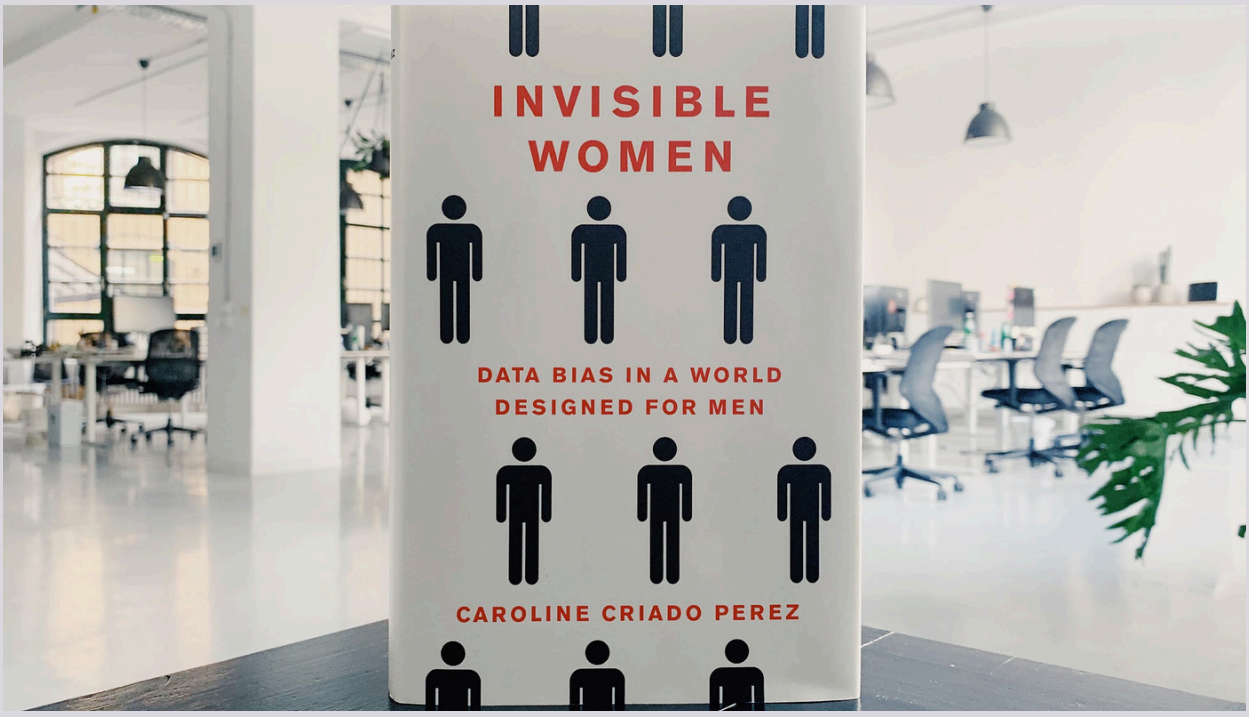
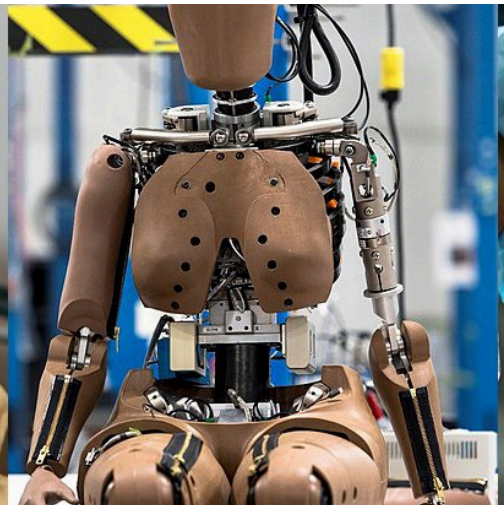
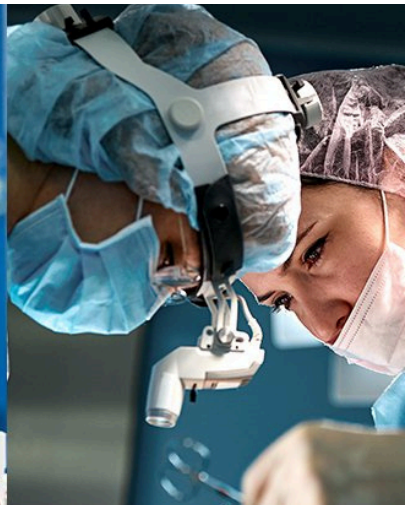
VOWI
VOICE OF WOMEN
IN INNOVATION

