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PAD

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PAD. Pages on Arts and Design
International, peer-reviewed,
open access journal
founded by Vanni Pasca in 2005

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Publisher
Aiap Edizioni
via A. Ponchielli 3 – 20129 Milano – Italy
aiap@aiap.it – www.aiap.it

PAD © ISSN 1972-7887
#28, Vol. 18, June 2025
www.padjournal.net

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0. EDITORIAL #28

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III

RESILIENCE AND SUSTAINABILITY

Furniture for a Society in Motion

Product and Service Solutions that Meet Temporality and Circularity Logics

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Keywords
Furniture Design, Design for Circularity, Product, Product System, Service.

Abstract
In a society characterised by increasing fluidity and the ability to cross borders even for temporary living solutions, people increasingly use the objects that constitute their everyday lives as elements of psychological continuity. Furniture represents a special category, as it gives life to the home by fulfilling a practical and symbolic function, preserving a personal narrative in times of housing transition. Therefore, the article explores the relationship between furniture and mobile living, highlighting solutions such as products, services and business models from the furniture sector that facilitate the transportability, accessibility, and adaptability of furniture in a circular perspective. The research adopts an exploratory and qualitative approach, and through multiple case studies, solutions that adopt circular strategies and business models are analysed, distinguishing hard and soft solutions, acting on the product or through services. The analysis reveals an evolving sector whose solutions seek to meet the needs of a society on the move, promoting lightweight, disassemblable or adaptable objects while at the same time taking into account the needs of the planet through circular solutions that facilitate the reuse or exchange of furniture. The research highlights the need to rethink furniture design not only in functional terms but also as a vehicle for inclusion, resilience and environmental sustainability, proposing a design vision oriented towards change.

1 Introduction

1.1. Framing the Role of Furniture in a Society on the Move

The societal perception during past centuries has been based on sedentariness and the understanding of man as a dweller, fixed in one place or house (Heidegger, 2002). This conceptualisation of human identity and experience pervaded even academic disciplines, such as the social sciences, which relied on it (Cresswell, 2002). However, this perception of sedentariness should be configured differently depending on the national space and historical period since, depending on contingencies such as epidemics, wars, natural disasters, or cultural changes, even in the past, people moved (Skeggs, 2004, p. 48). Recently, the vision of a solid, heavy and immobile society has been challenged by modernity and the "new paradigms of mobility", which see it as light and liquid, always in motion (Bauman, 2000). This has led to the rise of nomadic theories, which celebrate travelling, flying, and crossing geographical boundaries (a concept now dramatically endangered) (Sheller & Urry, 2006).

Indeed, in modern society, there is an unprecedented fluidity; people can move freely across cities, nations and continents. For European citizens, moving across borders is a right, which, according to Eurostat (2024), in 2022, 1.5 million people took advantage of, moving from one EU country to another. In the same year, 5.1 million people arrived in the EU from non-EU countries (Eurostat, 2024). If we focus on Italy, according to ISTAT (2024), in 2021, there were more than 550.000 residence transfers outside the same district.

Nowadays, mobility is fuelled both by the desire of individuals to discover new cultures, to explore and enjoy the natural beauty of the planet, but also by the uncertainty of the modern world, the socio-economic conditions of individuals, adverse weather, or ongoing wars.

However, there is a link between people and places. Individuals' personalities, creativity, and maturity are intertwined with a place's physical and biological patterns (Shepard, 1977). Accordingly, Orr (2013) distinguishes between residents and inhabitants, where the formers are temporary occupants who experience internal places, possessing few relationships with the territory, while the latter knows the details of a place, carries the signs of it with themselves, and has a sense of rootedness; when uprooted, an inhabitant become homesick. Residents and inhabitants in modernity can also be interpreted as fluid and temporary concepts dictated by the natural difficulties in dislocation and the transfer of habits, customs, and living scenarios to places that operate according to different patterns (Losito & Papotti, 2012).

