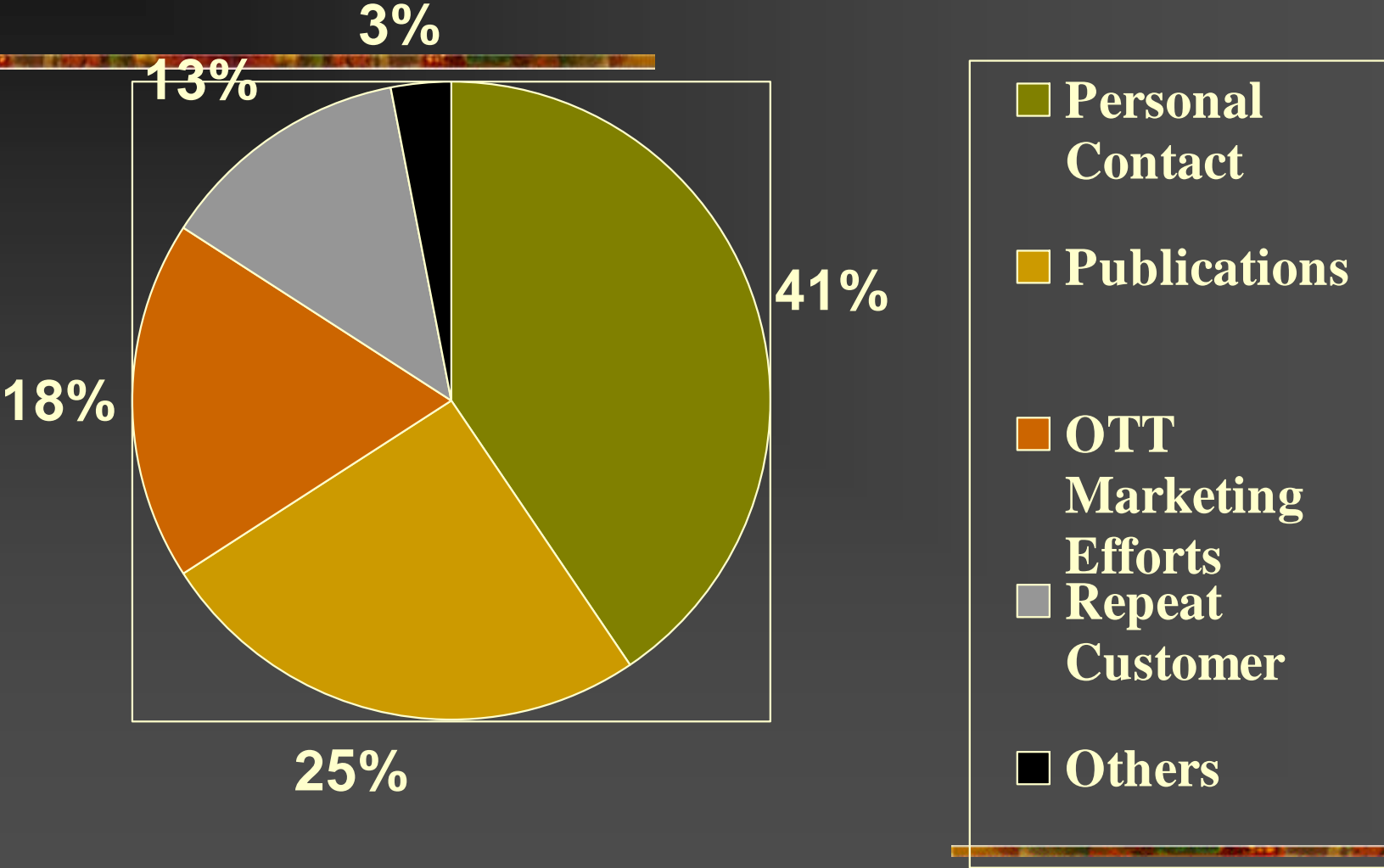
Information About Applicant

1. Name & Address of Applicant:
2. Name, title, address, phone and FAX numbers of Applicant's licensing representative:
3. Is applicant a U.S. Corporation? ____ yes ____ no
If no, state country of origin: _____
State of incorporation or citizenship (if an individual): _____
4. Is Applicant a Small Business Firm? ____ yes ____ no