DESIGNED WITHOUT HER

WHY WOMEN ARE LEFT OUT OF PRODUCT DESIGN— AND HOW TO CHANGE IT



Authors:
Erila Haska
Taranpreet Kaur

Imagine wearing workplace safety gear designed without considering your body shape or size. For many women, this is a harsh reality, highlighting a broader issue: gender bias in product development. Products—from medical devices to everyday consumer goods—are often designed with a male default, leaving women at a disadvantage. This systemic issue is not confined to one sector; it spans industries from healthcare to technology, transportation, and beyond. When design does not consider women, it compromises safety, functionality, and accessibility. The central question arises: Why are women so often excluded from product design and innovation, and what happens when they are included?

I. Why Women Have Been Excluded from Design: Unpacking the Structural Causes

The exclusion of women from product design is deeply systemic, rooted in historical, social, and economic structures that continue to shape industries today.

I.I Who Designs the Products?

Women are underrepresented in design and engineering roles. According to the U.S. Bureau of Labor Statistics, women make up only about 12% of engineers and 8% of mechanical engineers (BLS, 2022). In industrial design, the global percentage is under 20% (World Economic Forum, 2020). This lack of diversity narrows the perspectives that shape product development.

Historically, engineering was built within male-dominated environments. Education systems discouraged women from technical fields, and lingering biases still affect their careers. A 2021 report by the Society of Women Engineers showed that 30% of women in engineering feel their ideas are less respected than men's (SWE, 2021).

The results of homogeneous teams are visible: crash test dummies were long based on a male body type, leading to greater injury risk for women (NHTSA, 2013; Criado Perez, 2019). Power tools, smartphones, and wearable tech often fail to accommodate smaller hand sizes, body proportions, or hormonal variations (Buolamwini & Gebru, 2018; Rouse, 2021).

This isn't due to malicious intent but to default assumptions shaped by dominant norms. Unchallenged, these assumptions produce products that don't work well for half the population.

Retention is also an issue. McKinsey (2022) found that women in technical roles leave at higher rates than men, particularly at mid-career stages. Systematic barriers such as a lack of mentorship and exclusion from leadership compound the problem.

Solving this requires more than hiring. It demands structural changes, inclusive leadership, and valuing a broader range of user experiences.

I.II What Gets Funded?

The lack of diversity in product design teams is mirrored in who decides what innovations receive funding. Venture capital remains male-dominated, with women representing only around 12% of decision-makers in U.S. VC firms (All Raise, 2021). As a result, products and services designed by or for women—especially in health and caregiving—are often overlooked as niche or unprofitable. Besides, startups led by female founders are routinely undervalued, receiving less funding and lower valuations compared to their male counterparts, regardless of performance or potential.

This explains why femtech, despite its projected market value of $60 billion by 2027 (PitchBook, 2022), remains underfunded. Innovations in menstruation care, menopause support, fertility tracking, and maternal health continue to struggle for backing compared to technologies aimed at male consumers or gender-neutral markets. For example, startup founders creating tech for breast health or pelvic care often report being dismissed in meetings, with investors uncomfortable or unfamiliar with the issues. Women's lack of confidence is a contributing factor affecting startup success and funding access. These directly align with structural funding barriers and investor perception issues.

Meanwhile, devices like male-focused sexual wellness apps or fitness tech attract funding more easily, further skewing which products make it to market. The cycle is self-reinforcing: with fewer women in decision-making roles, the pipeline continues to neglect women-centric problems. Thus, exclusion in design directly shapes exclusion in investment.

I.III What Is Considered 'Universal'?

Many everyday products—from smartphones to seat belts—are built to fit the male body. Default settings, sizes, and baselines are frequently optimized for the average man, marginalizing anyone who deviates from that norm.

Voice recognition systems, for example, are typically trained on male voices. As a result, they perform less accurately for female speakers, leading to user frustration and decreased functionality (Tatman, 2017). Similarly, workplace temperatures are often set based on male metabolic rates, making office environments uncomfortable or even detrimental to women's productivity.