In this instability, the home represents a safe shelter that, especially in cases of displacement, is permeated with meaning, becoming for the tenant a sanctuary through which to adapt to change (Berthiaume et al., 2013). The home carries the culture, identity and personality of the dweller, who fills it with artefacts that represent him or her, creating a network of memories and a dough of identities (Fox, 2016). The home is a place of memories and imagination, and the objects that travel with individuals during their displacements act as an

element of psychological continuity, preserving fragments of history and identity (Bachelard, 1994). This is why the objects chosen to furnish a home describe its inhabitants, who they are, how they live, what experiences they have had and what they are preparing to have (Bolis, 2010; Praz, 1964).

In this framework, furniture plays a key role, fulfilling both a practical and symbolic function, helping to preserve personal narratives as well as ideals and hopes in times of dwelling transition (McCracken, 1988). The choice of style, colours, and materials of the furniture gives personality to the interiors. These choices reflect the renewed or culturally derived identity, creating a feeling of well-being and comfort even in a new environment (Fox, 2016). Related to what was said earlier, during a move, the choice of which furniture to take along, which to get rid of and which to buy new, reflects a process of negotiation between past, present and future, between who one has been and who one wants to become. Furniture can thus represent an element of emotional, psychological and cultural continuity, creating a sense of stability in times of change (McCracken, 1988). Alternatively, a radical change in furniture may indicate a disruption, change and renewal between personality, and past and future life.

1.2. Matching the New Needs of Society and Circularity

Therefore, for furniture, the housing transition represents a critical moment. On the one hand, moving a piece of furniture from one place to another allows the functional and emotional value of the object to be preserved; however, often, the weight and bulk of the furniture make the move environ-

mentally impactful and costly for the individual. On the other hand, replacing furniture while moving involves a loss of value, the use of new resources and the generation of waste.

Indeed, it emerges from some LCA analyses (Iritani et al., 2015; Medeiros et al., 2017; Sakib et al., 2024) that the most impactful phases in the life cycle of a piece of furniture are the material extraction and transport, whether in the distribution of the furniture to retailers or consumers' homes. Thus, a clash emerges between modern society's mobility, dwelling trends and the need to furnish a space according to one's individuality, whether through moving furniture or buying new ones. The article explores the relationship between furniture and mobile living, highlighting the design and business solutions that facilitate the transportability, accessibility, adaptability and circularity of furniture, answering the question: How is the furniture sector adapting to society's fluidity and new mobility paradigms in a circular perspective? Therefore, the research is explorative and qualitative, trying to understand today's reality (Creswell, 2014). In particular, a multiple-case study research was conducted to generate a general understanding of the phenomenon through a critical mass of examples.

Through the case studies, it is thus possible to understand the typologies of initiatives and how they respond to the needs of a society on the move. The cases were selected by looking at the offerings (products, services, systems, and business models) of companies and organisations aiming at circularity. No geographical or time limits were intentionally established, given the phenomenon's scale. This allowed us to identify

and interpret historical initiatives and solutions responding to this need from all over the world. The cases were selected by looking at circular design strategies, circular business models, and their adoption, with more focus on design-intensive brand initiatives (Design Council, 2018). Case studies were selected by looking at design strategies that facilitate mobility of furniture, such as design for dis- and reassembly, modularity, adaptability, or access and performance models (Bocken et al., 2016). In operational terms, information of cases was collected through multiple sources: grey and company literature, company websites, media reports, and scientific literature.

The case studies were analysed by highlighting which design strategies had been adopted and their impact on transportation and towards circularity. In addition, the context (geographical and temporal) of origin was considered during the narration and evaluation of the case study, highlighting the adaptation of the furniture to the dwelling context over time. From the analysis, it was possible to define two macro-clusters and the circular design strategies associated with them regarding mobility.

