

A Systems Approach: Teaching Intellectual Property in Our Interconnected World

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Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static “snapshots”.

Peter Senge

Introduction

Intellectual property (IP) is best understood as a unified system that encompasses a comprehensive framework designed to promote innovation, creativity, and economic growth.¹ This system includes various legal mechanisms that work together to protect and incentivize the creation of new ideas, technologies, and expressions.²

The IP system plays a pivotal role in today’s global economy, serving as a fundamental driver of innovation, competition, and commercial success.³ IP encompasses creations of the mind, such as inventions, literary and artistic works, designs, symbols, names, and images used in commerce.⁴ By granting creators exclusive rights to their creations, IP incentivizes innovation and creativity, allowing creators to benefit from their work.⁵ These exclusive rights are protected through various IP doctrines, each serving a specific purpose and scope.⁶

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- 1 World Intellectual Property Organization (WIPO), *What is Intellectual Property?* (Geneva: WIPO, 2020), https://www.wipo.int/edocs/pubdocs/en/wipo_pub_450_2020.pdf.
 - 2 William Shughart and Diana Thomas, “Intellectual Property Rights, Public Choice, Networks, and the New Age of Informal IP Regimes”, *Supreme Court Economic Review* 23 (2016), 169, <https://doi.org/10.1086/686477>.
 - 3 Dina Wehbe, “The Power of Intellectual Property”, *UN Today*, September 2, 2024, <https://untoday.org/the-power-of-intellectual-property>.
 - 4 WIPO, *What is Intellectual Property?*
 - 5 WIPO, “Innovation and Intellectual Property”, WIPO, 2017, https://www.wipo.int/web/ipday/2017/innovation_and_intellectual_property.
 - 6 William Fisher, “Theories of Intellectual Property”, *Berkman Klein Center for Internet & Society at Harvard University*, accessed July 30, 2025, <https://cyber.harvard.edu/people/tfisher/iptheory.pdf>.

Despite the IP system's obvious interconnectedness, universities and law school usually teach IP as a series of doctrines that distinguish between its four primary domains: patents, trademarks, copyrights, and trade secrets.⁷ While this distinction is academically and analytically useful from a theoretical perspective, it presents challenges in pedagogy. Students frequently pick and choose among these domains, completing their studies with fragmented knowledge.⁸ They may believe they understand IP generally, but they only grasp pieces of a larger puzzle that clients need lawyers to solve.⁹

This chapter discusses how universities and law schools should and can move from the current “fragmented” model of IP education to a updated “systems” model of IP education.¹⁰ Making this more is critical because of the critical role that universities and law schools play in maintaining our IP system and cultivating the social benefits of IP.¹¹

What Is a Systems Approach?

A systems approach is a comprehensive method of analysis and problem-solving that views complex entities as interrelated components within a larger, unified whole.¹² Rather than examining each part in isolation, a systems approach considers the interactions and dependencies between various components, emphasizing how they collectively contribute to the behavior and outcomes of the entire system.¹³ This holistic perspective is widely used in fields such as engineering,

7 Monica Pa Moye, “Law 525: Fundamentals of Intellectual Property Law” (syllabus, University of South California Gould School of Law, United States, 2021), <https://web-app.usc.edu/soc/syllabus/20211/04205.pdf>.

8 Laura Heymann, “The Reasonable Person in Trademark Law”, *Saint Louis University Law Journal* 52 (2008), <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1215&context=facpubs>.

9 Sonia Katyal, “The Paradox of Source Code Secrecy”, *Cornell Law Review* 104, n.° 5 (2019), <https://escholarship.org/content/qt8dd6f3gb/qt8dd6f3gb.pdf>.

10 VentureWell, “How to Strengthen IP Education in University Ecosystems”, *VentureWell*, April 28, 2020, <https://venturewell.org/blog/ip-education-university-ecosystems>.

11 Vijay Sattiraju et al., “National and Higher Education Institutions (HEIs) IP Policies: Comparison of Indian HEIs’ IP Policies from a Global Perspective”, *Journal of the Knowledge Economy* 14 (2023), <https://doi.org/10.1007/s13132-022-00915-0>.

12 Jairo da Costa Junior, Jan Carel Diehl and Dirk Snelders, “A Framework for a Systems Design Approach to Complex Societal Problems”, *Design Science* 5 (2019), <https://doi.org/10.1017/dsj.2018.16>.

13 Martin Kunc, “The Systems Thinking Approach to Strategic Management”, *Systems* 12, n.° 6 (2024), <https://doi.org/10.3390/systems12060213>.

biology, economics, and organizational management to address complex issues that cannot be effectively understood or resolved by looking at individual elements alone.¹⁴

Merits of a Systems Approach

In recent years, there has been growing recognition of the need for a more integrated approach to IP education.¹⁵ A systems approach offers a holistic understanding of IP law by emphasizing the interconnectedness of its various domains—patents, trademarks, copyrights, and trade secrets.¹⁶ This section explores the numerous merits of adopting a systems approach in IP education, highlighting how it can enhance students’ comprehension and practical skills, foster interdisciplinary collaboration, and better prepare them for the complexities of the modern IP landscape.¹⁷

By teaching IP as a unified system, educators can provide students with a comprehensive perspective that mirrors the realities of professional practice. This integrated approach not only enhances theoretical knowledge but also equips students with the tools needed to navigate and manage IP issues in a more effective and innovative manner.¹⁸ Below, we detail the specific advantages of a systems approach to IP education.

