MSI Journal of
Arts, Law and Justice (MSIJALJ)

APPRAISING THE PROSPECT AND CHALLENGES OF MODERN AGE INDUSTRIAL DESIGNS, IMPACT OF DIGITAL TECHNOLOGY, ITS REGISTRATION AND COMMERCIALISATION PROCEDURES IN NIGERIA

Noel N. Udeoji[1*], Rosemary O. Udeoji[2], Queen G. Ezekiel[3]

[1] Lecturer I, Department of Public Law, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

[2] Azikiwe University, Awka.

[3] Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.

*** Correspondence:** Noel N. Udeoji

The authors declare that no funding was received for this work.

OPEN ACCESS

Received: 19-July-2025

Accepted: 29-July-2025

Published: 07-August-2025

This article is published by **MSI Publishers** in **MSI Journal of Arts, Law and Justice (MSIJALJ)**

ISSN 3049-0839 (Online)

Volume: 2, Issue: 8 (August-2025)

ABSTRACT: Industrial designs play a vital role in shaping consumer products and experiences. In this modern age, industrial design has transcended mere decorations, evolving into a strategic tool for innovation, competitive differentiation, and sustainable development. This paper critically appraises modern industrial design in Nigeria, examining its prospects and challenges. It details the registration process under the Patents and Designs Act 1970, highlighting legal requirements and current inefficiencies. The paper then explores crucial post-registration steps, including diverse commercialisation strategies like licensing and direct sales. Finally, it analyses the transformative impact of digital technology, from (computer aided designs) CAD and 3D printing to AI and e-commerce—on enhancing design, production, and market access, concluding with recommendations to overcome obstacles and unlock the sector's full potential.

Keywords: *Industrial Designs, Digital Technology, Registration, Commercialisation, Procedures, Nigeria*

1.0 Introduction

While section 32 of the Patent and Designs (P & D) Act, 1970 provides that 'Design' means an industrial design, section 12 of the same Act defines Industrial design as; "Any combination of lines or colours or both, and any three-dimensional form, whether or not associated with colours, is an industrial design, if it is intended by the creator to be used as a model or pattern to be multiplied by industrial process and is not intended solely to obtain a technical result".

An industrial design is one of the forms of intellectual property rights (IPRs) that is protected under Intellectual property law. Industrial design is the identity of a product, and it's an intellectual property protection available to persons who create designs. Industrial design refers to the aesthetic or visual aspect of a product. It is about how a product looks and appeals to the eye rather than how it functions internally. To be protected, a design must be new/original and distinctive. It's a form of intellectual property (IP) that grants exclusive rights to the appearance and design of a product, fostering design innovation.

World Intellectual Property Organisation (WIPO) adds that the legal protection of industrial design is granted in many countries, pursuant to a registration system, to protect the original, ornamental and non-functional features of a product resulting from design activity. Industrial design encompasses aspects such as shape, lines, colour, and patterns.

For a design to qualify as an industrial design, section 12 of the P & D Act provides that it must satisfy both of these conditions:

a. Intended for industrial multiplication: The creator must intend the design to be used as a model or pattern that can be multiplied or reproduced through an industrial process. This means it should be meant for mass production, not a unique, one-off creation (else it may be categorized as copyright).

b. Aesthetic focus: The design's primary purpose cannot be solely to achieve a technical or functional result. The focus must be on the aesthetic or visual aspect, not the utilitarian function. If the form is dictated purely by technical needs, it's not industrial design (else it may be a patent).

In essence, section 12 of the Act emphasizes that industrial design protects the aesthetic appearance of a product that is intended for industrial production, as opposed to its purely functional features.

2.0 Registrable Designs

Subject to section 13 of the P & D Act, an industrial design is registrable if-

a. It is new, and

b. It is not contrary to public order or morality.

Above provision sets out the core requirements for an industrial design to be registrable: it must be genuinely new, and its design must not be contrary to public order or morality. While an initial presumption of novelty exists upon application, this can be overturned if the design was previously made public.

A design loses its novelty if it has been publicly disclosed anywhere, at any time, before the registration application date, whether through description, use, or any other means. The only exception is if the creator can convincingly demonstrate he had no knowledge of such prior disclosure. However, to encourage innovation and exhibition, the Act provides a six-month' grace period if the design is in public display at an official or recognised exhibition before filing, and same will not negate its novelty.