2. Design Strategies and Practices in the Furniture Sector for Temporality and Circularity: From Tangible to Intangible Aspects

The integration of emerging socio-technical trends, such as the circular economy (Ellen MacArthur Foundation, 2013), digital nomadism (Müller, 2016; Reichenberger, 2018), and sharing economy (David, 2017), significantly reshaped the furniture product design and the associated services, experiences and

business models. These shifts are prompting diverse design interventions that explore new relationships among access, flexibility, sustainability, and circularity. Indeed, these changes have affected both the furniture products (forms, components, connections, etc.), and the way they are accessed (e.g., through temporary access). Hence, this section categorised design strategies and practices from the collected cases into two clusters: the tangible or "hardware" dimension, referring to the physical artefact, and the intangible or the "software" dimension, referring to services and business models.

2.1. Furniture Product Design for Temporary Living and Circular Economy

In response to increasing societal fluidity and emerging mobility paradigms, furniture product design embraces circular principles that prioritise adaptability, durability, and resource efficiency. Two representative cases, the *1006 Navy chair* and the *606 Universal Shelving System*, demonstrate how furniture products are being reimagined to align with mobile needs while minimising environmental impact.

The *1006 Navy chair*[1] by EMECO reflects a design philosophy grounded in longevity and material responsibility. Manufactured entirely from recycled aluminium, the chair exemplifies circularity through its use of a mono-material that is both lightweight and recyclable for unlimited times.

The choice of aluminum as the only material for the chair facilitates recycling at the end of product life, also avoiding adhesives or composite materials that complicate disassem-

1 1006 Navy Chair: https://www.emeco.net/products/chairs/1006-navy-chair-hand-brushed

bly. The material choice also enables lightness – originally dictated using the chair in US submarines – that further supports the possibility of moving by reducing energy consumption and emissions associated with transport, which is an increasingly relevant factor in the current context of frequent relocations and logistics of furniture products.

The *606 Universal Shelving System*[2] by Dieter Rams for Vitsoe offers a more explicit response to the need for mobility and adaptability. Designed for long-term use, it is composed of modular elements - shelves, brackets, and uprights – that can be assembled, reconfigured, or disassembled without degradation. This allows users to adapt the system to evolving spatial conditions and personal needs over time, and this makes the product well-suited for transient living arrangements and flexible interiors. A notable feature of the 606 system is its cross-generational compatibility; components produced decades apart remain interoperable, enabling upgrades and extensions without discarding existing parts. Indeed, the product, designed in 1960, is still on the market today without any changes, emphasising its aesthetic durability based on simple shapes.

The use of durable, recyclable materials such as anodised aluminium and high-quality steel reinforces the product's alignment with circular economy principles. At the same time, flat-pack delivery optimises logistical efficiency and reduces emissions.

2 606 Universal Shelving System: https://www.vitsoe.com/eu/606

Cases from recent years also present the exploration of how furniture design enables the evolving relationship between users and products in the modern mobile living paradigms and circular thinking. For example, the *OTO chair*[3] by Alessandro Stabile and Martinelli Venezia is a case that exemplifies the application of circular design strategies that facilitate long-lasting and easy-moving products. Firstly, the chair applies a Design for dis- and reassembly strategy (Bakker et al., 2014) that enables the chair's components – seat, backrest, legs, and connectors – to be easily separated, facilitating maintenance, repair, and end-of-life recycling. The product design is optimised for adaptability and upgradeability, allowing components to be replaced or updated separately without discarding the entire product. Moreover, the chair's lightweight, stackable configuration reduces its volume during transportation, thereby lowering associated emissions and logistical burdens.

This portability also aligns with the demands of increasingly mobile lifestyles, allowing consumers to transport and handle furniture more easily and independently. Finally, the use of mono-material polypropylene sourced from post-consumer waste reinforces the product's recyclability, streamlining the end-of-life recovery process and supporting closed-loop material cycles. Instead, the *Couch in an Envelope* case[4] explores innovative reconfigurations of the traditional couch and sofa to better align with contemporary mobile lifestyles.

