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AND INCLUSIVE BUSINESS ENVIRONMENT

Challenges of Protecting Intellectual Property for Fintech and Artificial Intelligence Inventions

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Overview

- Different Types of Intellectual Property (IP) – layering protection
- What Can be Protected and why focus on patents?
- Trends for FinTech and Artificial Intelligence (AI)
- Challenges to be Patenting FinTech Inventions
- Strategies to Deal with Challenges



Overview of Different Types of Intellectual Property

Utility Patents and
Design Patents

Trademarks

Trade Secrets

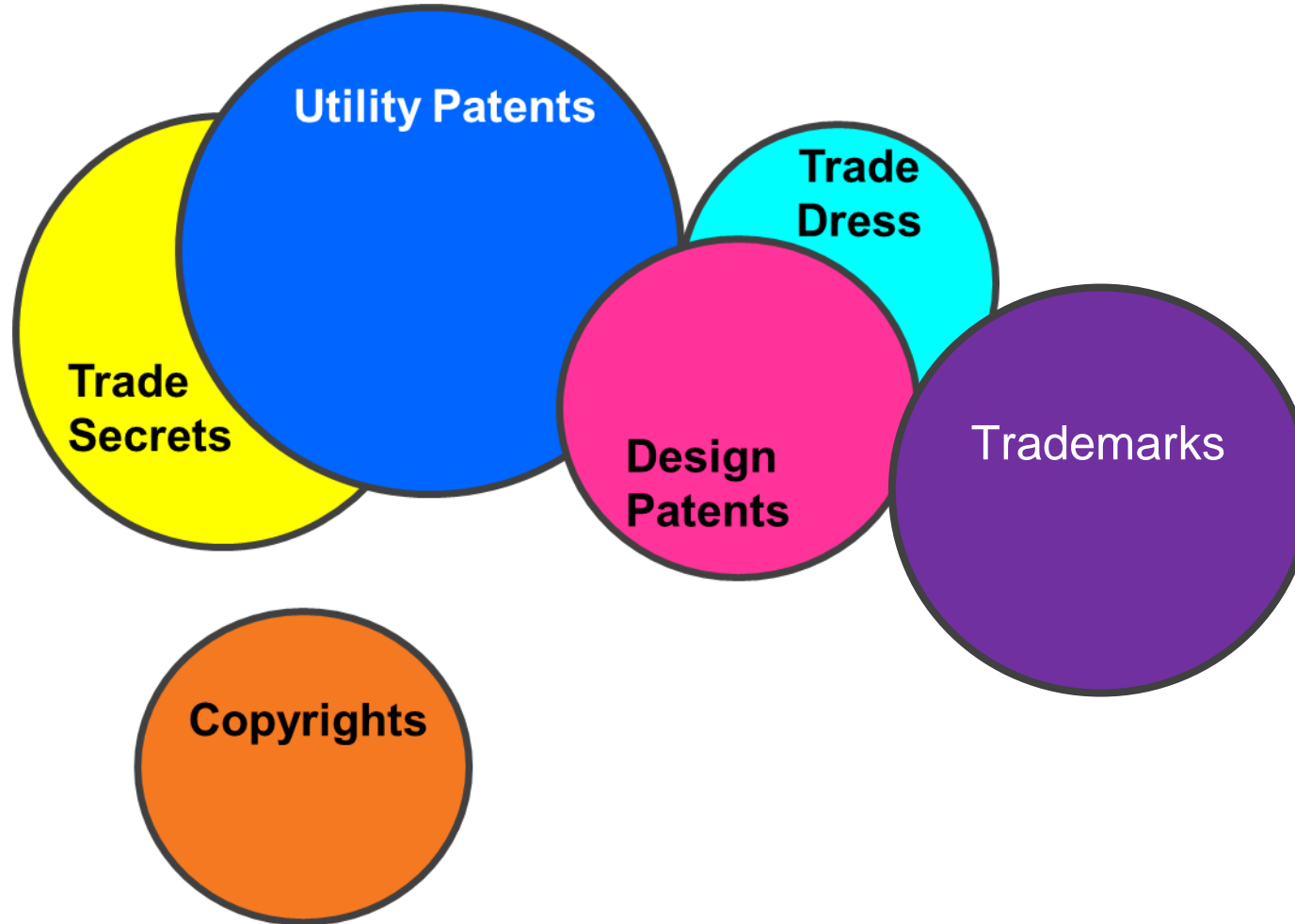
Copyright



The Building Blocks for an IP Portfolio

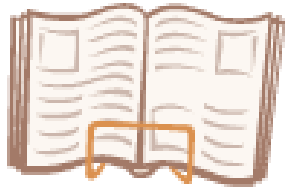


IP Options Are Interrelated and Should be Layered Property



Example of Layering IP Protection

Trade Dress on overall design and color scheme



Recipe is **trade secret**

Trademark of name

Copyright of text on the back of the bottle



Design patent on bottle shape



Utility patent on method of making bottle in this shape



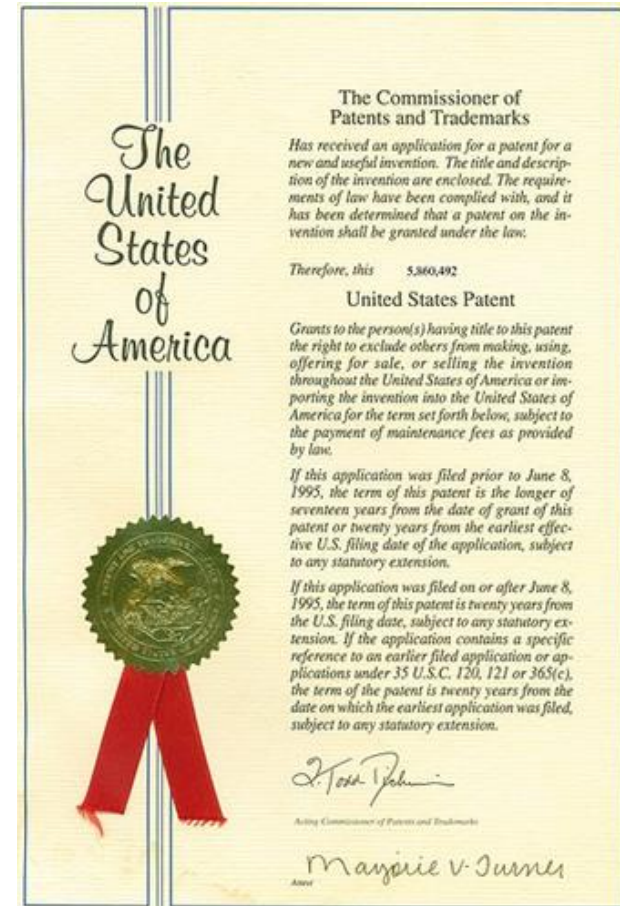
Intellectual Property

- Is both a valuable asset and,
- Potentially, a significant risk to players within the FinTech industry
- This is especially true of patents
- Companies need to protect their innovation while staying clear of competitors patents - Freedom to Operate!



What is a Patent?

- Set of exclusion rights – limited monopoly.
- Granted by a government.