Crucially also, section 13 prevents trivial changes from qualifying a design as new. A design is not considered novel if it differs only in minor ways from an existing design, nor if it is simply applied to a different type of product. This ensures that only designs with genuine visual distinctiveness are granted protection, upholding a strict 'absolute novelty' standard. Additionally, even if a design is new, it will not be registrable if it is considered contrary to public order or morality. This provision

ensures that designs that are offensive or violate accepted social norms are not protected by registration.

3.0 Prospects and Challenges of Modern Age Industrial Designs

In an era of digitalisation, industrial designs have evolved. Modern industrial design is all about how we create the products, gadgets, and systems you see and use every day that are made for lots of people. It is not just about making them look nice anymore. Today, it strongly focuses on making sure they are beautiful, work well, are easy and pleasant to use, and seamlessly blend with technology. This field has changed over time and now includes both physical items you can touch and digital experiences.

3.1 Characteristics of Modern Industrial Designs

Modern age industrial designs are characterised by the following;

a. User-Centered Approach: Modern industrial design is all about designing with the user in mind. It means understanding people's needs and feelings, aiming to create products that aren't just useful, but also easy and pleasant to use.

b. Integration of Technology: The digital age has significantly broadened what industrial designers work on. Now, their scope includes digital screens, smart gadgets, and connected devices. Designers frequently team up with engineers and developers to make sure technology is smoothly integrated into products, whether it is a smart home appliance or a wearable health device.

c. Multidisciplinary Collaboration: Today, industrial designers do not work alone. They are part of teams that include engineers, specialists in how users interact with technology (UI/UX designers), marketers, and branding experts. This teamwork makes sure products are innovative, can actually be manufactured, and perfectly match what users want and what the business aims to achieve.12

d. Aesthetics and Brand Identity: Modern industrial design does not just focus on how a product works; it also puts a big emphasis on its look and brand image. Designers often aim to create products that are memorable, easily recognised, and connect with users on an emotional level.

e. Sustainability and Social Impact: Today, there is a big push to design products that are good for the environment, sustainable, and socially conscious. This means designers think about a product's entire journey, from the materials it is made from and how it is manufactured, all the way to how it is disposed of.

f. Digital Tools and Prototyping: In this modern age, designers regularly use advanced tools like computer-aided design (CAD), 3D modelling, digital prototyping, and simulations. These technologies make the design process much faster, letting designers quickly test and refine their ideas.

One can spot modern industrial design in all sorts of products, whether it is timeless furniture and appliances from the mid-20th century, or today's electronics and smart gadgets. Modern industrial design is described as a "strategic problem-solving process that drives innovation, builds business success, and leads to a better quality of life through innovative products, systems, services, and experiences". It bridges the gap between what exists and what is possible, harnessing creativity, technology, and empathy to deliver value across economic, social, and environmental spheres.

3.2 Prospects of Modern Industrial Designs in Nigeria

Modern industrial design in Nigeria is set for major growth, with new opportunities ready to shape its future. Such prospects are as follows:

a. Economic Growth and Export Potential: Industrial design is becoming increasingly important for boosting Nigeria's economy. By encouraging new ideas and making local products more competitive, it can increase sales at home and open up export markets. Events like Design Week Lagos are helping build a strong "Made-in-Nigeria" brand, aiming to make the country a key player in global design and manufacturing.

b. Innovation Hubs and Development of the Sector: Initiatives like the Design & Innovation Hub in Lagos, Nigeria are speeding up Nigeria's industrial shift. These hubs offer essential training, incubation, prototyping, and business development help, empowering emerging designers and entrepreneurs. Such infrastructure is vital for nurturing talent, boosting local production, and building a strong, future-proof design and manufacturing sector.

c. Government and Private Sector Collaboration: Partnerships between government bodies, financial institutions, and the creative sector, exemplified by collaborations for national exhibitions, are fostering an environment where industrial design can thrive. These collaborations aim to modernise products, promote local creativity, and strengthen economic connections. For instance, Design Week Lagos partnered with Ecobank Nigeria and the Ministry of Arts, Culture, Tourism, and Creative Economy to present Nigeria’s inaugural Design and Innovation Exhibition 2025.

d. Emergence of Design Firms: Nigeria's product and industrial design sector is expanding, with more companies now providing services for things like consumer goods, technology, and healthcare. Firms such as Studio Lani, Design Union, and Tink Africa are key examples, blending creativity with practical design to serve both local and global demands, showing a growing and capable industry.

