

Consumer acceptance barriers of access-based PSS from literature

Authors	Title	Year	Barrier
Cherry, C. E., Pidgeon, N. F.	Why Is Ownership an Issue? Exploring Factors That Determine Public Acceptance of Product-Service Systems	2018	<p>Hypothetical washing machine, car and other pay-per-use:</p> <ul style="list-style-type: none"> • Product category with strong connection to personal identity, status and enjoyment (e.g. car) • Sense of insecurity, what happens to the product in case of illness or redundancy? • Intrinsic desire for ownership • Potential lack of trust in service provider • Worry about decreased use experience because one doesn't own the product and worries more about consequences (e.g. red wine spills on leasing couch)
Chamberlin, L., Boks, C.,	Marketing approaches for a circular economy: Using design frameworks to interpret online communications	2018	<p>Consumer concerns in CE:</p> <ul style="list-style-type: none"> • Contamination, disgust, lack of newness (-) • Convenience/ availability (+/-) • Ownership (+/-) • Cost/ financial incentive (+/-) • Environmental impact (+/-) • Brand image/ design/ intangible value (+/-) • Quality performance (+/-)
Poppelaars, F., Bakker, C. and van Engelen, J.	Does Access Trump Ownership? Exploring Consumer Acceptance of Access-Based Consumption in the Case of Smartphones	2018	<p>3 categories of adoption/acceptance factors for access-based PSS:</p> <p>Importance of trust</p> <ul style="list-style-type: none"> • Awareness and familiarity with concept • Understanding the service • Reliability and trust in service • Relationship with service provider • Image of service provider <p>Unburdening</p> <ul style="list-style-type: none"> • Financial aspects (price, cost, payment method and scheme) • Ease and convenience • Commitment and flexibility of service • Confirmation or excess of expectations • Value from consumption (importance, worth, usefulness) <p>Habits and necessity</p> <ul style="list-style-type: none"> • Product characteristics • Affinity and necessity

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			<ul style="list-style-type: none"> • Sustainability • Similar use of product as before • Product, service or brand attachment • Market mediation (e.g. existence of alternatives) • Image of access-based consumption
Baxter W., Childs P.,	Designing circular possessions	2017	<ul style="list-style-type: none"> • Contamination from previous use • Frequent dispossessing prevents psychological ownership and product care
Camacho-Otero, J.C.; Pettersen, I.N.; Boks, C.	Consumer and user acceptance in the circular economy: What are researchers missing?	2017	<p>Acceptance barriers reviewed:</p> <ul style="list-style-type: none"> • Consumers expect lower performance compared with new products • Contamination & lack of hygiene • Risk aversion of consumers • Lack of ownership • Unidimensional value offering • Problems to access offering • Practice is tightly connected to other offerings • Inertia, path-dependency and lock-in
Catulli, M., Cook, M., Potter, S.	Consuming use orientated product service systems: A consumer culture theory perspective	2017a	<p>Real baby car seat rental for 6-9 months:</p> <ul style="list-style-type: none"> • Fear of liability towards PSS supplier prevented consumers from personalizing the car seat • Some consumers disliked the feeling of having to take better care of the product • Fear of contagion • Distrust in previous users (e.g. involvement of seat in accident?)
Catulli, M., Cook, M., Potter, S.	Product Service Systems Users and Harley Davidson Riders: The Importance of Consumer Identity in the Diffusion of Sustainable Consumption Solutions	2017b	<ul style="list-style-type: none"> • PSS do currently not function as extension of self • No emotional attachment or brand loyalty • Negative image of PSS user (distressed purchaser) → prefers anonymity • PSS compete with traditional products in the market • Often no personalisation allowed in PSS • No brand identification • Low level of trust in user users & fear of contagion
Edbring E., Lehner M., Mont O.,	Exploring consumer attitudes to alternative models of consumption: Motivations and barriers	2016	<ul style="list-style-type: none"> • Desire to own • Concern for hygiene • Unfamiliarity with the concept • Economic obstacles

