

Sustainable consumption: How materialism and trust play on collaborative non-ownership consumption?

Hanna Rocha de Arruda, Master's Candidate, Federal University of Ceará
(Corresponding author)

hannarruda@gmail.com

+55 85 986886686

Rua Caetano Cavalcante, 70

Fortaleza – Ceará – Brazil

Cláudia Buhamra Abreu Romero, Professor, Federal University of Ceará

1. Introduction

Recently, old consumer practices have been highlighted and reinvented and, amongst those emergent practices, collaborative consumption has emerged from sharing practices, commercial loans, rents and exchanges through information and communication technologies¹ as an alternative to purchase. Collaborative consumption could have a strong and disruptive impact on supply chains in many industries due to its global relevance and great growth potential².

In this context, there are numerous alternatives to product ownership through sharing, swapping, trading, or short-term collaborative rent³, named collaborative non-ownership consumption practices^{4 5}. Collaborative non-ownership consumption is important to improve the utility of goods by sharing them with others and help reduce the use of natural resources, a decrease in waste and increase people's access to goods. From this perspective, this form of consumption may be a way to achieve the 12th United Nation Sustainable Development Goals⁶ This goal encompasses sustainable consumption and production and aims to “doing more and better with less,” increasing net welfare gains from economic activities by reducing resource use, degradation and pollution along the whole lifecycle, while increasing quality of life⁷. Consequently, the understanding of this form of consumption must be of major interest to society for a sustainable development.

For the purpose of this study, we define collaborative non-ownership consumption as the sharing of tangible assets on online platforms, where unknown people use the online platform as a means to access goods without owning them. By this sense, when we consider the tangibility of goods, the materialism can cause an impact on collaborative non-ownership consumption because of the need “own to be”⁸. Other

¹ Juho Hamari, Mimmi Sjöklint, and Antti Ukkonen, "The Sharing Economy: Why People Participate in Collaborative Consumption", *Journal of the Association for Information Science and Technology* 9 (2016): 67, doi:10.1002/asi.23552.

² Stuart J. Barnes and Jan Mattsson, "Understanding current and future issues in collaborative consumption: A four-stage Delphi study," *Technological Forecasting and Social Change* 104 (2016): 200, doi:10.1016/j.techfore.2016.01.006.

³ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

⁴ Stephanie J. Lawson, "Forsaking ownership: three essays on non-ownership consumption and alternative forms of exchange" (PhD diss., Florida State University, 2011).

⁵ Mohammad Reza Habibi, Andrea Kim, and Michel Laroche, "From Sharing to Exchange: An Extended Framework of Dual Modes of Collaborative Nonownership Consumption", *Journal of the Association for Consumer Research* 1 (2016): 2, doi:10.1086/684685.

⁶ "Sustainable consumption and production", United Nations, 2017, <http://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

⁷ Ibid.

⁸ Russell W. Belk, "Materialism: Trait aspects of living in the material world", *Journal of Consumer research* 12 (1985): 3, doi: 10.1086/208515

possible influences on collaborative consumption could be trust⁹ ¹⁰. Thus, it is worth highlighting the importance of trust both in technology sharing platforms and between strangers for this business model to succeed. Specifically, in the case of tangible goods, the importance of trust stands out even more, as purchasers will have real, not just virtual, contact with the assets of others and, in some situations, will have contact with the owner of the goods at the time of delivery or pickup. Hence, emerging issues such as personal safety, the conservation status and the physical availability of the good at the desired time.

Thus, this research aims to analyze the influence of materialism and trust in the attitude and behavioral intentions of collaborative non-ownership consumption on online platforms. For this, we set specific objectives: (i) to analyze the relationship between attitude and behavioral intention of collaborative non-ownership consumption through online platforms; (ii) to analyze the influence of materialism on attitudes of collaborative non-ownership consumption through online platforms; and (iii) to analyze the influence of trust in the relationship between attitudes and behavioral intentions of collaborative non-ownership consumption through online platforms.

We first developed a model to show how materialism could affect the people's attitude, how that attitude could influence the people's behavioral intention and how trust in strangers and trust in platforms could influence the relationship between attitude and intention as moderators of this relationship. We applied a survey to a sample of business students from universities of Fortaleza, [the fifth biggest city in Brazil](#). We used descriptive statistics, exploratory factor analysis, confirmatory factor analysis and structural equation modeling.

