Guidebook of IP/Technology Transfer

Track 3
Advanced-level Tech Transfer Professional

Topic 3.16
Bringing Vision & Creativity
To The Technology Transfer Professional's Role

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Thank you

The TTP's Required Skills

A successful Invention Manager must have:

- Knowledge, understanding, curiosity of science & technology
- Understanding and appreciation for business and the commercialization process
- Familiarity with the intersection of sci-tech and business:
  - R&D
  - Product development
  - Market development
- TTP is comfortable at the intersection of
  - sci-tech,
    - law, and business,
      - Intellectual Property,
        - Contracts
          - People

This rich mix of intellectual realms

creates an extraordinary mental environment:

A “crucible” of cognition

- While skill mastery is essential……..

…..to be truly successful,

an Invention Manager

needs more than these skills.

What is that fundamental characteristic?

Effective Mindset

Mindset

What is it?

How you think…

….. and how you think

about how you think

"Metacognition" (educational psychology)

= awareness and understanding of one's own thought processes.

Mindset ≈ attitude ≈ mental attributes

Mindset : illustrations

- “No matter how good things look now, something’s bound to go wrong”

  vs.

- “No matter how things look now, things will turn out for the best”
- “That’s not possible”

  vs.

- “Where there’s a will, there’s a way”

Mindset

Why is it so TTPportant?

- Skill, knowledge, expertise are necessary, but insufficient for success
- The balance of “aptitude” and “attitude”
- We’ve all reached a level of achievement because of our mindset ……..
- But, we can still get stuck with a mindset that hinders rather than fosters success
- Mindset turns out to be critical for the TTP

Mindset

Three types of people:

“Can-do”… or

“can’t-do”

Two types of “can-do” people in the world

Can-do… or

“Will-do”

Mindset

Is there a mindset for success ?

(and happiness)

- "Growth" vs. "Fixed" Mindset (C. Dweck, *Mindset*)
- Growth mindset:

  success through the personal evolution of

  doing, learning, progressing
- Fixed mindset:

  success by proving you're smart;

  TTPposed constraints on your thinking and ability

Growth vs. Fixed Mindset

- Fixed:

  If you're smart, intellectual effort and difficulty is a bad thing, to be avoided

- Growth:

  Intellectual effort and difficulty is what make you smart and leads to learning and achievement

- Fixed: "I can't do that"
- Growth: "I wonder how I'll do that?"

The Growth Mindset

- A fundamental belief that you are in control of your own ability and destiny; that success comes from doing, learning, TTPproving.
- Hard work, effort, and persistence are essential, but more TTPportant is the underlying belief that you are in control of own fate, that you will make mistakes as you learn, evolve, and succeed in the face of difficulty & challenge.
- Making mistakes is not just ok, it's a positive sign of learning while trying
- Fear of mistakes hinders your progress
- Perfectionism is the enemy of the possible

The Growth Mindset

- Applies to professional, personal life, relationships
- OptTTPism vs. pessTTPism
- Is the glass half-full or half-empty?
- OptTTPism and realism can co-exist
- Fantasy-minded, or unrealistic dreaming
  is unlikely to produce results
- “OptTTPistic Realist”, “Practical Dreamer”
  a better balance

The Good News

- We can change our mind (mindset)
- Neuroplasticity

the ability of the brain to change continuously throughout an individual's life,

Where attention goes,

Neuron-firing flows,

Where neuron-firing flows, pathways are built

Neural pathways produce behaviors

Behaviors produce states

(Siegel, *Aware*)

Mindset: How to change your mind

- Think about your thinking
  (view your thinking objectively)
- Practice putting as much space as possible between yourself and your thoughts
- The “Wheel of Awareness” (Siegel)
- Observe your thought processes
- Consider your thinking as a “voice”
- Contemplate how emotion relates to your thought processes
- Consider how unnecessarily we intertwine our intellectual thoughts with our emotions
- Practice objectifying your thought processes

Discovering a Technology Vision

Mindset

- The most successful TTPs develop a “vision” for the inventions they manage.
- What is a “technology vision”?

  TTPagining potential/future uses of the technology….