3 OTO chair: https://onetooneobjects.com/en/

4 Couch in an Envelope: https://space10.com/projects/couch-in-an-envelope

It investigates how furniture can be designed for ease of movement and even travel while simultaneously addressing environmental concerns by creating disruptive forms and material choices. With a lightweight, disassemblable metal frame that is recycled and recyclable, cellulose-based textiles and biodegradable mycelium foam, the product design enables easy disassembly, repair, and eventual recycling.

A standout feature is its flat-pack, which is designed for high storage and transportation efficiency. From the environmental perspective, this reduces shipping volume, lowering emissions and energy use across the supply chain. From a user-experience perspective, the design supports greater adaptability and ease of transport, enabling consumers to relocate their furniture with minimal effort.
This attribute enhances product longevity by encouraging continued use across changing living contexts. Furthermore, generative AI tools were employed during the early design stages to explore unexplored aesthetic and functional possibilities and reduce material and resource inputs.
The integration of AI-driven ideation with human-centred creativity enabled the development of a product that is innovative in form and performative in function.

2.2. Product Service Systems and Circular Business Models Creating New Relationships between Users and Furniture Products

Design proposals also demonstrate how emerging services and business models support product life extension and increased reuse (Tukker, 2015), aligning with contemporary

mobile living paradigms while simultaneously contributing to reduced resource consumption and environmental impact within the furniture sector.

Mater,[5] a Danish furniture brand, has implemented a take-back program (Lewandowski, 2016) that embodies the circular thinking of the business model. The service allows customers to return used furniture at the end of its lifecycle, and the materials of these furniture pieces are recycled again and again thanks to the brand's technology to make new furniture products. The brand keeps valuable materials within the production loop and regenerates extra value by applying them to other products, which will consequently reduce the need for virgin resources. By taking responsibility for the afterlife of their products, Mater fosters product stewardship and supports a closed-loop system that aligns with the goals of circularity and producers' responsibility.

The Italian startup Lizard[6] offers flexible furniture through a rental and leasing business model, moving from traditional ownership to the concept of "Furniture as a Service". Customers pay for access and use rather than possession of furniture products. This business model incentivises Lizard to design durable, modular furniture that can be maintained, upgraded easily, and re-leased across multiple user cycles. From the circularity perspective, the rental and leasing services could potentially enable the longevity of furniture prod-

5 Mater: https://materdesign.com/

6 Lizard: https://www.lizardcollection.com/

ucts (Schoonover et al., 2021): when furniture is returned, it is examined, maintained, or refurbished, and then prepared for a new lease. From a business perspective, the brand generates value through a results-based economy, where customers pay for the use of products and associated services rather than ownership of the products themselves (Reim et al., 2015). Particularly, this case shows advantages from a user experience perspective. The service is ideal for people who frequently move, such as students and digital nomads, and it guarantees the performance of the product with repair and replacement whenever needed and enables consumers to upgrade and return services without the problem of ownership or disposal. Similar cases include CORT, Ahrend, Lyght Living and many other companies.

Differently, Stooping is a grassroots, community-driven initiative in big cities, such as New York and Milan, which facilitates the donation and reuse of unwanted furniture through digital platforms, often through social media. Individuals post photos and locations of free furniture left on sidewalks ("stoops"), allowing others in the nearby neighbourhoods to take and reuse it. Unlike traditional business models and value creation logic, Stooping operates through informal and peer-to-peer exchanges, encouraging citizens and consumers to participate actively and directly in reducing waste and extending the life of products. This decentralised approach promotes a culture of sharing and spontaneous redistribution for contributing to the extension of products' lifecycles by reusing but without requiring new infrastructure or commercial intermediaries.

3. Interpreting Change in the Furniture Sector

The case studies show the diversity of the furniture sector's proposals to the paradigm shift that modern society is experiencing. This change has not started recently but has its roots – although in a different context and with different meanings – in the mid-20th century. Technical solutions such as strong and light materials or easily reversible joints allow furniture, a static product, to acquire greater transportability and adaptability.