e. Job Creation: Modern industrial design drives job creation across many industries. By developing a specialised workforce of designers, engineers, and skilled workers, it generates employment in manufacturing, software, product development, and various sectors like furniture, automotive, electronics, and fashion. As these industries grow, so do job opportunities, leading to more investment in education, higher incomes, and overall economic growth. The constant need for innovative products ensures a continuous demand for industrial designers and related experts, further boosting job creation and economic progress.

f. Promotion of Local Content and Creativity: Industrial design powerfully boosts Nigerian content and creativity. Through initiatives like design exhibitions and innovation hubs, we see the amazing skill of local designers, highlighting the importance of industrialisation and export. By incorporating local materials, traditional patterns, and Nigerian craftsmanship, designers create modern products that promote "Made-in-Nigeria" goods. This strengthens the link between creativity and manufacturing, growing local creative industries and helping independent artists gain recognition and work globally.

g. Branding and Market Recognition: Modern industrial design is crucial for strong brands and market recognition. Great design boosts a brand's visibility and reputation, making products appealing, functional, and true to brand values. Consistent, quality design builds customer trust and loyalty, making brands more competitive locally and globally. Ultimately, compelling design helps companies differentiate themselves and create lasting positive connections with consumers.

3.3 Challenges to Modern Industrial Designs in Nigeria

Despite the promising prospects, Industrial designs in Nigeria face significant challenges, such as:

a. Limited Access to Funding: Nigerian industrial designers frequently face a major hurdle: getting enough money for materials, equipment, and technology. This lack of funds makes it challenging to turn new ideas into actual products and increase their production capacity.

b. Inadequate Infrastructure and Production Capacity: Nigeria's weak infrastructure, particularly unreliable electricity, poor transportation, and limited local factories, really hurts domestic production. It often forces designers to manufacture their products abroad, driving up costs and lessens the potential for Nigeria's economic grow. Additionally, limited access to advanced manufacturing technologies and inadequate testing facilities impede design realisation.

c. Weak Intellectual Property Protection: In Nigeria, there is not enough legal protection for industrial designs. Because intellectual property laws are not strongly enforced, registration processes are slow, and people are not aware of these rights, designs are easily copied. This discourages new ideas and investment in creating new products.

d. Limited Market Opportunities and Competition from Imports: The Nigerian market is dominated by imported products, making it hard for local designers to compete. High manufacturing costs and a lack of consumer awareness about local designs further limit their sales opportunities. A strong reliance on imported finished goods also stifles the demand for local industrial design.

e. Lack of Awareness and Appreciation: Many Nigerians, including potential clients and policymakers, have limited awareness of the value and impact of industrial design. This lack of appreciation makes it harder to promote the industry and integrate design thinking into broader economic planning.

f. Skill Gap: A shortage of highly skilled industrial designers, engineers, and technicians proficient in modern design tools and methodologies exists. This skills gap limits the industry's capacity for innovation and quality production.

4.0 Registration Process in Nigeria

An application to register industrial design must be filed at the Trademarks,

Patents and Designs Registry , and shall follow these steps:

STEP 1: Such application must be made to the Registrar, and accompanied by the following;

i. A request for registration of the design.

ii. The applicant's full name and address, and if that address is outside Nigeria, an address for service in Nigeria.

iii. A specimen of the design, or a photographic or graphic representation of the design.

iv. An indication of the kind of product or class of product (where a classification has been prescribed) for which the design will be used, and

v. Any other requirement that may be prescribed.

vi. Evidence of payment of the prescribed fees.

vii. Where the true creator is different from the applicant, a signed declaration from the true creator, requesting to be named in the Register and providing their name and address.

viii. A signed power of attorney where an agent is applying on behalf of the creator (no legalisation or certification of signature is needed).

ix. Where an applicant claims foreign priority in respect of an earlier application made in a country outside Nigeria, his application shall be accompanied by;

x. A written declaration showing: (i) the date and number of the earlier application; (ii) the country in which the earlier application was made; and (iii) the name of the person who made the earlier application.

xi. A certified copy of the earlier application made in another country (to be submitted to the Registrar, not more than 3 months after applying in Nigeria). -Section 15 of the P & D Act 2004.

