

Strategic bundling of intellectual property

Theory, evidence, and policy of the IP mix

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Abstract

In today's fast-changing markets, especially in the Asia-Pacific region, protecting innovation requires more than just traditional patents. Many firms now adopt a combined approach—known as the “IP mix”—that uses patents, design rights, and trademarks together to protect how a product works, looks, and is recognised by consumers. This article examines how firms across different sectors use this strategy to reduce imitation and remain competitive, drawing on quantitative analysis and a case from Japan's apparel industry. The findings show that the effectiveness of the IP mix varies by firm size, sector, and institutional context—highlighting differences in private appropriation strategies. At the same time, from a theoretical perspective, the IP mix raises wider concerns about legal complexity, barriers to entry, and fair competition when protections are strategically bundled. These insights suggest that support systems and legal frameworks should reflect both sector-specific innovation patterns and the broader need to balance protection with openness in innovation ecosystems.

Introduction

In the Asia-Pacific region, businesses face growing challenges in protecting their innovations. With fast-paced markets, rising consumer expectations, and increasing competition—especially in industries like electronics, fashion, healthcare, and lifestyle goods—companies must not only come up with new ideas but also defend them quickly and effectively. At the same time, the rules and systems for protecting intellectual property (IP) vary widely from one country to another, making it difficult to apply a one-size-fits-all approach.

In many of these sectors, the way a product looks, feels, and connects with customers is just as important as how it works. But traditional patents often don't cover these aspects well. That's why many companies are now using a combination of protection tools—an “IP mix”. This approach combines patents for function, design rights for appearance, and trademarks for brand identity. Together, they offer more complete

protection that can help firms stand out, avoid copycats, and build long-term value.

This article explores how companies use the IP mix to protect their innovations—and what that means for business strategy and public policy. Drawing primarily on evidence from Japan, but with broader relevance across the region, the analysis looks at how different industries apply this strategy, what outcomes they achieve, and how governments can better support them. The goal is to offer practical insights for firms seeking to strengthen innovation protection and for policymakers aiming to design smarter IP systems in an increasingly complex and diverse region.

Why companies use the IP mix

Companies don't protect their ideas just to follow the rules. They use IP—such as patents, design registrations, and trademarks—as part of a broader strategy to shape how their innovations succeed in the market. These

tools help safeguard different aspects of an idea: how it works, how it looks, and what it means to customers. This combined use of IP helps companies strengthen their position, stand out from competitors, and make their innovations harder to copy.

At the core, patents are used to protect technical features, like how a product functions. This encourages companies to invest in research and development, knowing they can stop others from copying the same technology. However, patents have limits. Many only cover narrow features, and competitors often find ways around them. That's why patents alone may not be enough—especially in markets where copying happens through product design or brand imitation.

Design registrations step in to protect how a product looks—its shape, layout, or decorative features. These are especially important in consumer markets, where first impressions and aesthetics influence buying decisions. Think of smartphones, sportswear, or home appliances—design often plays a big role in attracting customers. In these cases, visual design isn't just about style; it helps redefine how people experience and value a product (Verganti, 2009). Studies in Japan have shown that when companies operate in crowded markets with fast-changing trends, they increasingly use design rights to protect their uniqueness.

In fact, companies often time their use of IP tools strategically. For example, since design rights are granted more quickly than patents, firms may use them to protect a product's appearance early on, while waiting for the patent to be approved. In industries where products evolve rapidly or face high risks of being copied visually, this staggered timing offers a practical way to extend protection.

Trademarks add another layer by protecting brand identity—what a product represents in people's minds. They help customers recognise a brand, build loyalty,

alty, and trust the quality behind the name. Unlike patents and design rights, trademarks can be renewed indefinitely, making them powerful for long-term market presence.

Used together, these three tools offer more complete protection. This IP mix not only helps firms prevent imitation but also strengthens their brand and keeps products relevant for longer. It's especially useful for smaller companies and those in sectors like fashion, consumer electronics, or personal healthcare devices, where emotional appeal and aesthetics are just as important as technical features.

However, there's a fine line between protecting innovation and blocking competition. When IP tools are used to stop others from entering the market or to push up competitors' costs, they can have negative effects. In some cases, companies might use a bundle of IP rights not just to defend their ideas, but also to unfairly limit others'. That's why it's important to consider how IP is used—not just whether it exists. Laws and policies need to encourage fair competition while still rewarding creativity.

In short, the value of the IP mix lies in its flexibility. It allows companies to protect their ideas in ways that match how customers see and use their products—whether it's through function, appearance, or brand meaning. But the same strategy can be used either positively or negatively. Understanding this helps businesses, governments, and support agencies design smarter IP policies that promote innovation while keeping markets open and fair.

What the evidence shows

Many companies now use a combination of IP tools to protect their innovations. But does this approach actually improve business performance? The answer isn't always clear. Researchers have looked into this question, and their findings suggest that the results depend heavily on the company's size, the industry it's in, and how the IP is used.