- For a limited period of time.
- In a limited geographical area.
- No requirement to commercialize
- 3 Types of Patents – Utility, Design and Plant



Reasons to Actively Pursue Patent Protection

- Leverage to exclude others from a market segment
- Extraction of licensing revenue from third parties
- Offsetting patents of competitors – cross license
- **Increasing the value of company**



Intellectual Property as a Valuable Corporate Asset

- IP is often the single most valuable asset of a company
 - Percentage of intangible assets (old numbers but still interesting)
 - 3M: 75%
 - Johnson & Johnson: 87%
 - Merck: 93%
- IP is increasingly important in today's corporate transactions involving technology
 - IP protects R&D, which is expensive
 - The deals are bigger
 - IP is more critical to the deals



FinTech – Being Shaped by Converging Technologies...

- As new technologies emerge, they tend to converge with other technologies
- This will eventually transform various industries
- Within the realm of Fintech, the two technologies that are transforming it are Blockchain and Artificial Intelligence (AI)



... and is Leading to New Opportunities

- According to White & Case, Blockchain could reduce banks' infrastructure costs worldwide by \$15 to \$20 Billion a year by year 2022.
- Incentive to Protect Innovation!
- Blockchain - a distributed database or a digital ledger that maintains **a continuously growing** list of data records, e.g., continuous innovation