STEP 2: Examination by the Registrar:

The Registrar will examine the application to ensure it conforms with:

a. Section 13(1) (b) that the design is not contrary to public order or morality.

b. Section 15(1) & (2) that all required information and accompanying documents are present and correctly formatted, and

c. Section 15(3) that all conditions for claiming foreign priority (if applicable) have been met. –(Section 16 of the P & D Act 2004)

If your application successfully passes the checks mentioned above, your design will be registered. Also, if you properly and successfully claimed foreign priority, that will be officially noted in the register.

STEP 3: Issuance of Registration Certificate and Publication of Notification

Section 17(1) and (2) of the P & D Act, provides that if the application satisfies the examination criteria, the design will be registered and a registration certificate will be issued to the applicant, containing details like the design number, registered owner's information, application and registration dates, foreign priority details (if any), a representation of the design, and the true creator's name, and according to Section 17(3) of the Patents and Designs Act, as soon as possible after the registration, the Registrar will publish a notification of the registration, containing the key details of the design.

4.1 Rights Conferred by Registration

Section 19(1) of the P & D Act grants the registered owner of an industrial design a legal monopoly over its commercial use. What this means in essence, is that once an industrial design is registered, the owner has the right to preclude or stop anyone else from doing the following:

a. Reproducing the design in the manufacture of a product: This is the most fundamental right. It prevents others from copying a registered design and incorporating it into their products during the manufacturing process. For instance, if you have a registered design for a unique shape of a water bottle, no one else can manufacture a water bottle with that exact shape.

b. Importing, selling, or utilising for commercial purposes a product reproducing the design: This extends the protection of a registered design beyond just manufacturing. It means the right owner can stop others from:

    a. *Importing: Bringing products that copy the design into Nigeria from another country.*

    b. *Selling: Offering products that copy the design for sale.*

c. *Utilising for commercial purposes: Using products that copy the design in any way that is intended to make money (e.g., renting them out, using them as part of a commercial service).*

c. Holding such a product for the purpose of selling it or of utilising it for commercial purposes: This covers the preparatory acts before actual sale or commercial use. It prevents people from even possessing products that infringe the design with the intent to sell them or use them commercially. For instance, if a shop owner has a stock of water bottles that copy your design, even if they have not sold any yet, you can stop them if they intend to sell or use them commercially.

In furtherance of this, section 19(2) clarifies what counts as illegal copying of a registered industrial design. It means someone cannot avoid infringement by making only minor, unimportant changes to an already registered design, as the overall visual impression is key. Furthermore, using the design on a different type of product is still considered reproduction, as the design itself is protected regardless of its application. In effect, superficial alterations or changing the product category do not excuse unauthorised reproduction of a core visual design.

On the other hand, Section 19(3) limits the rights granted by industrial design registration. Firstly, these rights only apply to commercial or industrial activities, not private or personal use. Secondly, once a product embodying the registered design has been lawfully sold in Nigeria, the control which the owner of that design has over that specific item is "exhausted," meaning the owner cannot prevent its further resale or use by the buyer.

5.0 Commercialisation of Innovation/Industrial Designs

The commercialisation of industrial designs is the process of transforming creative, functional, and aesthetically distinctive product designs into marketable assets that generate revenue and business value. This process is critical for designers, manufacturers, and the broader economy, as it enables the monetisation of intellectual property, fosters innovation, and enhances competitiveness. Below are major pathways for commercialization:

a. Direct Manufacturing and Sales: The designer or their company undertakes the production and direct sale of products incorporating the design. This approach offers maximum control but requires substantial investment in production, marketing, and distribution.

b. Licensing: Licensing involves granting another party permission to use the industrial design for a fee (usually royalties). This allows the designer to earn revenue without direct involvement in manufacturing or sales. Under section 23 of P & D Act, the owner of a registered industrial design is allowed to grant permission (a license) to another person to use or exploit their design through a written contract. Unless the contract states otherwise, the licensee can perform all the protected acts related to the design anywhere in Nigeria.

c. Assignment: This refers to the outright sale and transfer of all rights in the industrial design to another party, typically for a lump sum payment or other consideration. Section 24 of P & D Act allows the rights to this IP to be assigned (sold), transferred through inheritance, or held jointly by multiple owners. Any assignment must be in writing and signed. For the transfer to be legally binding against third parties, it must be registered and the required fee paid.