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Källman, M.	Opportunities and barriers for circular economy-business models Comparing conditions for rental in markets dominated by sales	2016	<p>Access offerings for sports, outdoor equipment, jewellery:</p> <ul style="list-style-type: none"> • Many consumers are unaware of rental offerings • Consumers lack understanding of the concept and its benefits • Consumers perceive some products as too personal to rent • Consumers are reluctant to try clothes rentals until they build trust and confidence in provider
Santamaria L., Escobar-Tello C., Ross T.,	Switch the channel: Using cultural codes for designing and positioning sustainable products and services for mainstream audiences	2016	<ul style="list-style-type: none"> • Lack of allure or symbolic value that competing alternatives offer • Cultural shift needed to value ownerless consumption (ownership currently satisfies social, psychological and emotional needs)
Antikainen, M.; Lammi, M.; Ruppel, H.P.T.; Valkokari, K.	Towards Circular Economy Business Models: Consumer Acceptance of Novel Services	2015	<ul style="list-style-type: none"> • Consumers are less willing to rent lower-priced items • Major change in consumption practices • Not willing to rent personal items (e.g. clothing) • Unfamiliar business models are likely to meet resistance
Armstrong C.M., Niinimäki K., Kujala S., Karell E., Lang C.,	Sustainable product-service systems for clothing: Exploring consumer perceptions of consumption alternatives in Finland	2015	<p>Barriers for different hypothetical, access-based clothing PSS:</p> <ul style="list-style-type: none"> • Concern that PSS might not sufficiently enable expression of one's identity • Lack of intangible benefits (e.g. memories from special occasion) • Lack of the 'hunting' experience of shopping • Scepticism regarding potentially high prices • Advantages of using PSS are not clear to consumers • Lack of trust in provider (hygiene, continuation of business) • Consumers may doubt motives of service provider
Lidenhammar, R.	Hopping on the Service Bandwagon Towards a Circular Economy- Consumer Acceptance of	2015	<p>Consumer concerns regarding hypothetical leasing of furniture:</p> <ul style="list-style-type: none"> • Lower income participants disliked monthly payments as they'd have to worry every month about being able to afford it with the risk of losing their furniture • Quality concerns regarding pre-used goods

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	Product-Service Systems for Home Furniture		<ul style="list-style-type: none"> • Hygiene concerns (bed bugs, allergies etc.) • Participants couldn't envision leasing of furniture in practice • Concerns regarding consequences of breaking furniture and wear and tear • Consumers saw it as less realistic for longer periods than for shorter rentals
Möhlmann M.,	Collaborative consumption: Determinants of satisfaction and the likelihood of using a sharing economy option again	2015	<p>Factors determining satisfaction with PSS:</p> <ul style="list-style-type: none"> • Cost savings • Familiarity (little behaviour change required) • Service quality • Trust • Utility <p>→ lack of any of these represents a barrier</p>
Pedersen E.R.G., Netter S.,	Collaborative consumption: Business model opportunities and barriers for fashion libraries	2015	<p>Challenges for fashion libraries:</p> <ul style="list-style-type: none"> • Shop location is 'far' from most consumers → additional effort <p>(Focus on drivers: variety, relatively lower cost, social interaction)</p>
Schotman H., Ludden G.D.S.,	A model of lost habits: Towards a strategy to improve the acceptance of product service systems	2015	<ul style="list-style-type: none"> • Habits inhibit behaviour change
Tukker, A.	Product services for a resource-efficient and circular economy: A review	2015	<ul style="list-style-type: none"> • Lack of control over things and artefacts (<i>planning</i>) • Less behavioural freedom (<i>use risk</i>) • PSS often score lower on intangible value than ownership (experience, brand value, sense of control, ease of access) • Products are quickly out of fashion
Vezzoli C., Ceschin F., Diehl J.C., Kohtala C.,	New design challenges to widely implement 'Sustainable Product-Service Systems'	2015	<p>Reviewed barriers:</p> <ul style="list-style-type: none"> • Lack of knowledge and understanding of PSS • Uncertainties regarding risks, costs and responsibilities • Challenge to understand potential economic benefits (lifecycle costs) and therefore PSS are sometimes perceived as an expensive option • Cultural shift towards ownerless need fulfilment • Meaning of owned products → success in life and representing identity

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			<ul style="list-style-type: none"> • Challenge of independence, hygiene and intimacy
Baumeister, C. and Wangenheim, F. V.	Access vs. Ownership: Understanding Consumers' Consumption Mode Preference	2014	<p>Comparison of attitudes towards ownership and access:</p> <ul style="list-style-type: none"> • More positive attitude towards ownership than access • Perception of high costs for some accessed products (bikes, handbags) • High pre- and post-purchase effort for some accessed products, frequent interaction with provider • Perception of less flexibility and more use limitations • Risk of non-availability • Some access options are not perceived environmentally friendly (bikes, handbags) • Having to handle the accessed product carefully • Access is expected to allow less fun than ownership • Less signalling of personality, personal attachment and impressing others
Mylan, J. Examples not relevant	Understanding the diffusion of sustainable product-service systems: insights from the sociology of consumption and practice theory	2014	<ul style="list-style-type: none"> • Links between different practices prevent change • PSS often imply new practices and require new skills • The underlying meaning of practices prevents change (e.g. higher temperature = cleanliness) • PSS might not be aligned with ongoing dynamic of practices (continuous change)
Schotman H., Ludden G.D.S.,	User acceptance in a changing context: Why some product-service systems do not suffer acceptance problems	2014	<ul style="list-style-type: none"> • Major behaviour change required • Implications of PSS for everyday life
Catulli M., Lindley J.K., Reed N.B., Green A., Hyseni H., Kiri S.,	What is mine is not yours: Further insight on what access-based consumption says about consumers	2013	<p>Hypothetical access to baby and nursery equipment:</p> <ul style="list-style-type: none"> • Stigma of using access when logo is visible (pre-used=negative) • Anticipation of attachment to product and not wanting to return it • Some people dislike regular payments (compared to one-time purchase) • Concerns about hygiene (especially for intimate products like breast-pumps)
Bardhi, F.; Eckhardt, G.M.	Access-Based Consumption: The Case of Car Sharing	2012	<p>Barriers car sharing:</p> <ul style="list-style-type: none"> • Contagion • User do not identify with the cars • No hedonic aspects derived from using Zipcar

