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Product - to - Service model

Deividas Juozulynas

2025

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THE CRITICAL

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Systemic change

The literature collectively argues that a circular, service-based economy is not only possible but necessary — and that realizing it will require a deep redesign of both business models and education systems.

VET emerges as a transformative force, bridging the technical and human aspects of this transition — preparing learners not just for jobs, but for **systemic change**.

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Product - to - Service (P2S)

Core idea

Instead of a business model where customers **buy and own products**, companies transition to models where they **provide access to the function or utility** of a product as a service. It's also often called **"servicizing"** or part of a broader move toward **Product-Service Systems (PSS) or Product - to - Service model (P2S)**

This concept is closely related to the **functional economy** – where **value lies in performance**, not ownership.

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Quantity of goods sold → Quality of service provided

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Key terms

Product-Service System (PPS)

A **Product-Service System** is a business model where a company offers **a mix of tangible products and intangible services** to meet a user’s needs. The goal is often to provide **value through use** rather than ownership.

Product-to-Service (P2S)

Product-to-Service describes a **transition or shift** from selling physical products to offering the **function or utility of the product as a service**. It's a **strategic shift** toward servitization.

Product-as-a-Service (PaaS)

Business models based on ownership and linear consumption are more vulnerable to **supply chain disruptions and resource scarcity**.

Service-based models support **adaptive, flexible business strategies** suited to future resilience and long-term competitiveness.

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Example

Instead of selling a washing machine, a company offers **"laundry as a service"** (pay-per-use, maintenance included).

Instead of owning a car, people use **ride-sharing or leasing services**.

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Types of Product-to-Service Models

Model	Ownership	Example
Product-oriented	Customer owns	After-sales services (e.g., repair, training)
Use-oriented	Provider owns	Leasing, sharing, pay-per-use (Car leasing, bike sharing, Uber)
Result-oriented	Provider owns	Outcome-based contracts (e.g., lighting service instead of lamps)

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P2S Gains

Environmental sustainability & circular economy

P2S and servicizing enable sustainable resource use and reduce environmental impacts compared to traditional product models.

Aligns with the **circular economy principles** of keeping products, components, and materials in use at their highest value for as long as possible.

Economic value creation & business innovation

Firms benefit from **recurring revenue**, service differentiation, and stronger customer loyalty.

The **shift enables innovation in value propositions** — moving from selling goods to delivering performance or outcomes.

Examples include predictive maintenance services, leasing models, and pay-per-use strategies that drive efficiency and profitability

Digitalization and smart technologies as enablers

Smart products and IoT networks enable firms to track usage, optimize performance, and deliver remote services.

Real-time data supports better maintenance, customer interaction, and circular strategies (e.g., take-back, refurbishment, remanufacturing)

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P2S Gains

Shifting consumer expectations and Use-Oriented demand

Consumers favor solutions that are customizable, pay-as-you-go, or performance-based, especially in urban and tech-driven markets.

Services can reduce the burden of ownership, such as maintenance or end-of-life disposal.

Regulatory and policy momentum toward sustainability

Government and international institutions are **encouraging circular and sustainable business models** through regulations, incentives, and climate goals.

There is pressure for businesses to **report on sustainability metrics** and show alignment with ESG goals

Resilience and risk reduction in a changing world

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Service-based models support **adaptive, flexible business strategies** suited to future resilience and long-term competitiveness.

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P2S Challenges

Business model disruption

Transition from one-time sales to recurring revenue impacts cash flow.

Requires new pricing, valuation, and performance metrics.

Cultural and organizational resistance

Internal pushback from teams used to traditional sales models.

Misalignment in roles, incentives, and company mindset.

Operational complexity

Increased responsibility for product lifecycle: maintenance, upgrades, returns.

Need for service infrastructure, logistics, and continuous customer engagement.

Technological demands

High reliance on IoT, sensors, data analytics, and digital platforms.

Challenges around data security, interoperability, and digital maturity.

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P2S Challenges

Product redesign requirements

Products must be durable, repairable, and adaptable to multiple users.

Design shifts toward modularity and resource efficiency.

Customer mindset shift

Resistance to giving up ownership in favor of access or subscriptions.

Trust, transparency, and perceived value become critical.

Legal, financial, and regulatory complexity

Complications in accounting, contracts, warranties, and liability.

Existing regulations may not support servitized models.

Ecosystem and infrastructure gaps

Value chains may be unprepared for circular logistics and servicing.

Lack of supportive policies, standards, and local infrastructure.