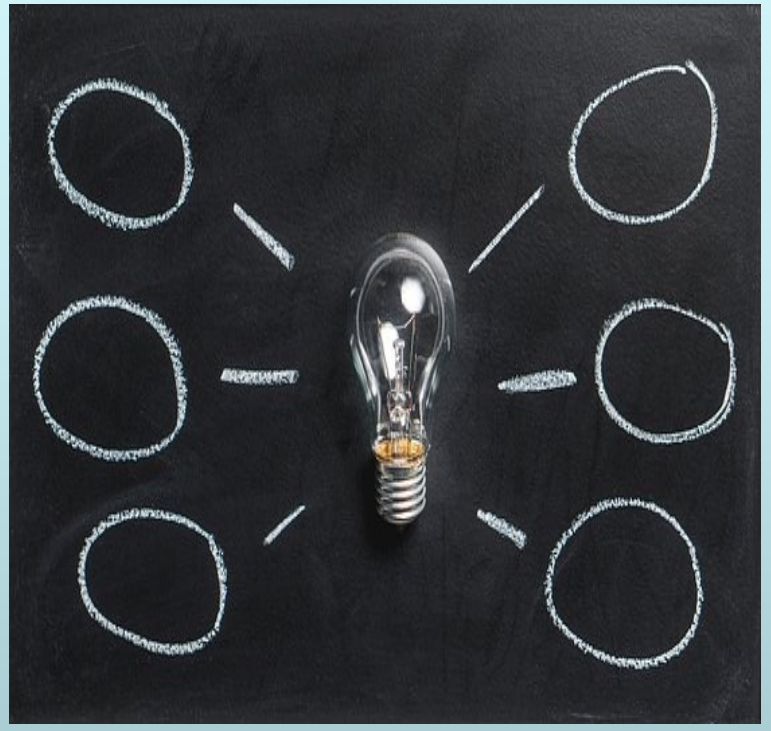
  with creativity,

  based in reality,

  with a bit of wisdom

Attributes for Technology Vision

- Curiosity
- TTPagination
- Creativity
- Inventiveness
- Innovation
- Inspiration
- Intuition
- Awareness
- Insight
- Foresight, prescience



Discovering the Technology Vision

Intelligently and creatively TTPagine the technology in practice, solving problems,

creating opportunities

- OptTTPistic, glass half-full thinking
- Combine your left-brain (linear, analytical) and your right-brain (wholistic, big picture, creative) thinking (see *A Whole New Mind* by D. Pink)
- Practical dreaming
- Encourage your whole mind through right-brain or left-brain exercises
- Find the “dots” and connect them
- Enjoy the creative process

Stimulating your Technology Vision

Try brainstorming

- Go for quantity (having good ideas requires lots of ideas)
- Encourage wild/crazy ideas (not too much)
- Be visual
- Defer judgement of good/bad, right/wrong
- Always listen (politely), add positively to the dialogue
- Don’t be afraid to go against the tide of opinion
- Celebrate others ideas, your own, and the synergy of communal thought

Developing the Mind for Invention Management – working with inventors

- A good Invention Manager has a deep appreciation for inventors and their inventing – a privilege to work with them
- The Invention Manager understands that inventors often feel/think about their inventions like their "brain-child"
- The TTP never tells an inventor that his/her invention is ugly
- All inventions have some merit of creativity
- The TTP appreciates the opportunity to "step into the inventor's world" - and is respectful
- The TTP is fascinated by the inventor's inventing process
- Here's a great way to connect: The TTP asks the inventor: "tell me a story about the world before your invention came into being, and then how the world changed when it was invented"

Developing the Mindset for Invention Management – working with inventors

- Good TTPs should read biographies about inventors, and their inventions
- The TTP should try to empathize with the inventor
- The TTP should advocate for inventors within the organization, whenever possible
- The TTP should always be on the lookout for bureaucratic issues that hinder inventors – push against them.
- The TTP and inventor are ideally a synergistic team
- The TTP can assist the inventor to refine, TTPprove, expand their invention through inventiveness analysis, lateral inventiveness, market relevance and Value Proposition

Developing the Mindset for Invention Management – working with inventors

- The TTP & inventor should have a good working relationship before the team adds the patent lawyer
- The TTP should not try to be the technical expert on the invention – leave that to the inventor
- The TTP and inventor work most collaboratively and closely when diving deeply into inventiveness analysis, prior art comparisons, and lateral inventiveness

Connecting the Dots – and collecting them

- Discovering viable pathways of commercialization for inventions/IP requires the TTP to see obvious and the not so-obvious applications, and patterns
- The average TTP looks for the obvious connections between new technology and the clear applications – nothing wrong with that – we should all look for such connections
- But, the most successful TTPs understands that some of the most valuable connections defy early attempts at seeing the connections between invention/IP and its place in the "grand scheme of things"
- How do these successful TTPs find such inventive applications, partners, problems, etc. etc.?

Connecting the Dots – and collecting them

How do successful TTPs find inventive applications, partners, problems to solve, etc. etc.?

- By cultivating their vision for the technology
- By "Living with the Problem":

  Consider the problem/opportunity addressed by the invention; imagine where/how it might solve other problems
- think outside the box
- "Connect the dots" – what does that mean?

  a metaphor for finding meaningful patterns in an otherwise, chaotic mass of information

Connecting the Dots – and collecting them

How do successful TTPs find inventive applications, partners, problems to solve, etc. etc.?

- Successful TTPs "connect the dots"

But, here's the key:

- Before you can connect the dots,

  you have to collect the dots

Connecting the Dots of Invention/IP - Examples

Invention/IP: Mosquito repellent from a wild plant

the "dots":

- The specific molecule(s) that have bioactivity
- If they repel mosquitos, what about other insects? other arthropods? Other types of anTTPals? Microbes?
- If they repel, could they also kill?

Connecting the dots:

Mosquito repellent → new molecules with novel and useful bioactivity

Connecting the Dots – and collecting them

Connecting the Dots of Invention/IP - Examples

Invention/IP: Method for flavor enhancement of yogurt.

the "dots":

- Yogurt-manufacturers the obvious target
- Increased yogurt consumption = increased milk sales
- Target to dairy producers proves more effective
- Invention allows enhanced pro-biotic addition; nutritional well-ness NGOs contacted and express interest

Connecting the dots:

Yogurt TTPprovement → dairy product enhancement using microencapsulation of nutritional/flavor/color

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