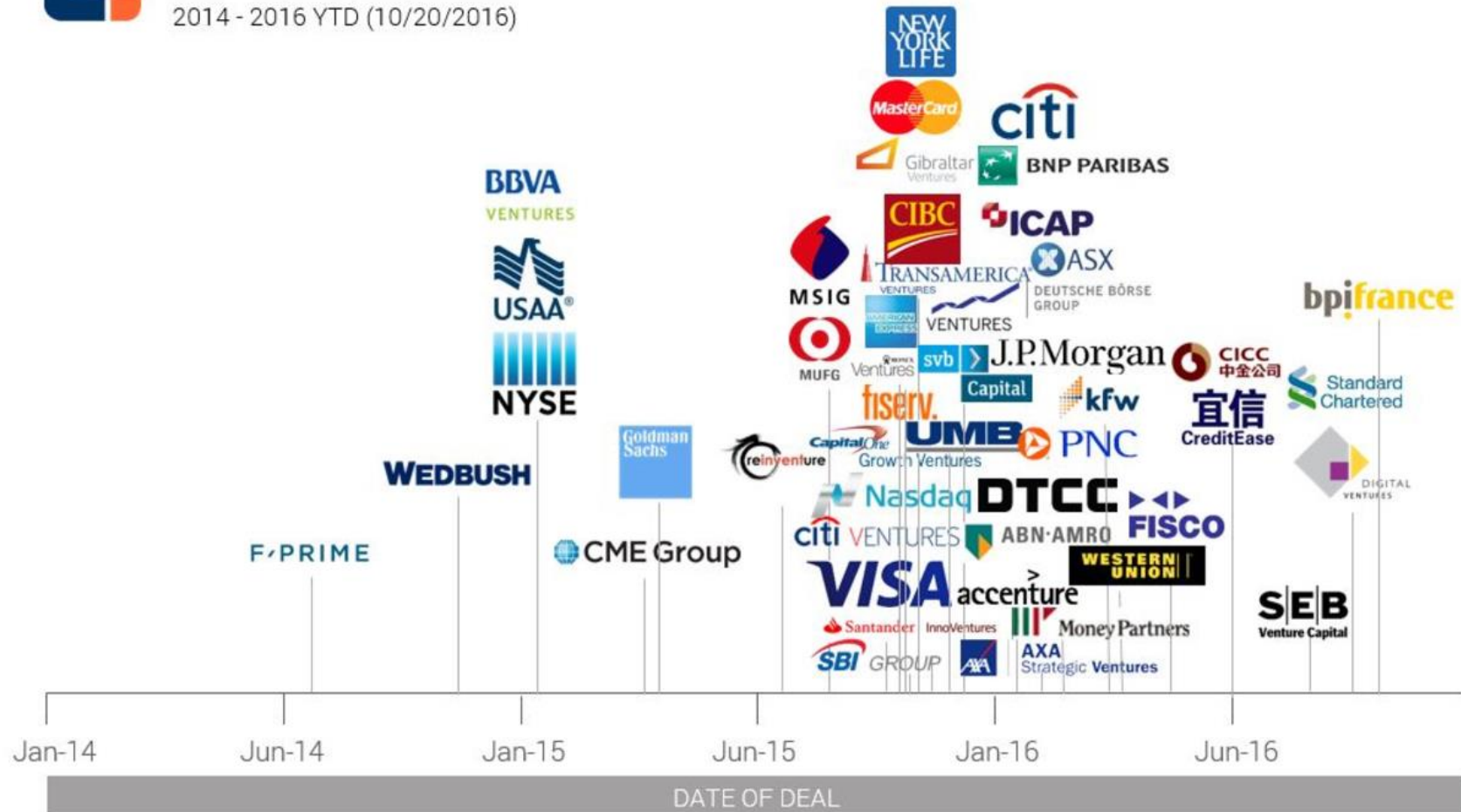


Early Trends for FinTech into Blockchain Startups



THE MARCH OF FIN SERVICES FIRMS INTO BLOCKCHAIN STARTUPS

2014 - 2016 YTD (10/20/2016)



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Numbers and Types Patents Issued in this Space

- A search of the three classes at the US Patent Office most likely to cover FinTech patents show:
- Over 60,000 U.S. Patents Have Issued in these 3 classes since the beginning of this trend in 2014
- Bank of America - the leader of the pack >2,500 patents granted and pending last year
 - Nearly 1,000 patent “families” tied to banking IT
 - > 500 were linked to data processing technologies