d. Franchising: Even though franchising usually applies to business models, industrial design is often a crucial part of a franchise package. Maintaining a consistent design across all franchise locations strengthens the brand and customer experience. Essentially, the franchisor allows others to use their design and brand, and the franchise agreement includes strict rules for quality and brand consistency. A good example is Coca-Cola bottling company, where the product's design and packaging are identical everywhere. Coca-Cola is an example of a product franchise. The actual bottling companies act as franchisees, handling the making, packaging, and delivery of Coke drinks to stores. While Coca-Cola, the franchisor, strictly controls the recipe, production, and quality, franchisees largely manage daily operations, including logistics and sales.

e. Strategic Partnerships: Strategic partnerships involve collaborating with other businesses for co-development, co-marketing, or joint ventures. Such alliances leverage complementary strengths and expand market reach. Partnerships, which can involve co-branding, sharing technology, or using the same distribution networks, are essential. To prevent conflicts, it is crucial to have clear agreements on IP ownership, the division of profits, and each party's responsibilities. Successful examples include collaborations like Nike and Apple, where design innovation meets broader market reach.

6.0 Infringement of Registered Industrial Design Rights and Remedies

Section 25 of the P & D Act 2004 prohibits the infringement of design rights, the section defines infringement and outlines the legal actions available to the design owner. Sequel to that, infringement of industrial design rights occurs when another person, without the permission of the registered design owner, performs or causes to be performed any act that the design owner is legally entitled to prevent under Section 19 of the extant Act, such as using, making, selling, or importing the design without explicit approval of the design owner.

By section 25(2) of the Act, if the rights of a design owner are infringed, they can take legal action in court. The court can grant the design owner various forms of relief, similar to what a creator can get for other intellectual property rights infringements. These include, but are not limited to:

a. Damages: Monetary compensation for the losses suffered due to the infringement.

b. Injunction: A court order forcing the infringer to stop their infringing activities.

c. Accounts: A court order requiring the infringer to provide a detailed record of their profits made from the infringement, which the design owner might then claim. And any other appropriate relief.

It is pertinent to note that section 251 (1)(f) of the Constitution of the Federal Republic of Nigeria, 1999, and section 26 P & D Act, provides that the Federal High

Court is the specific court that has the jurisdiction to hear and decide matters relating to industrial designs.

Furthermore, section 25(4) of the Act outline the rights of a licensee when an industrial design is infringed. It provides that if a licensee discovers an infringement, they can formally demand that the owner (licensor) take legal action against the infringer. Crucially, if the licensor unreasonably refuses or fails to sue, the licensee is then empowered to initiate legal proceedings in their own name. Even in such a scenario, the licensor, as the original owner, still retains the right to join in the lawsuit if he so choose.

7.0 The Impact of Digital Technology

Digital technology has transformed industrial design, changing how products are conceived, developed, and marketed. These digital tools enhance the design process, making it more creative, efficient, and collaborative, resulting in smarter products that prioritise user needs. Digital technology has impacted industrial designs in the following ways;

a. Enhanced Design and Visualisation: Digital tools like CAD software and 3D modelling let designers create exact 2D and 3D versions of products on a computer. This makes it easy to change and improve designs quickly without needing expensive physical models. Also, virtual testing allows designers to check how a product works, feels, and looks in a digital space, which saves time and money in development.

b. Rapid Prototyping and Production: New 3D printing makes it fast for designers to create physical models for testing. This means they can quickly get feedback and make changes, leading to faster innovation. Plus, digital manufacturing now allows for customised products and small production runs, which used to be too expensive or difficult.

c. Collaboration and Workflow Efficiency: Cloud platforms and digital twin technology make it easy for designers, engineers, and manufacturers to work together in real time, even if they're in different places. Digital twins are like

virtual copies of actual products, allows teams to constantly monitor and improve the product from start to finish, which boosts quality and lowers risks.

d. Cost Reduction and Sustainability: Digital design tools help reduce waste because they let designers' perfect products on a computer, cutting down on the need for many physical models. Also, by testing products virtually, designers can save resources and choose environmentally friendly materials, making manufacturing more sustainable.

Real-World Examples of the impact of digital technology on industrial designs are seen in the following cases:

i. Apple uses AI, AR (Augmented Reality), and precision manufacturing to develop iconic, user-friendly products like the iPhone and MacBook, blending aesthetics with cutting-edge technology.

ii. Nike employs digital prototyping and IoT-enabled smart wearables such as the Nike Adapt self-lacing shoes, showcasing how digital tools enhance performance and customisation. (IoT means Internet of Things).

iii. Tesla integrates CAD (Computer Aided Design), AI-driven optimisation, and IoT connectivity to design sleek, energy-efficient electric vehicles with advanced autonomous features.