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Catulli M.,	What uncertainty? Further insight into why consumers might be distrustful of product service systems	2012	<p>Barriers car-sharing and nursery equipment renting/leasing:</p> <ul style="list-style-type: none"> • Uncertainty regarding the performance of the PSS • Concerns about hygiene, health and safety • Distrust in previous users • Concerns regarding availability and accessibility of products when needed • Insufficient information about the state and the reprocessing of products • Reliability of service (e.g. vehicle is available at booked time) • Unsure about service-level of provider • Desire for 'shiny and new' products → only the best for the baby • Social stigma of renting and leasing → solution for poorer customers • Distance between home and car pick-up spot • In cost comparisons consumers do not factor in the value of additional service components
Lamberton, C. P., Rose R.	When is ours better than mine? A Framework for Understanding and Altering Participation in Commercial Sharing Systems	2012	<ul style="list-style-type: none"> • Perceived product scarcity-risk – the likelihood that a product is unavailable when a consumer desires access • Dependence on other users to return product on time for own need satisfaction • Effort of learning how to use new product, might happen repeatedly if different cars are included in one car-sharing scheme • Effort required to find a provider and select the appropriate bundle
Rexfelt O., Hiort Af Ornäs V.,	Consumer acceptance of product-service systems: Designing for relative advantages and uncertainty reductions	2009	<p>Barriers hypothetical indoor climate, car-lease, pay-per-view TV and clothing rental PSS:</p> <ul style="list-style-type: none"> • Consumers felt that added services were rarely relevant and often used to 'scam' the customers for money • Consumers value the practical consequences of ownership • Adoption might require activities by consumers that they find undesirable • Distrust in PSS suppliers' competency • Perceived relative advantage of owning the product is higher • Availability and accessibility of PSS

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Mont O.,	Institutionalisation of sustainable consumption patterns based on shared use	2004	<ul style="list-style-type: none"> • If culture is based on possessive individualism (as opposed to collectivism) participants are less willing to share • Dissatisfaction if high quality tools are unavailable (<i>product quality & availability</i>) • Renting and sharing are often associated with low socio-economic status • Low perception of service quality • Seen as personal sacrifice in freedom and excessive effort of organizing private life
Tukker, A	Eight Types of Product—Service System: Eight Ways to Sustainability?	2004	<ul style="list-style-type: none"> • Time and effort required from consumer to get access • PSS potentially deliver low intangible value (e.g. contribution to experience, self-esteem)
Mont, O.	Drivers and barriers for shifting towards more service-oriented businesses: analysis of the PSS field and contribution from Sweden	2002b	<ul style="list-style-type: none"> • The PSS concept is difficult to explain to consumers • Difficulty for consumers to understand the payment structures (e.g. payment for functions in rental flats) • Consumers might have problems accepting refurbished products
Mont, O. K.	Clarifying the concept of product service system	2002a	<ul style="list-style-type: none"> • Consumers might not be enthusiastic about ownerless consumption
Littig, B.	Eco-efficient services for private households: looking at the consumer's side	2000	<ul style="list-style-type: none"> • Desire to own • Perceived lack of flexibility to use product whenever desired • Additional planning required for use of some PSS (e.g. collective laundry facility)
Schrader, U.	Consumer acceptance of eco-efficient services: A German perspective.	1999	<ul style="list-style-type: none"> • High transaction costs for low value products (e.g. leasing of €10 hair dryer) • “one can only substitute those goods with which consumers have a functional rather than an emotional relationship.” • Lack of relative advantage (financial, functional and socio-psychological aspects) compared to ownership of the product

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Meijkamp, R.	Meijkamp, R. Changing Consumer Behaviour Through Eco-Efficient Services—An Empirical Study on Car Sharing in The Netherlands. Ph.D. Thesis, TU Delft, Delft, The Netherlands, 2000.	1998	<ul style="list-style-type: none"> • Use of shared car requires planning (e.g. booking) • Additional effort to get to the shared car
Durgee, J. F., O'Connor, G. C.	An exploration into renting as consumption behavior	1995	<ul style="list-style-type: none"> • Consumers do not perceive renting as valid solution for products used long-term (only for short-term or infrequent use of products) • Perception of higher price for long-term renting than buying the product • At times consumer described lower quality of rental goods (because of wear & tear or abuse by other users) • Consumers do not want to get attached to rental goods • Consumers don't perceive the same thrill when renting luxury goods as when they own them