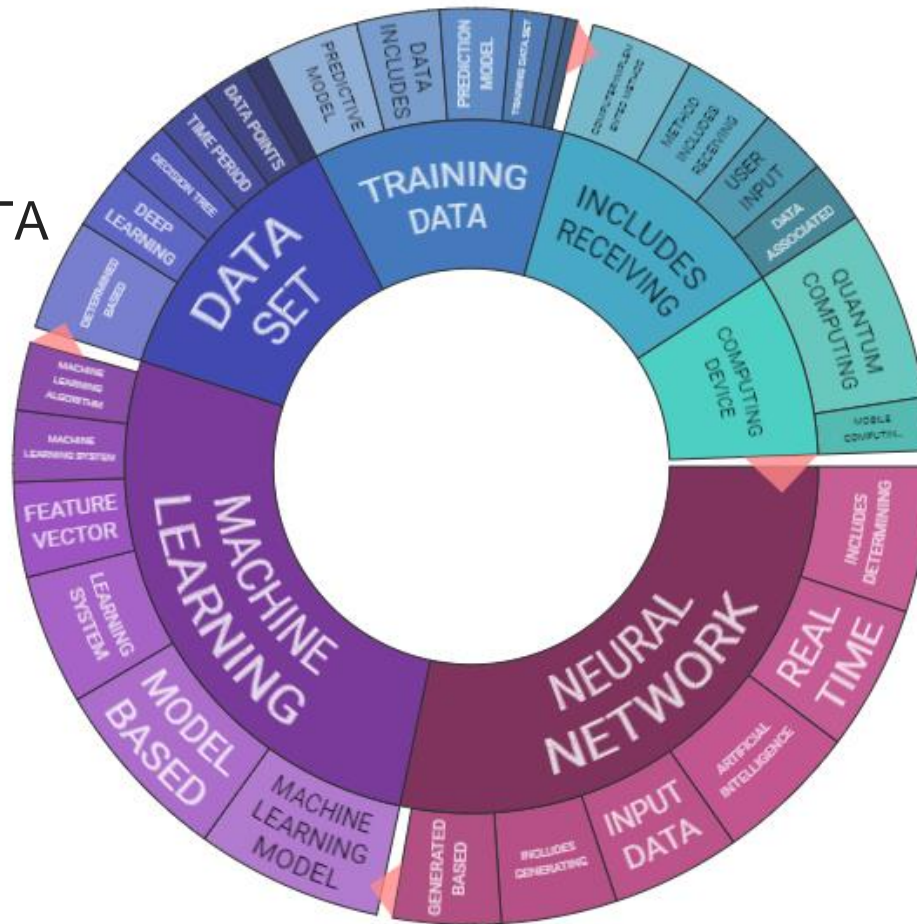
Numbers and Types Patents Issued in this Space

- While banks and credit institutions are active in the space, tech companies dominate the FinTech patent space.
- IBM has just under 24,000 FinTech patents – almost 10xs BoA!
- Microsoft has more than 19,600 patent families, many in optical character recognition



Types of FinTech Patents Issued 2014-present

Class 707: DATA PROCESSING: DATABASE, DATA MINING, AND FILE MANAGEMENT OR DATA STRUCTURES.



This class includes operations for ... Cryptographic transformations on data for the purpose (a) concealing or obscuring intelligible information by transforming such information so as to make the information unintelligible to a casual or unauthorized recipient

(approx. 20,000 U.S. Patents)



Types of Artificial Intelligence Patents Issued 2007-2017



**U.S. Patents Grants for AI
Past 10 Yrs (Jan 2007 – Oct 2017)**

**Not too different than FinTech
Patents**



Artificial Intelligence Based Inventions

The Goal of AI is to Replicate Human Intelligence



Autonomous Driving



Patent Eligible - Biggest Problem with FinTech/AI Inventions

- **Example of a non-patentable rejection:**
 - “The claims are directed to a method of **organizing human activity**, and thus, are similar to claims held by the courts to be an abstract idea.”
- **Issues FinTech/AI Inventions Need to Address:**
 - **Is the goal of invention to replicate “human activity”?**
 - **Is invention being claimed in an abstract way?**
 - **How to avoid ineligible subject matter rejection?**



Patent Eligible? Biggest Problem with AI Inventions

- **Patentable Subject Matter**

- In many Patent Offices, to be eligible for a patent, the subject matter of the claim must be directed to a process, machine, manufacture, or composition of matter, and not a mere abstract idea

- **Novel and Non-obvious (Inventive Step)**

- Separately, inventions must also be new and non-obvious.
 - Examine the prior art (and, if needed, conduct NPL searches) before filing your patent application!



Tips for avoiding non-eligibility issues:

Focus Application on Technical Aspects of Invention

- Identify problems in the art and technological solution(s) provided by the invention, e.g., technical improvement!
- Describe, in detail, technical aspects and embodiments of the invention, e.g., define specific design architecture.
- Avoid using overly abstract language to describe invention
- Avoid Predictive Analytics
- Strategic Patent Drafting and Prosecution



Tips for avoiding non-eligibility issues:

Claims rooted in technology

- Recite specific elements and/or ordered combination; focus on technological solution or aspects
- Avoid terminology that reads on mental thoughts:

OK	Better
<i>“determining a crash occurrence”</i>	<i>“analyzing sensor data to determine if it exceeds a crash threshold”</i>

- Recite more than conventional computer processing steps or functions



Tips for avoiding Problems with FinTech/AI Patents:

- **Involve Competent Counsel Early and Often**
 - Strategy starts prior to drafting a patent application
 - Draft Patent Application to describe alternative embodiments and fall-back positions to avoid attacks based on eligibility, novelty and inventive step
 - Develop a patent strategy not just a patent portfolio
 - Prosecute case strategically to take advantage of international treaties – Paris Convention, PCT application, Patent Prosecution Highway
 - Know what your competition is doing and why



Thank you!

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