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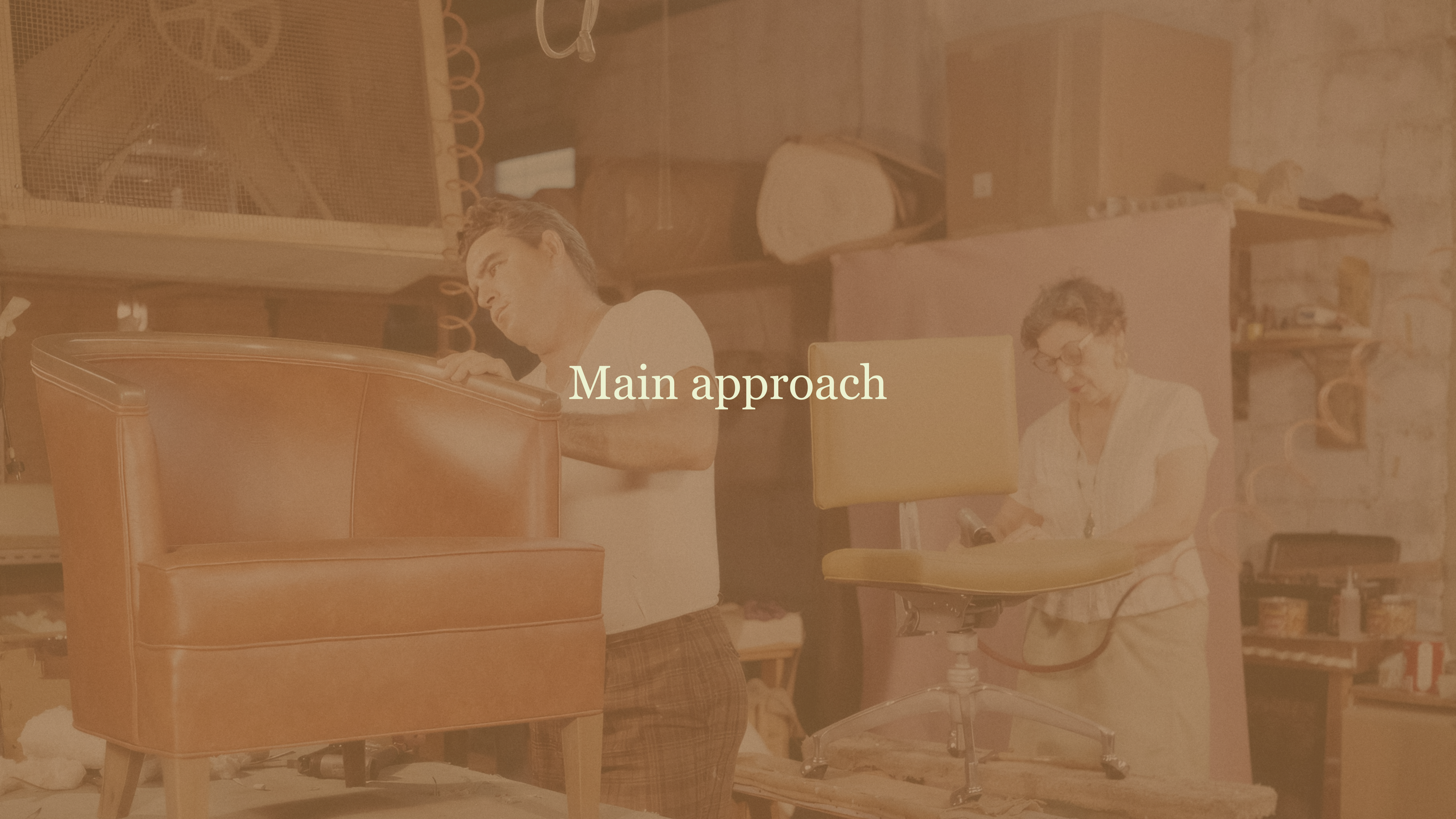

Main approach

Connection between themes

Product to Service	Circular economy	VET & Education
Redesign business models	Reduce waste and material use	Train for service-based, green jobs
Use-based, subscription offerings	Enable reuse, maintenance, and leasing	Build transversal + lifecycle skills
IoT-enabled smart systems	Monitor performance and enable take-back	Teach systems thinking + user engagement
Service-dominant logic	Focus on utility, not ownership	Co-create learning with industry

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Integration of Product and Service	Products are bundled with services such as maintenance, upgrades, or leasing. The customer pays for the **functionality or result**, not the physical asset itself.
Outcome-Oriented	The value proposition shifts to performance, accessibility, and experience, not just product features or ownership.
Lifecycle Thinking	Emphasis on extending the product's life through **reuse, remanufacturing, repair**, and responsible end-of-life strategies
Enabler of Circular Economy	Designed to minimize waste and maximize resource efficiency by keeping ownership with the provider, incentivizing long-lasting, serviceable design
Data-Driven via IoT	**Smart products and digital platforms** enable real-time monitoring, predictive maintenance, and tailored services based on actual usage
Servitization Continuum	Ranges from **product-oriented** (e.g., after-sales support) to **use-oriented** (e.g., leasing) and **result-oriented** models (e.g., pay-per-output or performance contracts)