2. Sustainable consumption and collaborative non-ownership consumption

The implementation of sustainable consumption helps to achieve overall development plans, reduce future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty. Involving different stakeholders, including business, consumers, policy makers, researchers, scientists, retailers, media, and development cooperation agencies, among others. This involvement can enable consumers raise awareness and knowledge about sustainable consumption and develop new lifestyles¹¹.

One of the big challenges of the 21st century is to find forms to achieve a sustainable development without causing negative impacts in people's lives and in the world's economy. Albeit still embryonic, collaborative consumption and the sharing economy have become social and economic phenomena in just a few years¹² and it is seen by many authors as a possible way to a sustainable development¹³. Collaborative consumption emerged from sharing and exchanging practices contextualized in the 21st century¹⁴ aiming to meet consumer's needs. Collaborative non-ownership consumption is an alternative form of exchange such as renting and market-mediated

⁹ Cait P. Lambertson and Randall L. Rose, "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems", *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368

¹⁰ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

¹¹ "Sustainable consumption and production", United Nations, 2017, <http://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

¹² Javier de Rivera et. al., "A netnographic study of P2P collaborative consumption platforms' user interface and design.", *Environmental Innovation and Societal Transitions* 23 (2017), doi.org/10.1016/j.eist.2016.09.003

¹³ Harald Heinrichs, "Sharing Economy: A Potential New Pathway to Sustainability.", *GAIA - Ecological Perspectives for Science and Society* 22 (2013): 4, doi:10.14512/gaia.22.4.5.

¹⁴ Ray Algar, "Collaborative Consumption", *Leisure Report* 4 (2007).

sharing¹⁵ in which an individual has access to a good without being the owner of that good. Non-ownership consumption allows consumers to experience a variety of new, needed, and useful goods without taking on many of the responsibilities of ownership¹⁶, but the idea of sharing is different from the perspective of tangibility because sharing intangibles is easier as we can “keep while giving”¹⁷. Sharing tangible goods involves many other factors compared to sharing intangibles such as materialism, feelings of possession and perception of scarcity¹⁸.

In recent years, many companies have emerged acting as intermediaries between owners, renters and potential renters^{19 20} and sometimes charge a small percentage in return. Peer-to-peer rental services provide extra income and fewer costs to owners and more convenient options for borrowers and service users²¹. For this research, collaborative non-ownership is considered as a practice of sharing tangible goods through online platforms.

Recent developments in collaborative practices have been influenced by the drive for sustainability, including issues such as economic austerity, social development needs, awareness of the wasteful nature of consumerism, and issues of global warming and environmental pollution²². Despite this positive view of the benefits of collaborative consumption for sustainable development, it should be noted that many businesses in the collaborative economy are seen as subversive of regulatory and fiscal systems²³. It is pointed out that the lack of regulation of these new businesses may lead to non-payment of taxes, possible unfair competition and even the labor exploitation, since many suppliers do not have the same fiscal and legal obligations that other traditional companies have^{24 25 26 27}. Moreover, the way in which people use the monetary value received from collaborative transactions is objectionable from

¹⁵ Stephanie J. Lawson, “Forsaking ownership: three essays on non-ownership consumption and alternative forms of exchange” (PhD diss., Florida State University, 2011).

¹⁶ Russell W. Belk, “Why not share rather than own?”, *The Annals of the American Academy of Political and Social Science* 611 (2007): 1, doi: 10.1177/0002716206298483

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Marco Böckmann, “The Shared Economy: It is time to start caring about sharing: value creating factors in the shared economy” (paper presented at the Iba Bachelor Thesis Conference, Enschede, The Netherlands, 27 June, 2013).

²⁰ Juho Hamari, Mimmi Sjöklint and Antti Ukkonen, “The sharing economy: Why people participate in collaborative consumption”, *Journal of the Association for Information Science and Technology* 67 (2016): 9, doi: 10.1002/asi.23552

²¹ Michel E. Porter and Mark R. Kramer, “The big idea: creating shared value”, *Harvard Business Review* 89 (2011): 1.