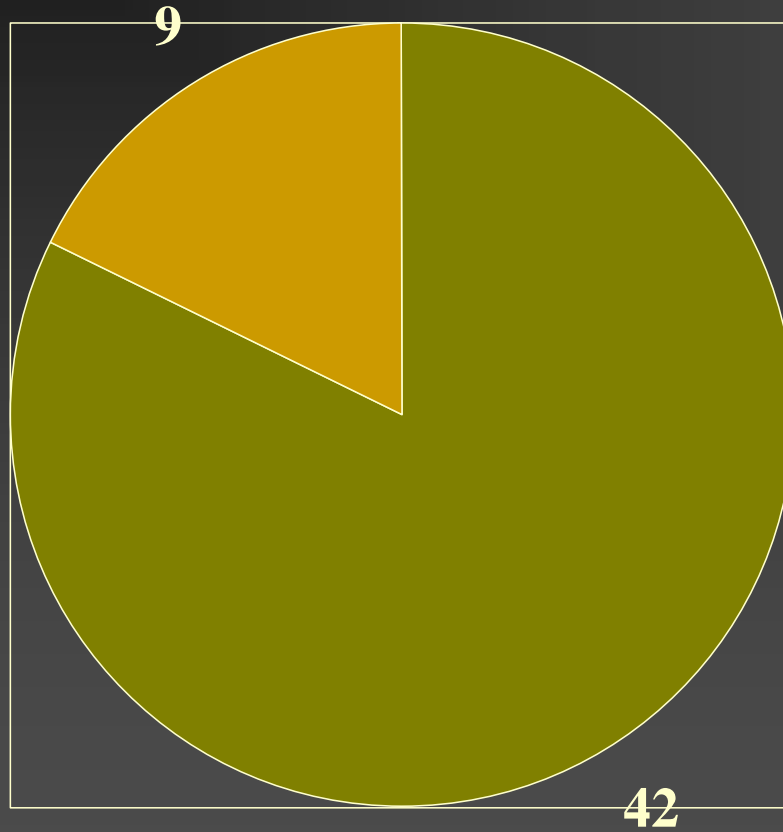
Licenses Reviewed

- Total Licenses Reviewed: 151
 - Year 2002: 74
 - Year 2001: 75
 - Prior Years: 2
 - Source information not available: 25
 - Licenses with positively identified sources: 126
-

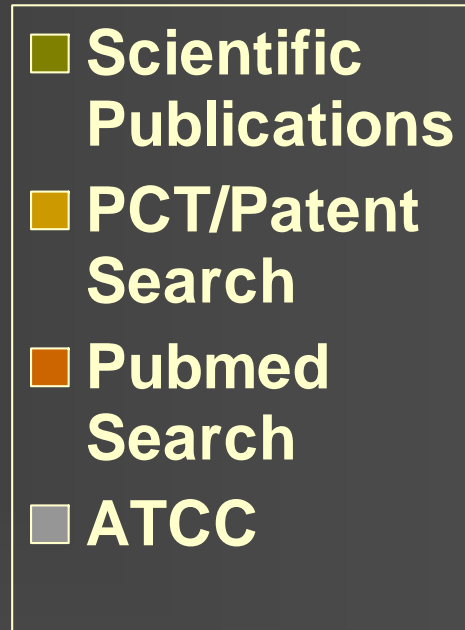
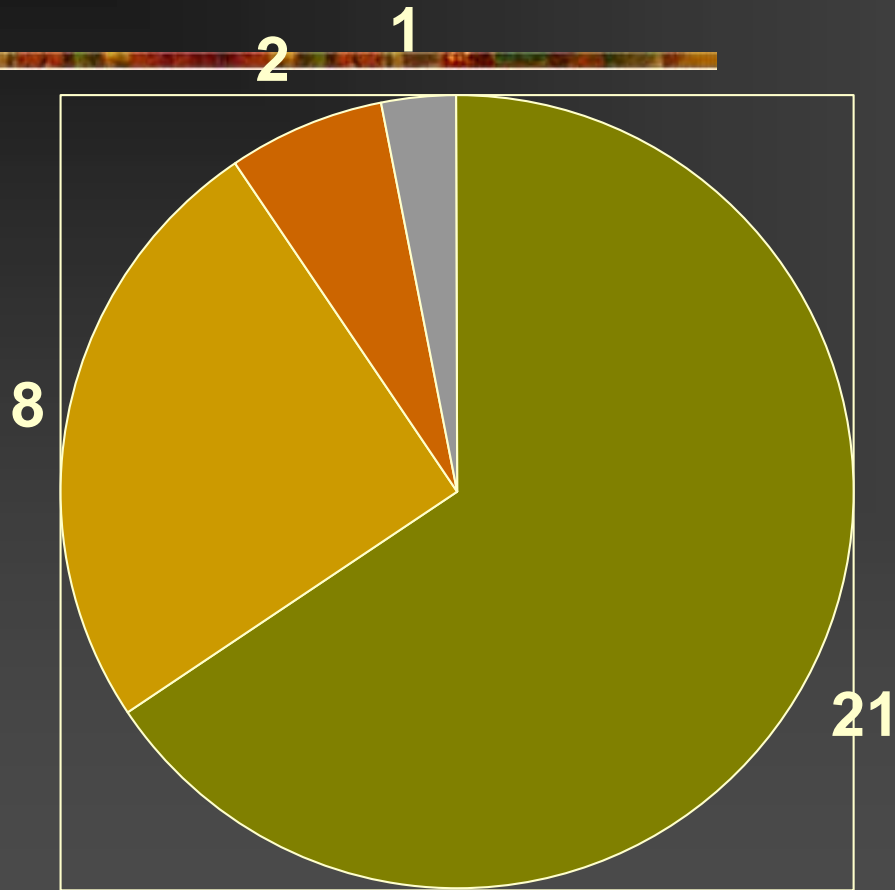
Licensee Identification: Summary