Some early studies in Japan found that using multiple forms of IP together—like combining patents with design pro-

tection or trademarks—did not always boost company value. In fact, some firms seemed to choose between design and trademark protection based on what fit their business strategy, rather than using both. This shows that firms might see these tools as substitutes rather than complements.

Other research in Japan focused more narrowly on how combining design rights and trademarks affects profitability. One study looked at companies that already had either design protection or a trademark and asked whether adding the other helped improve their profit margins. The results showed no clear benefit from adding the second form of protection. This suggests that just piling on more types of IP doesn't always lead to better results—especially if the first form is already doing the job well.

However, different findings emerge when looking at how patents and design rights work together. In industries where technical performance matters—like information technology—companies that used both types of protection saw better productivity growth than those using just one. But this effect didn't appear in all sectors. For example, in the textile industry, combining patents and design rights didn't seem to provide much extra value. This tells us that the effectiveness of IP bundling depends heavily on the industry context.

The size of the company also makes a difference. Large companies often deal with many different products and may use a wide range of IP tools across their business. This makes it harder to tell if any one IP combination is responsible for their performance. Smaller companies, on the other hand, tend to focus on fewer products, which makes it easier to see how their IP strategy affects outcomes.

A study in the United Kingdom (UK) looked at smaller firms and found mixed results (Helmets & Schautschick, 2013). Companies that combined patents and trademarks grew in terms of staff and assets, suggesting they were expanding internally. However, these same firms didn't necessarily see strong growth in sales. So, the gains from using an IP mix may be

more about internal strength than immediate market success.

The most encouraging evidence comes from studies of smaller firms in Japan that are just beginning to use IP tools. One such study found that firms using all three protections—patents, designs, and trademarks—saw much stronger sales growth than firms with no IP at all. It also found that adding a patent to existing design protection had a particularly strong positive effect. This suggests that combining protections can work well when done strategically, especially for newer or smaller companies aiming to grow.

In short, combining different types of IP can help firms—but not always. The results depend on the company's goals, size, industry, and how thoughtfully the IP tools are used. For firms and policymakers alike, this means that IP strategy should be tailored, not one-size-fits-all. A well-considered combination of protections may provide real advantages—but only when matched to a company's specific circumstances and innovation goals.

Case Study: Wacoal's IP mix strategy for CW-X

Wacoal Corporation, headquartered in Kyoto, is a leading manufacturer of innerwear, sportswear, and functional garments. A cornerstone of its innovation strategy is the Wacoal Human Science Research Institute, established in 1964. Drawing on decades of body movement research and anthropometric data, the institute develops clothing that supports both comfort and function. Its current focus includes how the body moves externally (such as posture) and internally (such as muscles and joints), allowing the company to design performance wear backed by scientific research.

From elite athletes to everyday users

One of Wacoal's signature innovations is its CW-X line of performance garments. Originally designed for athletes to support motion and reduce muscle fatigue, CW-X has earned praise from professionals across various sports.

More recently, Wacoal expanded the technology into products for everyday use, such as the Light-Movement Shirt, which helps support common movement areas like shoulder blades, hips, and knees. These garments aim to improve comfort and mobility for a broader audience, including older adults and non-athletes.

Protecting innovation through a layered IP strategy

What sets CW-X apart is its strategically designed compression zones—most notably around the thighs—that assist with leg movement. To safeguard this innovation, Wacoal uses a combination of IP tools:

Utility Patent No. 4061336 protects the functional structure of the garment.

Design Patent No. 1324024 covers the visual design, including the layout of compression zones.

Trademark Registration No. 4640682 secures the CW-X brand identity.

Wacoal further strengthens its position by registering partial and related designs, allowing it to protect variations in product appearance across its full line.

Counterfeit challenges and the IP mix in action

In 2013, counterfeit versions of CW-X garments began appearing in Japan, often imported from overseas and sold through online channels. These look-alike products mimicked CW-X's design but used lower-quality materials and lacked the original performance features. Some buyers, unaware they had purchased fakes, contacted Wacoal's customer service—leading to the discovery and investigation of the counterfeit networks.

Wacoal's IP mix proved crucial. Although the fake garments altered some structural features—making it difficult to claim infringement under utility patents—the visual similarities allowed Wacoal to take legal action based on its design rights. This led to sales bans and product takedowns. To reinforce protection, Wacoal also im-

plemented a broader anti-counterfeit campaign: it issued online warnings to consumers, requested customs inspections to block imports, monitored online marketplaces, and asked platforms to remove listings of fake items.

Lessons for the region

The CW-X case shows how a combined IP strategy—using patents, designs, and trademarks together—can offer stronger and more flexible protection than any single tool alone. This is especially important in sectors like fashion, sportswear, and lifestyle tech, where how a product looks and feels matters as much as how it functions. Wacoal's example highlights the importance of registering design variations and being proactive in enforcement, especially in markets where counterfeiting is a risk.