The general principles of the product features have remained essentially unchanged, although they are renewed or innovated over time. For example, the lightness of aluminium (used in both the *1006 Navy chair* and the *606 Universal Shelving System*) has been replaced by recycled and recyclable plastics.

Similarly, disassemblability for easy transport has been revisited by the *OTO chair,* exploiting production technologies and technical cleverness, or by *Couch in an envelope,* which has reinterpreted the ease of transport through the material and formal characteristics, inspired by solutions already adopted by both the well-known *Up armchair* by Gaetano Pesce, which in '69 exploited vacuum packing for the distribution, and the *Parentesi lamp* by Artemide, which minimised transport space thanks to its flat-pack.

At the same time, the furniture industry looks at services to increase circularity and maximise business opportunities. Regarding mobility, the user needs to move lightly without dealing with the drama of packing and with undesired furniture. Therefore, solutions such as the take-back approach

become an appropriate response and, at the same time, advantageous for the company, which can reclaim and reuse the components with environmental and economic benefits. At the same time, it is possible to play in advance for those frequent and planned moves, working with the rental and leasing of furniture, as done by Lizard.

In this case, the logic of ownership changes radically, echoing the ongoing social paradigm shift. This change in values has already impacted sectors such as transportation, with the growth of car-sharing and bike-sharing services, which are widespread not only in large metropolitan cities but also in small and medium-sized towns.

Therefore, both take-back and renting/leasing open up new frontiers for the sector, which has to reorient its business and production models not towards mass manufacturing of new products but towards their reuse, opening up new challenges, such as the cash flow needed for the day-to-day operations of the company, the reallocation of assets and human capital, or the need to acquire new skills (Schoonover et al., 2021; Silvius et al., 2021).

At the same time, bottom-up initiatives are increasingly gaining ground, facilitating the reuse and donation of furniture through digital platforms. Stooping is an emblematic case of this. Looking at their social media, it is possible to realise how this initiative is based on society's constant fluidity and furniture movement since users' requests mainly arise from the need to relocate. Individuals observe the phenomenon of

reuse, exchange, or second-hand both because of the need to get rid of something bulky in times of relocation and the universal desire to share and support others, fostering a sense of community and shared responsibility. These societal networks do not require complex investment or infrastructure but can be replicated locally, indirectly promoting more sustainable behaviour. These initiatives inspire companies to meet this new challenge by experimenting with institutionalised peer-to-peer exchange platforms, such as IKEA pre-owned.[7] However, whether removing the caring component towards each other and integrating businesses as intermediaries will keep these initiatives desirable remains to be clarified.

Overall, the selected case studies represent snapshots of the furniture design sector, societies, and cultures. Looking at them consecutively, it is possible to trace a trajectory, to analyse the path taken so far to understand better the world we are living in today, and to project ourselves into the future, in short, to understand the transition of the socio-technical furniture system. Trying to interpret this transformation, we can see how, on the one hand, the new societal paradigms of mobility influence companies' offerings. On the other hand, the solutions offered also support new social practices, which allow changing the way people consume and society's beliefs and values. This generates a virtuous circle where society, technology, and business mutually nurture each other to create a new, stable condition, a more sustainable future.

7 Ikea preowned (available only in Spain): https://preowned.ikea.com/pt/en

4. A Future Research Agenda

Furniture is undergoing a significant transformation: from being treated as a disposable commodity suited to stable domestic environments to being reshaped as a durable, adaptable, and mobile asset that aligns with the fluid lifestyles of modern society. The case studies examined in this research illustrate how diverse design proposals are leveraging circular principles to respond to contemporary mobility needs in the furniture sector. These cases demonstrate a holistic reconsideration of material selection, product structure and shape, and the integration of service systems and novel value-creation models. Together, they are shifting the sector toward integrating longevity, flexibility, and circularity.
This research contributes to the field of furniture design by deepening the understanding of how design can enable adaptability and mobility in furniture products, addressing the demands of contemporary mobile living while supporting broader goals of sustainability and circularity. For practitioners, these insights offer a valuable foundation for rethinking design and strategies in alignment with emerging patterns of fluid living and circular economy principles.