14 Martin Reynolds and Sue Holwell, “Introducing Systems Approaches”, in *Systems Approaches to Making Change: A Practical Guide*, eds. Martin Reynolds and Sue Holwell (London: Springer, 2020).

15 The Center for Intellectual Property Understanding (CIPU), “Assessing Intellectual Property Engagement at the Largest U.S. University Entrepreneurship and Innovation Programs”, CIPU, 2023, https://www.understandingip.org/wp-content/uploads/2023/09/FINAL_UPDATED_REPORT.pdf.

16 Gestaltdt, “The Power of Systems Thinking: A Holistic Approach to Problem-Solving”, *Gestalt*, August 1, 2024, <https://www.gestaltdt.com/practices/the-benefits-of-systems-thinking>.

17 Leah Greden Mathews and Andrew Jones, “Using Systems Thinking to Improve Interdisciplinary Learning Outcomes: Reflections on a Pilot Study in Land Economics”, *Issues in Integrative Studies* 26, n.° 73 (2008), <https://our.oakland.edu/server/api/core/bitstreams/c676ffad-00e7-4f81-8456-2c65500b4db0/content>.

18 William Fisher and Felix Oberholzer-Gee, “Strategic Management of Intellectual Property: An Integrated Approach”, *California Management Review* 55, n.° 4 (2013), https://www.hbs.edu/ris/Publication%20Files/CMR5504_10_Fisher_III_7bb-f941f-fe1b-4069-a609-9c6cd9a8783b.pdf.

Holistic Understanding

By examining the relationships between components, this systems approach provides an integrated understanding of how complex systems function.¹⁹ It helps to pinpoint root causes and identify key leverage points for intervention.²⁰

Example: In environmental management, a systems approach examines studying the interactions between air, water, soil, and living organisms to understand the ecosystem's health. It shows how pollution in one area can affect the entire ecosystem, leading to more effective and sustainable environmental policies.

Improved Problem-Solving

Systems thinking encourages the identification of patterns and interdependencies, which can lead to innovative solutions that address multiple issues simultaneously.²¹ It moves beyond linear cause-and-effect thinking, allowing for more nuanced and effective problem-solving strategies.²²

Example: In urban planning, a systems approach could address traffic congestion by considering not only road infrastructure but also public transportation, housing, and commercial development. By understanding how these factors interact, planners can devise comprehensive strategies that alleviate congestion while promoting sustainable urban growth.

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- 19 Project Management Institute, "The Implications of Systems Thinking and Complex Systems", *Project Management Institute*, December, 2022, <https://www.pmi.org/disciplined-agile/the-implications-of-systems-thinking-and-complex-systems>.
 - 20 Jeffrey Glenn et al., "Applied Systems Thinking: A Viable Approach to Identify Leverage Points for Accelerating Progress Towards Ending Neglected Tropical Diseases", *Health Research Policy and Systems* 18 (2020), <https://doi.org/10.1186/s12961-020-00570-4>.
 - 21 Michael Goodman, "Systems Thinking: What, Why, When, Where, and How?", *The Systems Thinker* 8, n.º 2 (1997), <https://thesystemsthinker.com/systems-thinking-what-why-when-where-and-how>.
 - 22 Matthew Amisssah, Thomas Gannon and Jamie Monat, "What is Systems Thinking? Expert Perspectives from the WPI Systems Thinking Colloquium of 2 October 2019", *Systems* 8, n.º 1 (2020), <https://doi.org/10.3390/systems8010006>.

Enhanced Collaboration

A systems approach often involves interdisciplinary collaboration, drawing on diverse perspectives and expertise to develop a more comprehensive understanding of complex issues. This can lead to more robust and sustainable solutions.²³

Example: In healthcare, improving patient outcomes often requires collaboration between doctors, nurses, social workers, and public health professionals. A systems approach facilitates this interdisciplinary collaboration, ensuring that all aspects of a patient's well-being are considered in treatment plans.

Long-Term Solutions

By focusing on the interconnections within a system, this approach helps design interventions that address underlying issues rather than just symptoms. This leads to more sustainable and long-term solutions.²⁴

Example: In education, addressing student performance issues through a systems approach might involve not only improving teaching methods but also considering factors like family support, nutrition, and extracurricular activities. This comprehensive strategy can lead to sustained improvements in student outcomes.

Adaptability

Systems thinking encourages continuous learning and adaptation.²⁵ By understanding how different parts of a system interact, stakeholders can more effectively respond to changes and emerging challenges.²⁶

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- 23 Shiny Ahmed, Priyam Das and Moksood Laskar, "Interdisciplinary Collaboration in Research", in *Modern Trends in Multi-Disciplinary Research (Vol. 1)*, ed. S. Sandeep Gaikwad (Uttarakhand, IN: String Production, 2024).
 - 24 Jurgen Appelo, "32 Key Concepts in Systems Thinking and Complexity Theory", *unFIX*, July 15, 2024, <https://unfix.com/blog/32-key-concepts>.
 - 25 Gestaltdt, "The Power of Systems Thinking".
 - 26 Eval Community, "Systems Theory in Evaluation: Understanding Complex Social Systems", *Eval Community*, accessed July 30, 2025, <https://www.evalcommunity.com/career-center/systems-theory>.