7.1 Impact of Digital Technology on Commercialization of Industrial Designs

Digital technology is completely changing how industrial designs are commercialised by widening market reach, making operations more efficient, and allowing for new ways to get funding, thus;

a. E-commerce Platforms

Online marketplaces such as Jumia and Konga in Nigeria, alongside global platforms like Etsy and Amazon, provide designers with direct access to vast consumer bases worldwide. These platforms bypass traditional retail intermediaries, reducing overhead costs related to physical storefronts and distribution. This new access to the

market allows designers, especially small and independent creators, to sell their products worldwide. This helps them increase their revenue potential and gain more visibility for their brand.

b. Digital Marketing

Digital marketing tools, including social media campaigns, content marketing, search engine optimisation (SEO), and targeted advertising, empower designers to reach specific customer segments efficiently and cost-effectively. These strategies enhance brand awareness, engage potential buyers, and drive sales by tailoring messages to audience preferences and behaviours. The affordability and precision of digital marketing are particularly beneficial for emerging designers and startups with limited budgets.

c. Crowdfunding

Platforms like Kickstarter and GoFundMe allow designers to raise capital directly from the public, validating market interest before full-scale production. Crowd funding reduces reliance on traditional investors and banks, providing both funding and early customer engagement. This approach mitigates financial risks and helps build a loyal customer base eager to support innovative products.

d. Supply Chain Optimisation

Digital tools and data analytics enhance inventory management, logistics, and supply chain transparency. Improved forecasting and real-time tracking reduce costs, minimise waste, and ensure timely delivery. Efficient supply chains enable designers to scale production responsively and maintain product quality, which is crucial for sustaining customer satisfaction and competitive advantage.

e. Global Reach and Collaboration

Digital connectivity facilitates partnerships with international manufacturers, distributors, and retailers, expanding market opportunities beyond local borders. Designers can source materials globally, collaborate on product development, and

enter new markets with greater ease. This interconnectedness fosters innovation and helps Nigerian designers integrate into global value chains.

8.0 Conclusion

Modern industrial design holds significant promise for Nigeria's progress, boosting economic growth, creating jobs, and fostering local innovation. Its shift towards user-focused, technology-integrated, and collaborative approaches makes it a strategic asset for national development, with initiatives like Design Week Lagos showcasing its potential to build a strong "Made-in-Nigeria" brand and drive exports.

Despite this, the industry faces considerable challenges, including limited funding, poor infrastructure, weak intellectual property protection, intense import competition, and a lack of public awareness. These issues, alongside inefficient registration processes, hinder its growth. Nevertheless, digital technology offers a transformative solution, improving every stage from design to commercialisation and making it more accessible and efficient.

8.1 Recommendations

To fully leverage the prospects and overcome the challenges faced by modern industrial design in Nigeria, the following recommendations are crucial;

a. To bolster Nigeria's industrial design sector, funding mechanisms must be strengthened. This involves establishing dedicated government-backed grants and venture capital funds for startups and SMEs to overcome initial capital hurdles for prototyping and scaling production. Additionally, promoting angel/private investment and educating designers on crowdfunding platforms will diversify funding sources.

b. Infrastructure and manufacturing capabilities require significant upgrades. Investing in and adequately funding design-centric hubs, equipped with advanced technologies like 3D printers and CNC (Computer Numerical Control) machines, is crucial. Simultaneously, government prioritisation of reliable electricity, efficient transportation, and accessible industrial parks will reduce production costs and facilitate local manufacturing.

c. Furthermore, intellectual property protection needs to be strengthened. This entails modernising and digitising the design registration process for faster and more transparent services. Equally important is increasing public and judicial awareness of design rights, coupled with robust enforcement against infringement to deter copying and encourage genuine innovation and investment.

d. To foster market access and competitiveness, "Buy Nigerian" campaigns are essential to educate consumers on the value of local designs, shifting preferences from imported goods. Concurrently, targeted export promotion through support, training, and platforms like international trade shows will connect Nigerian designers with global buyers.

e. Finally, addressing skill gaps and awareness is vital. Industrial design education, encompassing modern tools and sustainable practices, should be integrated across all educational levels. Moreover, workshops for policymakers are necessary to deepen their understanding of design's strategic economic importance, ensuring its inclusion in national development plans. By implementing these recommendations, Nigeria can transform its industrial design sector into a powerful driver of innovation and economic competitiveness, solidifying a strong "Made-in-Nigeria" brand.