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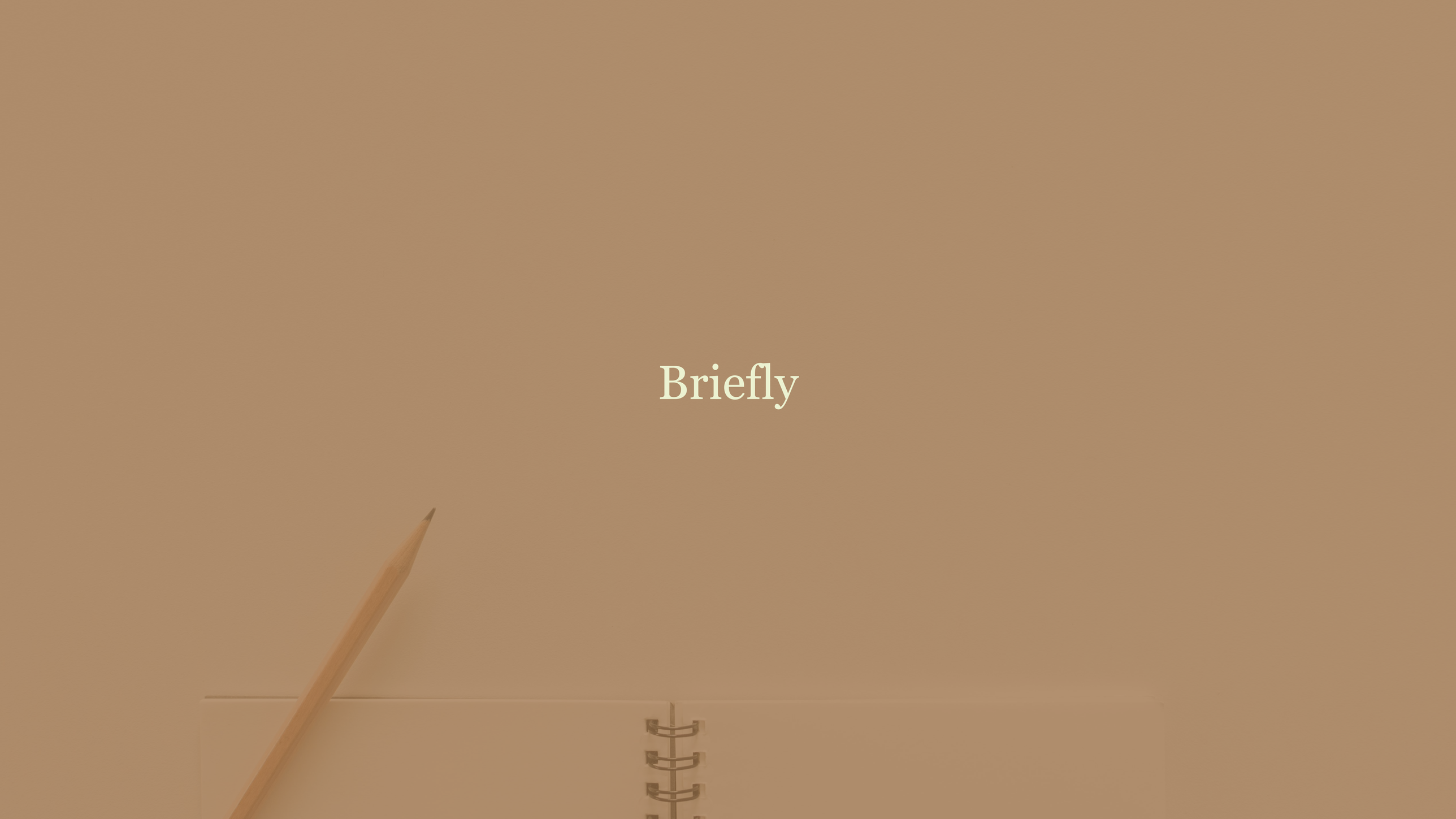
Briefly



The Product to Service shift enables circular economy goals

The transition from product ownership to service delivery models (PaaS/PSS) plays a critical role in **reducing environmental impact**, **extending product lifecycles**, and **improving resource efficiency**.

Business models like leasing, pay-per-use, and performance-based contracting are becoming essential tools in achieving **sustainable consumption and production**.

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Value shifting: from products to outcomes and experiences

The literature emphasizes a move toward **service-dominant logic**, where value is co-created with users over time through services and relationships — not just transactions.

Products become **platforms for service**, and businesses must reorient design, logistics, and customer engagement accordingly.

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