²² Stuart J. Barnes and Jan Mattsson, “Understanding current and future issues in collaborative consumption: A four-stage Delphi study”, *Technological Forecasting and Social Change* 104 (2016), doi.org/10.1016/j.techfore.2016.01.006

²³ “Estudio Sobre Los Nuevos Modelos De Prestacion De Servicios Y La Economia Colaborativa—Resultados Preliminares.”, CNMC Comisión Nacional delos Mercados y la Competencia, 2016, <https://blog.cnmc.es/2016/03/18/economia-colaborativa-resultados-preliminares-y-consulta-publica/>

²⁴ Russell W. Belk, “You are what you can access: Sharing and collaborative consumption online”, *Journal of Consumer Research* 67 (2014): 8, doi: 10.1016/j.jbusres.2013.10.001

²⁵ Juliet B. Schor and Connor J. Fitzmaurice, “Collaborating and Connecting: the emergence of the sharing economy”, in *Handbook on sustainable consumption*, Lucia Reisch and John Thøgersen, (Cheltenham, UK: Edward Elgar, 2015).

²⁶ Ana Luisa Ilha Villanova, “Modelos de negócio na economia compartilhada: uma investigação multi-caso.” (Master’s Diss., Fundação Getúlio Vargas – Escola Brasileira de Administração Pública e de Empresas, 2015).

²⁷ Mingming Cheng, “Sharing economy: A review and agenda for future research.” *International Journal of Hospitality Management* 57 (2016), doi: 10.1016/j.ijhm.2016.06.003

an environmental standpoint, as this resource can be used to buy non-sustainable goods²⁸.

Undoubtedly, the search for alternatives brought new possibilities for people to share what they have and stimulated the use of more efficient resources, improved social benefits, and reduced environmental pollution^{29 30}. From this perspective, it is important to try to understand the collaborative non-ownership consumption and the impact of materialism and trust on it.

3. Materialism

Materialism and possessions have been widely discussed in the academic community³¹, by psychology since the 1980s. Other areas have aroused interest in those constructs, such as marketing, political science, economy and consumer behavior^{32 33 34 35 36}.

Belk³⁷ defined materialism as "the importance a consumer attaches to worldly possessions" and Richins and Dawson³⁸ considered it as "the importance a person places on possessions and their acquisition as a necessary or desirable form of conduct to reach desired end states". Despite the obvious convergence of views, Belk³⁹ considered materialism as a collection of personality traits while Richins and Dawson⁴⁰, although they have also verified materialism as the importance given to material goods, characterize it as a value. Thus, Richins and Dawson⁴¹ adopted Rokeach's⁴² concept, where value is a deep-seated belief that a particular mode of conduct or specific sense of existence is preferable to its opposite guiding actions, attitudes, judgments, and comparisons between objects.

²⁸ Chris J. Martin, "The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?", *Ecological Economics* 121 (2016), doi.org/10.1016/j.ecolecon.2015.11.027

²⁹ Julian Agyeman, *Introducing just sustainabilities: Policy, planning, and practice*. (London: Zed Books Ltd., 2013).

³⁰ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

³¹ William Kilbourne, Marko Grünhagen and Janice Foley, "A cross-cultural examination of the relationship between materialism and individual values", *Journal of Economic Psychology* 26 (2005): 5, doi.org/10.1016/j.joep.2004.12.009

³² James A. Muncy and Jacqueline K. Eastman, "Materialism and Consumer Ethics: An Exploratory Study", *Journal of Business Ethics* 17 (1998): 2, doi.org/10.1023/A:1005723832576

³³ Güliz Ger and R.W. Belk, "Cross-cultural differences in materialism", *Journal of Economic Psychology* 17 (1996): 1, doi.org/10.1016/0167-4870(95)00035-6

³⁴ Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, doi: 10.1086/209304

³⁵ Ronald Inglehart, *Culture shift in advanced industrial Society* (New Jersey: Princeton University Press, 1990).