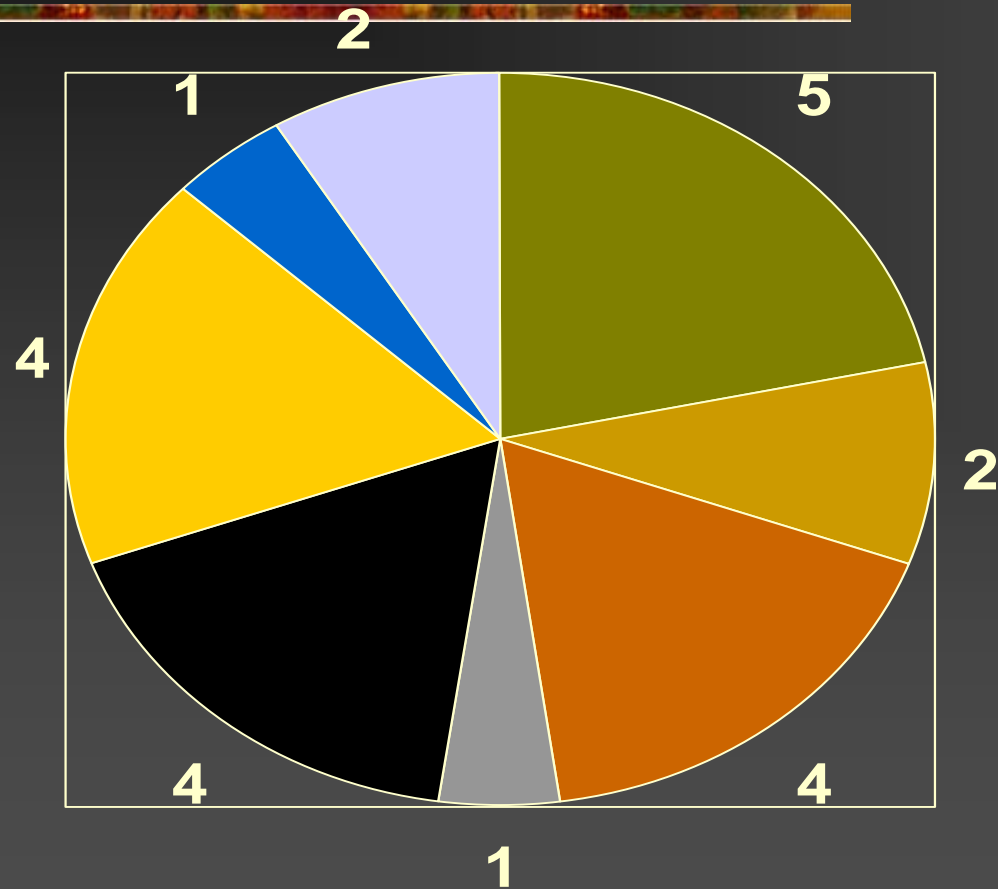
Personal Contact – 41%



Publications-25%

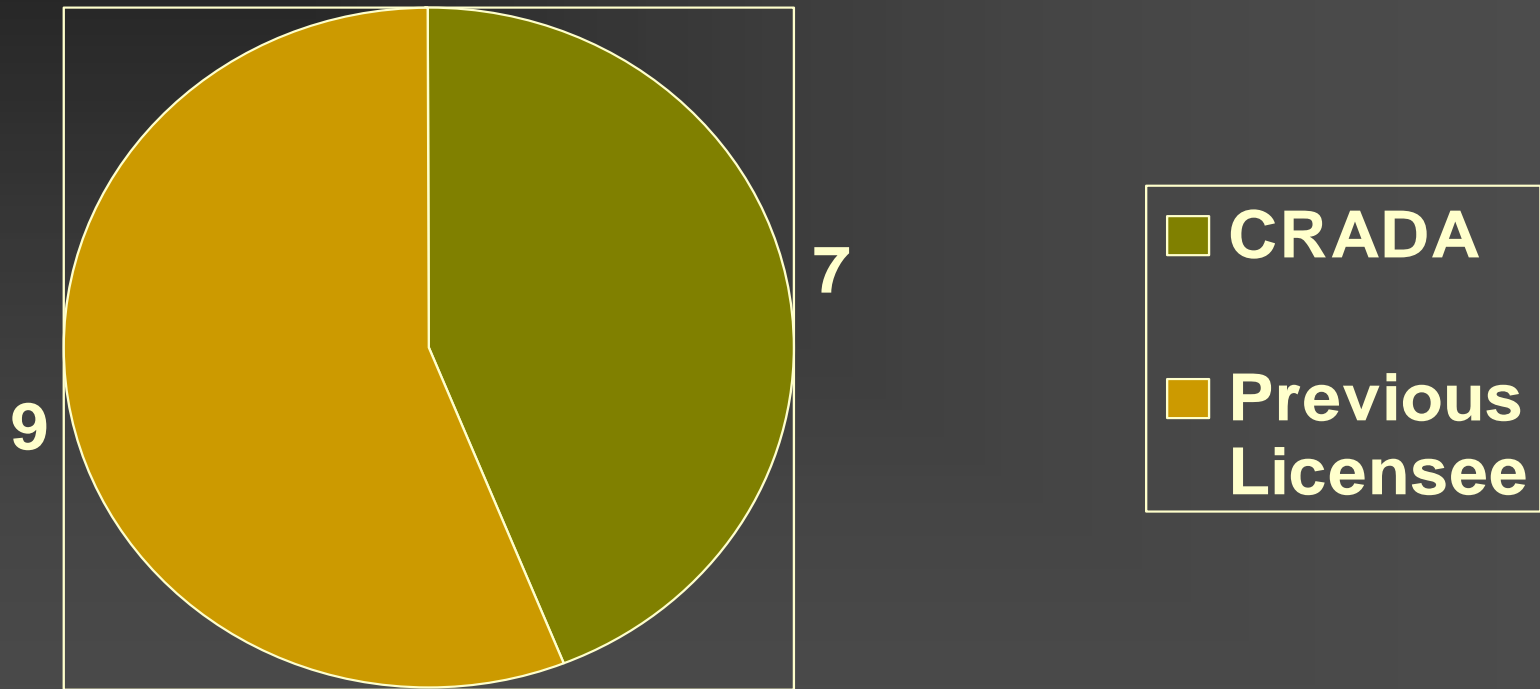


OTT Marketing Efforts-18%



-  **Licensing Specialist**
-  **OTT Website**
-  **PharmaLicensing**
-  **Fed Reg**
-  **Call to OTT**
-  **OTT Email**
-  **AUTM Meeting**
-  **Scientific Meeting**

Repeat Customers-13%



The Harvard Study 1

- Focus group w/ 10+ Boston biotech execs.
 - Questions: Channel and content preferences
 - Results
 - Disliked direct mail, liked e-mail and loved phone!
 - Liked color, graphics, logo of school etc.
 - Need inventor information and summary data
 - Best strategy: E-mail followed by phone
-

The Harvard Study 2

- Focus group of 10+ pharma execs. at AUTM
 - Questions: Information gathering, review, decision making: Who has the greatest impact?
 - Results: Scientists rule
 - Side note: Easy to get focus group participants, even with no remuneration!
-

Implications of Market Research

- Inventor is very important; marketing role?
 - Make strategic use of publications
 - Need licensee internal champion
 - Use multiple marketing strategies and communication channels
 - Need customized, personalized message—
Targeted marketing
-

Marketing Information Sources

- Proprietary databases
 - Knowledge Express
 - BioPharm Insight
 - Recombinant Capital
 - Sites with free content
 - Hoover's
 - Dun and Bradstreet....
 - Public sources: Google, Medline, PTO...
 - Dialog, STN, NERAC and other search services
-

In Closing...

- Change mindset: Think business, not science
 - Think about technology applications and benefits
 - Solve customer's problem; Learn from them
 - Recruit "Technology Champion": Inside (inventor) and outside (company scientist)
 - Invest in marketing: Room for growth
 - Preserve, Promote and Grow institutional brand
-