Medical research exhibits the same trend. Historically, clinical trials were conducted primarily on male bodies, ignoring differences in drug metabolism, hormone cycles, and symptom presentation in women. This bias has had dangerous consequences: women are more likely to experience adverse drug reactions and misdiagnosis for conditions like heart disease (Criado Perez, 2019).

In short, “universal” design often reflects the male standard, not a neutral baseline. This reinforces systemic exclusion by normalizing products that work better for one group while marginalizing others.

I.IV What Is Dismissed as Trivial?

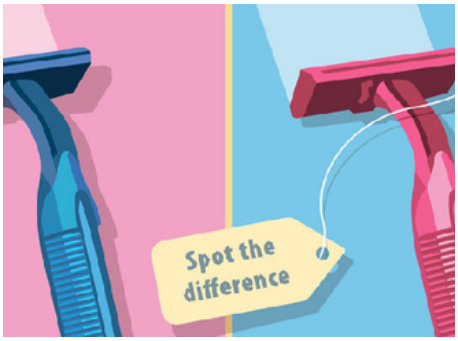
Finally, many of the issues most important to women are historically labeled as "niche," "embarrassing," or "low-priority."

For decades, menstruation, breastfeeding, pelvic floor health, and menopause were not seen as problems worth solving. Health apps routinely left out menstrual cycle tracking, and breast pumps remained noisy, bulky, and painful to use. Conditions like endometriosis, which affects an estimated 1 in 10 women, receive far less research funding than male-centric conditions with lower prevalence (NIH, 2022).

This devaluation of women’s health needs sends a cultural message that these topics are taboo or unimportant. Even today, femtech founders report being told their products are too “personal” or “not mainstream.” This not only slows innovation but also perpetuates stigma.

Connecting this back to design teams, the problem is clear: when the people at the table haven’t experienced these issues firsthand or don’t see them as relevant, they are less likely to fund, prioritize, or build solutions for them. What gets dismissed as trivial reflects who holds power in the design and innovation ecosystem.

II. How the Market Has Responded Poorly: Superficial Fixes



Even when the market attempts to cater to women, it often does so in ways that are superficial and stereotypical. The widely criticized "shrink it and pink it" strategy illustrates this trend: rather than redesigning products with women's actual needs in mind, companies frequently make existing products smaller, lighter, or pink-colored. This approach is common across tools, sports equipment, consumer electronics, and even healthcare devices.

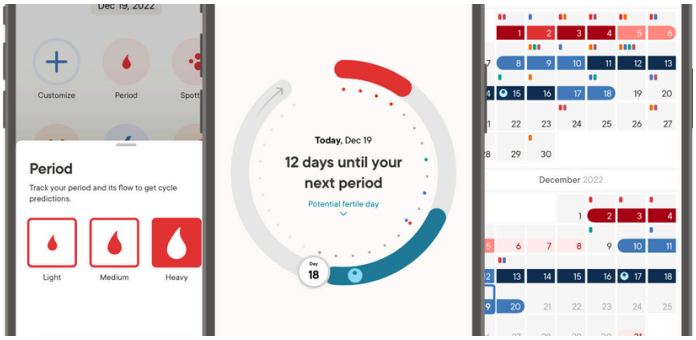
For instance, some brands offer "women's hammers" with pink handles, but they retain the same weight distribution and grip shape designed for male hands, often leading to awkward use and potential safety issues. Similarly, smartphones marketed to women are sometimes made in pastel colors but not adapted to be more comfortable to hold or easier to use with smaller hands. These cosmetic changes do little to improve actual usability, and they signal that women's preferences are not taken seriously in product engineering.

This approach is not only ineffective, but it also reinforces limiting gender norms. Marketing campaigns often emphasize aesthetics and beauty rather than functionality or performance. In the automotive sector, for example, some manufacturers have offered cars with color palettes and interior accessories targeted to women, while failing to address the underlying design problems, such as safety features based on male physiology (Criado Perez, 2019).

Technology reflects this issue as well. Voice assistants like Siri, Alexa, and Google Assistant commonly default to female personas, subtly reinforcing the stereotype of women as obedient helpers. A UNESCO report (2019) criticized this trend, warning that it promotes submissive gender dynamics and perpetuates cultural biases in emerging AI technologies.