³⁶ Russell W. Belk, "Materialism: Trait aspects of living in the material world", *Journal of Consumer research* 12 (1985): 3, doi: 10.1086/208515

³⁷ Russell W. Belk, "Three scales to measure constructs related to materialism: Reliability, validity, and relationships to measures of happiness", *NA-Advances in Costumer Research* 11 (1984).

³⁸ Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, doi: 10.1086/209304

³⁹ Russell W. Belk, "Materialism: Trait aspects of living in the material world", *Journal of Consumer research* 12 (1985): 3, doi: 10.1086/208515

⁴⁰ See note 41 above.

⁴¹ Ibid.

⁴² Milton Rokeach, *The nature of human values* (Free press, 1973).

In this perspective, Richins and Dawson⁴³ defined three dimensions for materialism: centrality, happiness and success. To better understand the construct, the dimensions of materialism are described below:

1. Centrality in the acquisition: it represents the importance that the material goods exert in individuals' lives, that means the acquisition and the possession of goods is centralized in people's lives.

2. Acquisition as a search for happiness: it is seen as the essentiality of acquisitions for the satisfaction and well-being of individuals, that means acquisition and possession as a "path" to happiness.

3. Possessions as a definition of success: it is observed as the quantity and quality of the goods acquired by oneself and by others as a representation of the success of the individual in their life.

Additional, from the perspective of materialism as a consumption value, Richins⁴⁴ studied the valuation of goods from the private meaning of possessions, the meaning ascribed to a possession by its owner, and the public meaning of a possession, involving the meaning ascribed to it by members of society at a large. The author has observed that, in general, the possessions and goods considered more important by an individual characterize their personal values and, even at a generalist level, the meaning that the individual attributes to any object coming from these values. In this sense, the value of ownership derives from its meaning and not from its utilitarian value, related to the utility of the good, or exchange value, by which it can be exchanged for another.

This view of possession value derived from its meaning, according to Richins⁴⁵, is based on two main pillars. First, possessions are an essential part of the construction of the self that means the individual personality. Secondly, possessions are an important source of value because of their inherent communicative power. Thus, Richins⁴⁶ divided the meaning of goods between public, as characteristics of an object that are shared by society as a whole, and private, as the sum of the subjective and personal meanings of an object for an individual. Public meaning exerts a strong influence on private meaning, which is shaped by the person from their individual knowledge and perceptions⁴⁷.

Therefore, one of the great contributions of Richins⁴⁸ research was to alert the academic community to the need to understand the valuation of goods as a prerequisite for understanding the motives that lead consumers to buy, retain or discard certain goods to the detriment of other goods. This same logic applies to understanding why consumers choose to share some products and not others.

The perspective of materialism as a value has been the most accepted and most used by the academy. Richins and Dawson⁴⁹ also point out that these component dimensions of materialism are the ones closest to the popular conceptions about the definitions of these dimensions. So, the conceptual view adopted in this research is Richins and Dawson's⁵⁰ concept of materialism.

⁴³ Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

⁴⁴ Marsha L. Richins, "Valuing things: The public and private meanings of possessions", *Journal of Consumer Research* 21(1994), doi: 10.1086/209414

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Marsha L. Richins, "Valuing things: The public and private meanings of possessions", *Journal of Consumer Research* 21(1994), doi: 10.1086/209414

⁴⁸ Ibid.

⁴⁹ Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

⁵⁰ Ibid.

4. Trust

Trust is a key factor for both the use of technologies⁵¹ and collaboration between individuals^{52 53 54}. It is necessary people trust the ability of the technology developed to reach its goal and the individuals participating in a collaboration system can in fact collaborate with others. In the collaboration context, some works bring trust as a relevant factor^{55 56 57}, but without observing how it may interfere the attitude-intention relation of the potential consumers.

Rousseau, Sitkin, Burt and Camerer⁵⁸, in a literature review in several areas of research, proposed a consensual definition by identifying two critical points in common in all areas: personal expectations and the propensity to be vulnerable. For the authors, "trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another"⁵⁹.

Personal expectations relate to what is expected by the parties and, in other words, the belief of one party that the other will act in a responsible manner, evidencing integrity and not being detrimental to the other party⁶⁰. This perspective is conceptualized as psychological trust. The propensity to be vulnerable, in turn, can be understood as the risk that a party is willing to run, that is, the probability of loss. In this sense, trust is related to the exchange partner, accepting contextual vulnerability⁶¹. This definition, called behavioral trust, is based on the actual behavior of one party in relation to the other. This conceptual separation is also corroborated by Kramer⁶², by distinguishing trust as a psychological state and as a choice of behavior.