References

1. Mike, J. H., & Uloko, G. I. (2022). *Modern Approach to Intellectual Property Law in Nigeria*. Princeton & Associates Publishing.

2. OKORO, P. A., OTOR, E., & OMLIGBE, J. APPRENTICESHIP AND THE RIGHT TO PATENTABLE INVENTIONS IN NIGERIA.

3. Birkbeck, C. D. (2016). The world intellectual property organization (WIPO): A reference guide. In *The World Intellectual Property Organization (WIPO)*. Edward Elgar Publishing.

4. Ayodele, O. A., & Damola, F. O. (2017). Patentability of inventions under the Nigeria's patents and designs act: an examination. *Nnamdi Azikiwe University Journal of International Law and Jurisprudence*, *8*(2), 48-57.

5. Ratsch, C., Zangwill, A., Miller, M. S., Pistol, M. E., Pryor, C. E., & Samuelson, L. (1990). 5. R. Leon PM Petroff, D. Leonard, S. Fafard, Science 267, 1966 (1995). 6. S. Fafard et al., ibid. 274, 1350 (1996). 7. RJ Asaro and WA Tiller, Metall. Trans. 3, 1789 (1972); DJ Srolovitz, Acta Metall. 37, 621 (1989). *Appl. Phys. Lett*, *57*, 2110.

6. Bridges, R. L. 2 Ibid. at 486.

7. Chiruvolu, S. (1996). Rosenauer, ibid., p. 3276; O. Glatter, G. Scherf, K. Schillén, W. Brown, bid., p. 6046; L. Zhang, RJ Barlow, A. Esenberg, ibid. 28, 6055 (1995). 2. L, Zhang and A. Eisenberg, Science 268, 1728 (1995). *J. Am. Chem. Soc*, *118*, 3168.

8. Industrial Designers Society of America, 'What is Industrial Design?' (n.d) Industrial Designers Sociaety of America <https://www.idsa.org/about-idsa/advocacy/what-industrial-design> accessed 13 June, 2025.

9. I-Mas, 'The Evolution of Industrial Design in the Digital Age' (n.d) I-Mas<https://www.i-mas.com/en/the-evolution-of-industrial-design-in-the-digital-age> accessed 13 June, 2025.

10. World Design Organization, 'Definition of Industrial Design' (n.d) World Design Organization<https://www.wdo.org/about/definition> accessed 13 June, 2025.

11. Industrial Designers Society of America, 'What is Industrial Design?' (n.d) Industrial Designers Sociaety of America<https://www.idsa.org/about-idsa/advocacy/what-industrial-design> accessed 13 June, 2025.

12. Sparke, P., & Center, K. D. (2021). Industrial design in the modern age. *(No Title)*.

13. Orto, L. J. (1995). *Design as art:" Design" and Italian national identity*. New York University.

14. I-Mas, 'The Evolution of Industrial Design in the Digital Age' (n.d) I-Mas<https://www.i-mas.com/en/the-evolution-of-industrial-design-in-the-digital-age> accessed 13 June, 2025.

15. Penny Sparke, 'Industrial Design In The Modern Age' (2021) Op cit (n.12)

16. Ughumiakpor, E. E., & Onoriose, O. S. (2025). Interrogating the Place of Industrial Design in Boosting Economic Growth and Development. *Journal of Commercial and Property Law*, *12*(1), 95-103.

17. Ughumiakpor, E. E., & Onoriose, O. S. (2025). Interrogating the Place of Industrial Design in Boosting Economic Growth and Development. *Journal of Commercial and Property Law*, *12*(1), 95-103.

18. PM NEWS, 'Design Week Lagos Teams Up With Ecobank, Ministry for 2025 Exhibition' (2025) PM NEWS<https://pmnewsnigeria.com/2025/01/26/design-week-lagos-teams-up-with-ecobank-ministry-for-2 025-exhibition> accessed 14 June, 2025.