These patterns reflect a marketplace that still views women as secondary consumers, or as a special interest group, rather than as central participants in the user base. As long as product development treats women as an afterthought, the resulting designs will continue to fall short of meaningful inclusion.

III. What Happens When Women Lead: Examples of Real Innovation

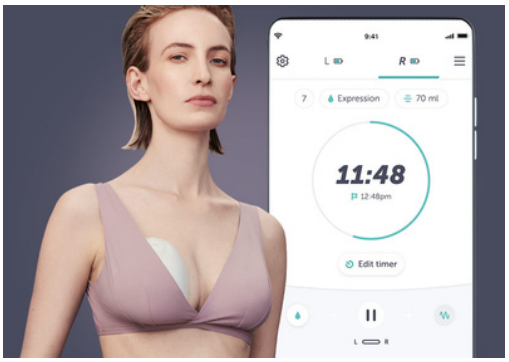


When women lead product design, innovation becomes more inclusive and impactful. The femtech revolution, driven by women like Ida Tin, founder of Clue, demonstrates the transformative potential of women-centric design. Clue offers comprehensive menstrual tracking and has reshaped how health apps address female physiology. Flo, another health app led by female founders, further expands this space by integrating AI-driven health insights for women.

Another breakthrough is Elvie's wearable, silent breast pump, designed with direct input from female users. Unlike traditional pumps, Elvie prioritizes discretion, comfort, and functionality—solutions that emerge when design is rooted in the lived experiences of women. Similarly, the Ava fertility tracker offers women more precise insights into their health cycles using wearable technology.

Take Menopal, a startup focused on menopause care, despite addressing a market affecting over half the population, it has faced challenges securing funding due to investor bias and the persistent misconception that women's health innovations are niche or non-scalable.

These innovations demonstrate the benefits of diverse teams and user-centered design, showing that addressing women's needs leads to products that effectively serve broader markets. When women lead, product development focuses on solving real problems with practical, inclusive solutions that improve the lives of all users.



IV. What Should Be Done to Change the System: Shifting Design and Decision-Making

Increasing female representation in design, engineering, leadership, and funding decisions is critical. Research by McKinsey & Company (2020) shows that companies with diverse leadership outperform their less diverse counterparts, both financially and in innovation outcomes. Representation must extend beyond entry-level positions to include decision-making roles that shape product strategy and funding priorities.

Funding must also shift to prioritize overlooked markets, such as maternal health and caregiving technologies. Despite the massive potential, these areas continue to be underinvested. Companies that embrace these opportunities stand to capture significant market share and meet urgent, underserved needs.

The design process itself requires rethinking. Inclusive user research should involve women from the earliest stages, ensuring that their feedback meaningfully shapes product development. Gender impact assessments can identify potential biases and guide more equitable design choices. Standards for product testing, including crash test protocols and clinical trials, must explicitly require gender-balanced samples.

Expanding the definition of innovation is essential. Problems related to reproductive health, caregiving, and personal safety must be recognized as core innovation challenges, not niche concerns. By broadening our understanding of what constitutes "valuable" innovation, industries can develop products that are more inclusive, effective, and relevant to all consumers.

V. Conclusion: Redefining Success in Innovation

Inclusive design is not just about fairness; it leads to safer, more effective, and more profitable products for all. Building with women in mind is not a niche pursuit—it is essential to global progress. Companies, investors, and designers must commit to systemic changes that center women's needs, ensuring they are no longer treated as optional in the innovation landscape.

The future of innovation depends on designing for everyone. It's time to abandon superficial fixes and embrace thoughtful, inclusive, and truly universal product design.

References:

Criado Perez, C. (2019). Invisible Women: Data Bias in a World Designed for Men. Abrams Press.
PitchBook. (2022). Femtech Market Analysis.

Tatman, R. (2017). Gender and Dialect Bias in YouTube's Automatic Captions. Proceedings of the First ACL Workshop on Ethics in Natural Language Processing.

UNESCO. (2019). I'd Blush If I Could: Closing Gender Divides in Digital Skills Through Education.

McKinsey & Company. (2020). Diversity Wins: How Inclusion Matters.

Ackowledgment:

Special thanks to Sorcha Mulligan for sharing her insights and experiences, which enriched the research and perspectives in this article.