Though the research generated valuable findings, several disadvantages must be acknowledged. First, the study relies mainly on secondary data sources, without the support of interviews, observations, or direct engagement with the selected cases. As a result, certain details may be incomplete or missing. Furthermore, the absence of first-hand data might limit the reproducibility of data and concepts expressed in different contexts.

The use of second-hand data also introduces the potential for bias, particularly in how information is framed or contextualised in its original sources. Second, the qualitative analysis is highly dependent on the authors' perspectives and interpretations (Gaya & Smith, 2016; Yin, 2013). Although the analysis was conducted independently by both authors and later cross-validated, the subjective nature of qualitative inquiry presents a risk, particularly in selecting and emphasising evidence that may align with pre-existing assumptions or theoretical orientations.

References

Bachelard, G. (1994). *The poetics of space* (M. Jolas, Trans.). Beacon Press. (Original work published 1958)

Bakker, C. A., den Hollander, M. C., & van Hinte, E. (2014). *Products that last: Product design for circular business models*. TU Delft Library.

Bauman, Z. (2000). *Liquid modernity*. Polity Press.

Berthiaume, P., Gaddam, C., & Abdl-Haleem, O. (2013). *Home and identity*. https://minds.wisconsin.edu/handle/1793/73451

Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering, 33*(5), 308–320. https://doi.org/10.1080/21681015.2016.1172124

Bolis, M. (2010). *Giovani coppie e modi di abitare*. FrancoAngeli.

Cresswell, T. (2002). Introduction: Theorizing place. In G. Verstraete & T. Cresswell (Eds.), *Mobilizing place, placing mobility* (pp. 11-31). Brill. https://doi.org/10.1163/9789004333451_003

Creswell, J. W. (2014). The selection of a research approach. In *Research design: Qualitative, quantitative, and mixed methods approaches* (pp. 3–23). SAGE Publications.

David, M. (2017). Sharing: Post-scarcity beyond capitalism? *Cambridge Journal of Regions, Economy and Society, 10*(2), 311–325. https://doi.org/10.1093/cjres/rsx003

Design Council. (2018). *Understanding design-intensive innovation: A literature review*.

Ellen MacArthur Foundation. (2013). *Towards the circular economy: An economic and business rationale for an accelerated transition*.

Eurostat. (2024). *Migration and asylum in Europe*. Publications Office. https://data.europa.eu/doi/10.2785/43971

Fox, M. A. (2016). People, objects, and identity. In M. A. Fox (Ed.), *Home: A very short introduction* (Chap. 5). Oxford University Press. https://doi.org/10.1093/actrade/9780198747239.003.0005

Gaya, H. J., & Smith, E. E. (2016). Developing a qualitative single case study in the strategic management realm: An appropriate research design? *International Journal of Business Management & Economic Research, 7*(2), 529–538.

Heidegger, M. (2002). Building dwelling thinking. In D. F. Krell (Ed.), *Basic writings: Martin Heidegger* (2nd ed., pp. 347–363). Routledge.

Iritani, D. R., Silva, D. A. L., Saavedra, Y. M. B., Grael, P. F. F., & Ometto, A. R. (2015). Sustainable strategies analysis through life cycle assessment: A case study in a furniture industry. *Journal of Cleaner Production, 96*, 308–318. https://doi.org/10.1016/j.jclepro.2014.05.029

ISTAT. (2024). *La mobilità territoriale: Trasferimenti di residenza e spostamenti quotidiani*. ISTAT.

Lewandowski, M. (2016). Designing the business models for circular economy - Towards the conceptual framework. *Sustainability, 8*(1), 4. https://doi.org/10.3390/su8010043

Losito, E., & Papotti, D. (2012). Luoghi di radicamento, luoghi di spaesamento: Un'indagine qualitativa sul vissuto territoriale di alcuni immigrati a Parma. *Geotema, 43–44–45*, 35–40.