19. Stylianou, N., Buchan, I., & Dunn, K. W. (2015). A review of the international Burn Injury Database (iBID) for England and Wales: descriptive analysis of burn injuries 2003–2011. *BMJ open*, *5*(2), e006184.

20. Holgate, N. (1984). IMA (1978) Ibid. 42, 533-63 (compiled by BE Leake). MacPherson, HG (1983) Ibid. 47, 247-57. Rock, NMS, and Leake, BE (1983) A FORTRAN program for the classification of amphiboles according to. *Mineral. Mag*, *48*, 211-27.

21. Aeroleads, 'Top Product Design Companies In Nigeria in 2025' (2025) Aeroleads<https://www.aeroleads.com/list/top-product-design-companies-in-Nigeria> accessed 14 June 2025.

22. EE Ughumiakpor, and OS Onorise, Op cit (n.17).

23. Aduragbemi Omiyale, ‘Young Innovator Flood Design and Innovation Exhibition in Lagos’ (2025) Business Post<https://www.businesspost.ng/brands-product/young-innovators-flood-design-andinnovation-exhibitio n-in-lagos> accessed 14 June, 2025.

24. GID, ‘How to Use Modern Industrial Design to Enhance Brand Identity and Drive Sale’ (2024) GID<https://www.gidcompany.com/blog/embracing-modern-industrial-design-trends> accessed 14 June, 2025.

25. GO Uka, and CO Onwuekwe, ‘The Role of Industrial Design Practice in Nigerian Development, viz-a-viz Communication Design’ [2022]<https://www.nigeriajournalsonline.com/index.php/feschschrifts/article/view/3181> accessed 16 June, 2025.

26. OA Fatuyi, Evaluation of Nigerian Industrial Design Products: The Potentialities of Cultural Identity and Asthetics’ [2018] <https://www.iiste.org/journals/index.php/ADS/article/vie/40909> accessed 16 June, 2025.

27. Career Naija, ‘Nigeria’s Design Industry: Challenges and How to Overcome them’ (2023) Professions in Nigeria<https://www.profession.ng/nigeria-design-industry> accessed 16 June, 2025.

28. GO Uka, and CO Onwuekwe, Op cit (n.25).

29. Career Naija, ‘Nigeria’s Design Industry: Challenges and How to Overcome them’ (2023) Op cit (n.27).

30. OA Fatuyi, Evaluation of Nigerian Industrial Design Products: Op cit (n.26).

31. J. Heaven Mike, and G. Uloko, Modern Approach to Intellectual Property Laws in Nigeria Op cit (n.1) 259

32. Henrik Johansson, ‘Mastering the Industrial Product Design Process: Step-by-Step Guide for 2025’ (2023) Gembah <https://www.gembah.com/blog/industrial-product-design-process> accessed 17 June 2025.

33. Boa Tran, 'The Role of IP in Licensing, Franchising, and Expansion Models' (2025) PatentPC<https://www.patentpc.com/blog/the-role-of-ip-in-licensing-franchising-and-expansion-models> accessed 17 June, 2025.

34. LinkedIn, 'How Can You Make Your Industrial Designs Profotable?' (n.d) LinkedIn <https://www.linkedin.com/advice/3/how-can-you-make-your-industrial-designs-profitable> accessed 17 June, 2025.

35. Olawunmi Ojo, 'Franchising Models in Nigeria' (2024) Business Day<https://www.businessday.ng/news/legal-business/article/franchising-models-in-nigeria> accessed 17 June, 2025.

36. Boa Tran, 'The Role of IP in Licensing, Franchising, and Expansion Models' (2025) Op cit (n.33).

37. Lucia Piseddu, 'Strategic Partnerships in Business Development - Ultimate Guide' (2024) The BD School<https://www.thebdschool.com/blog/strategic-partnerships> accessed 17 June, 2025.

38. J. Heaven Mike, and G. Uloko, Modern Approach to Intellectual Property Laws in Nigeria Op cit (n.1) 260

39. Xavor, 'Integrating Industrial Design Services with Digital Technologies: A Modern Approach' (2025) Xavor<https://www.xavor.com/blog/industrial-design-services-with-digital-technologies> accessed 17 June, 2025

40. Houses Apartments, 'How Do Industrial Designers Incorporate Digital Technology into Their Design?' (2023) Houses Apartments<https://www.houses.apartments.com/en/design/industrial-design/how-do-industrial-designers -incorporate-digital-technology-into-their-designs> accessed 17 June, 2025.