For businesses across the Asia-Pacific region, CW-X offers a practical model for using the IP mix to protect valuable products and build long-term customer trust. Whether for large firms or emerging brands, a well-integrated IP strategy can make the difference between innovation that thrives—and one that's quickly copied.

Policy insights

The evidence suggests that there's no single best way to use IP. Instead, how firms combine patents, design rights, and trademarks depends heavily on the nature of their industry and how innovation happens in that field. Some sectors rely on scientific breakthroughs, others on engineering know-how, and still others on creative expression and brand identity. Each of these calls for a different mix of protection.

For example, in industries like pharmaceuticals, where progress is driven by scientific discovery, patents are the key tool. In these fields, companies often license their technologies and partner with universities or research centers. By contrast, in sectors like machinery, innovation comes more from hands-on problem-solving and engineering improvements. These companies may focus more on protecting trade secrets and building internal expertise than on collecting patents. In creative fields like fashion, what sets products apart

is often how they look or what they represent. Here, trademarks and design rights are more important than technical patents. These forms of protection help firms preserve their visual identity, support branding, and stand out in the marketplace.

To support these different needs, public policies and IP support programs must be tailored. Agencies that provide IP guidance—such as patent offices or innovation centres—should offer advice that fits each sector's unique conditions. In fashion, that means helping businesses protect visual design and build strong brands. In pharmaceuticals, the focus should be on improving patent quality and connecting firms with research institutions. In mechanical industries, support should center on building balanced IP portfolios that match gradual innovation processes.

To design effective policy support, it is essential to recognise that innovation takes different forms across industries—and so does the optimal use of IP. Table 1 summarises how various sectors innovate, which IP tools best suit their needs, and what kind of policy support can help firms in each domain make the most of their IP strategy.

Another issue is timing. In some countries, design and trademark rights are approved much faster than patents. While this can be helpful, mismatches in approval timelines may discourage firms from using multiple forms of protection together. Policymakers can address this by streamlining the review process, especially for small and medium-sized enterprises (SMEs), to make it easier for them to combine different IP tools effectively.

Support is especially important for newer and smaller firms that may be using IP for the first time. These businesses often benefit the most from combining different protections, but may lack the knowledge or resources to do so. Governments can help by offering subsidies for multi-IP applications, providing diagnostic tools to identify protection gaps, and offering hands-on guidance tailored to firms' innovation goals.

For industries that rely heavily on design and branding, international expo-

Table 1. Sector-specific IP strategies and recommended policy support

Category	Science-based sector	Engineering-based sector	Creative sector
Examples	Pharmaceuticals, semiconductors	Automotive, machinery	Fashion, consumer electronics, architecture
How Innovation Happens	Scientific research and lab discoveries	Step-by-step improvements and problem-solving	Creativity, aesthetics, and brand identity
Best-Suited IP Tools	Patents	Trade secrets, technical advice	Design rights, trademarks
Helpful Policy Support	Improve patent quality, support licensing, link firms with research institutions	Provide tailored IP advice, support for incremental improvements	Support branding, design registration, and fast-track IP processes for SMEs

Author's elaboration based on Fukugawa (2018).

sure is also vital. Programs that support overseas trademark registration, global branding strategies, or joint product development with foreign partners can help firms expand their reach and strengthen the value of their symbolic assets.

However, while combining IP tools can help protect innovation, it can also be misused. As the findings show, firms that bundle multiple IP rights don't always perform better. Beyond these firm-level issues, using multiple IP rights together can create barriers that make it harder for others to enter the market, especially when companies combine rights over a product's design, function, and brand. This is similar to the idea of "patent thickets," where many overlapping rights—held by different firms—make it costly and complex to innovate. These problems go beyond individual business concerns and raise wider public issues around competition, entrepreneurship, and access to knowledge. To respond, IP policy should not only focus on clarifying the rules between different rights, but also on how the combined use of IP affects markets more broadly. This means better coordination

between IP offices and competition regulators, and regular reviews of how IP strategies are shaping innovation—especially in fast-moving, design-led industries.

Conclusion

The key takeaway is that IP strategies should be tailored to each sector's specific needs. Public support systems must recognise these differences and help firms—especially SMEs—choose and manage the right combination of protections. At the same time, regulators must ensure that IP rights are not misused to block fair competition. When companies use too many overlapping rights to keep others out of the market, this can hurt innovation rather than help it.

Policymakers must also address the legal and procedural complexity that arises when IP rights overlap. Without clearer boundaries between rights like copyright, design, and trademarks, firms may unintentionally lose protection—or use the system in ways that reduce openness and discourage new entrants.

In the Asia–Pacific region, where industries and legal systems differ greatly, striking the right balance between protection and openness is especially important. The IP mix is not a fixed recipe—it's a flexible strategy that must be adapted to different business goals and market realities. Understanding both its benefits and its risks is essential for companies and policymakers who want to support innovation while keeping markets fair and dynamic.

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