McCracken, G. D. (1988). *Culture and consumption: New approaches to the symbolic character of consumer goods and activities*. Indiana University Press.

Medeiros, D. L., Tavares, A. O. do C., Rapôso, Á. L. Q. R. e. S., & Kiperstok, A. (2017). Life cycle assessment in the furniture industry: The case study of an office cabinet. *The International Journal of Life Cycle Assessment, 22*(11), 1823–1836. https://doi.org/10.1007/s11367-017-1370-3

Müller, A. (2016). The digital nomad: Buzzword or research category? *Transnational Social Review, 6*(3), 344–348. https://doi.org/10.1080/21931674.2016.1229930

Orr, D. (2013). Place and pedagogy. *NAMTA Journal, 38*(1), 183–188.

Praz, M. (1964). *La filosofia dell'arredamento: I mutamenti nel gusto della decorazione interna attraverso i secoli dall'antica Roma ai nostri tempi*. Longanesi.

Reichenberger, I. (2018). Digital nomads – A quest for holistic freedom in work and leisure. *Annals of Leisure Research, 21*(3), 364–380. https://doi.org/10.1080/11745398.2017.1358098

Reim, W., Parida, V., & Örtqvist, D. (2015). Product–service systems (PSS) business models and tactics – A systematic literature review. *Journal of Cleaner Production, 97*, 61–75. https://doi.org/10.1016/j.jclepro.2014.07.003

Sakib, M. N., Kabir, G., & Ali, S. M. (2024). A life cycle analysis approach to evaluate sustainable strategies in the furniture manufacturing industry. *Science of The Total Environment, 907*, 167611. https://doi.org/10.1016/j.scitotenv.2023.167611

Schoonover, H. A., Mont, O., & Lehner, M. (2021). Exploring barriers to implementing product-service systems for home furnishings. *Journal of Cleaner Production, 295*, 126286. https://doi.org/10.1016/j.jclepro.2021.126286

Sheller, M., & Urry, J. (2006). The new mobilities paradigm. *Environment and Planning A, 38*(2), 207–226. https://doi.org/10.1068/a37268

Shepard, P. (1977). Place in American Culture. *The North American Review, 262*(3), 22–32.

Silvius, G., Ismayilova, A., Sales-Vivó, V., & Costi, M. (2021). Exploring barriers for circularity in the EU furniture industry. *Sustainability, 13*(19), Article 11072. https://doi.org/10.3390/su131911072

Skeggs, B. (2004). *Class, self, culture*. Routledge. https://doi.org/10.4324/9781315016177

Tukker, A. (2015). Product services for a resource-efficient and circular economy – A review. *Journal of Cleaner Production, 97*, 76–91. https://doi.org/10.1016/j.jclepro.2013.11.049

Yin, R. K. (2013). *Case study research: Design and methods* (5th ed.). SAGE.

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Her research and teaching activities also include Design for Kids within the Master's program in Design for Kids and Toys at the Politecnico of Milan, and Jewelry Design in the Master's program in History, Design, and Marketing of Jewelry at the University of Siena. She is the author of numerous publications, including articles, book chapters, and conference proceedings at both national and international levels.
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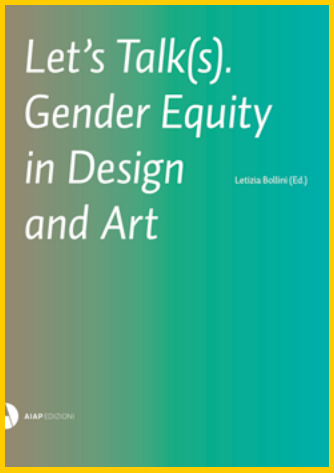

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PAD. Pages on Arts and Design
International, peer-reviewed,
open access journal
ISSN 1972-7887

#28, Vol. 18, June 2025

www.padjournal.net

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della comunicazione visiva