

I was invited by the CEIPI to deliver a presentation on "Engineering Valuable Inventions in Times of Digital Transformation" to Professor Wurzer's IP Management LLM class. Below is a concise summary of the speech.

Preface

The ongoing digital transformation, significantly amplified by AI, has introduced a new disruption stage alongside the existing growth stage initiated by Internet development. IP departments are tasked with managing inventions concurrently across both the growth and disruption stages. Further complicating matters is the impact of digital transformation on the working environment, as evidenced by the dissolution of physical boundaries and the transition to remote work.

IP in the Growth Stage

During the growth stage, R&D departments concentrate on enhancing existing features through incremental innovation. This gradual improvement progressively enhances existing technology platforms. The growth stage serves as the focal point for both R&D and IP ecosystems, favoring incremental innovation, as exemplified by EPO's problem-solution approach. Traditionally, IP departments trail R&D during the growth stage. However, as the growth stage progresses, prior art accumulates, leading to reduced protection scopes. A typical consequence of the growth stage is the onset of saturation and decline, prompting the emergence of new market needs. Nokia's downfall in the mobile phone industry serves as a poignant example of the consequences of adhering too long to a maturing growth stage: Nokia's CEO in 2016 remarked, "We didn't do anything wrong, but somehow, we lost." In the growth stage, IP traditionally follows R&D and primarily manages inventions which are often merely by-products of product development.

IP in the Disruption Stage

The disruption stage is characterized by the creation of new features that disruptively address disruption market needs rather than incrementally improving existing technology. IP development in the disruption stage is inherently disruptive rather than incremental. One significant challenge is that engineering education, as well as the R&D and IP ecosystems, are predominantly designed to serve the growth stage. However, in the disruption stage, there is no certainty that new features will be accepted by the market. As Steve Jobs once said, "A lot of times, people don't know what they want until you show it to them." IP development in the disruption stage may appear more speculative and thus riskier than IP development in the growth stage. However, experience suggests that roughly 97% of IP generated in the growth stage has limited or no economic value at all. In essence, you may safely lose 97% of your funds in the growth stage, making speculative bets in the disruption stage viable as well. However, there is less IP competition in the disruption stage, resulting in possibly broader scopes of protection and enhanced IP value.

Organization of the IP Department in the Disrupting Stage

The IP department stands out as the most agile unit within a company, particularly in the digital realm, where IP engineering operates independent of physical facilities. This agility enables IP departments to proactively anticipate the next business innovation, positioning them to lead ahead of R&D departments. Consequently, close collaboration between IP and R&D departments, alongside business development and sales units, becomes essential for effective market need screening.

Utilizing AI-powered collaboration platforms can further enhance communication between IP, R&D, and business units, streamlining operations within the remote work environment.

Engineering Valuable Inventions in the Disruption Stage

Inventing is inherently an engineering discipline, markedly distinct from inventing in the growth stage where an existing technical platform is typically available for enhancement. Consequently, inventions in the disruption stage are geared towards addressing disruption market needs rather than specific technological challenges. Generating valuable and patentable inventions during this stage necessitates a deep understanding of market demands, disruption technologies like AI, and the protocols of patent offices globally.

For instance, in accordance with current patent practices of institutions such as the EPO, inventions devoid of a technical purpose cannot be patented. Hence, it becomes imperative to translate a non-technical market need and its associated purpose into the realm of physical innovation before initiating the patent application process. This transformation of the purpose of an invention into a technical domain is crucial not only to comply with patent regulations but also to enable engineers, who are primarily trained to tackle technical problems rather than address market needs, to develop disruptive inventions effectively.

Drawing on these principles, Patentship has successfully engineered over 400 inventions, demonstrating the efficacy of this approach in fostering innovation amid digital transformation.