Therefore, this research is positioned to consider the two conceptions that make up the construct and is based on the conceptualization derived from marketing and well accepted in consumer behavior, in which trust is the expectation of a part of that the other party will behave in a predictable way in a specific situation⁶³.

⁵¹ Viswanath Venkatesh et. al., "User acceptance of information technology: Toward a unified view", *MIS Quarterly* 27 (2003): 3

⁵² Cait P. Lambertson and Randall L. Rose, "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems", *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368

⁵³ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

⁵⁴ Elinor Ostrom, *Governing the Commons* (Cambridge: Cambridge University Press, 1990).

⁵⁵ Helena Oliveira Dali Pizzol, "Proposição de uma escala para mensuração do consumo colaborativo: compreendendo o compartilhamento de bens e a sua relação com os valores pessoais" (Master's diss., Pontifícia Universidade Católica do Rio Grande do Sul, 2015).

⁵⁶ See note 55 above.

⁵⁷ See note 56 above.

⁵⁸ Denise M. Rousseau et. al., "Not so different after all: A cross-discipline view of trust", *Academy of Management Review* 23(1998): 3, doi: 10.5465/AMR.1998.926617

⁵⁹ Denise M. Rousseau et. al., "Not so different after all: A cross-discipline view of trust", *Academy of Management Review* 23(1998): 3, doi: 10.5465/AMR.1998.926617

⁶⁰ Jagdip Singh and Deepak Sirdeshmukh, "Agency and trust mechanisms in consumer satisfaction and loyalty judgments", *Journal of the Academy of Marketing Science* 28(2000): 1

⁶¹ Vinicius Andrade Brei and Carlos Alberto Vargas Rossi, "Confiança, valor percebido e lealdade em trocas relacionais de serviço: um estudo com usuários de internet banking no Brasil", *Revista de Administração Contemporânea* 9(2005): 2, dx.doi.org/10.1590/S1415-6552005000200008

⁶² Roderick M. Kramer, "Trust and Distrust in organizations: emerging perspectives, enduring questions", *Annual Review of Psychology* 50(1999): 1, doi.org/10.1146/annurev.psych.50.1.569

⁶³ Christian Grönroos, "Creating a relationship dialogue: communication, interaction and value.", *The marketing review* 1.1 (2000): 5-14. doi: 10.1362/1469347002523428

In the context of collaborative consumption, Lamberton and Rose⁶⁴ argue that trust between individuals with similar behaviors can generate a high level of sharing with similar individuals regardless of the pattern and intensity of use of the good or service being shared. Thus, probably, the social relations established between the individuals participating in the collaborative consumption can be facilitated by the presence of bonds of trust.

Although the idea of using something that is not his own has largely succumbed to fears of "strange danger," these fears are being experienced and overcome in different ways with the help of the Internet perception⁶⁵. Trust, even with the intermediation of online platforms, is still a critical factor for sharing.

In the Brazilian perspective, the research of Maurer et. al.⁶⁶ was among of the first to analyze the collaborative consumption interviewing managers of organizations and users of different systems of collaborative consumption to deepen the understanding about the practice of sharing. The research had, as one of its main findings, trust as one of the main facilitators of the relationships.

Corroborating the above, Fioravanti⁶⁷ opens the discussion regarding the trust in use of collaborative virtual platforms in Brazil. For the author, one of the common characteristics of collaborative business models is the fact that they are based on the segmentation of the virtual platforms developed to serve groups with interests in common. This feature, in the Brazilian context, becomes a barrier since Brazilian consumers feel uncertainty and insecurity regarding the existing platforms of sharing, besides establishing a low degree of trust in people outside their common circle.

In addition, technology use theories highlight trust as an influencer of the technological adoption process⁶⁸ such as online sharing platforms. Therefore, it is necessary to verify the participation of trust in the consolidation of the attitude and behavioral intention of the consumers of collaborative non-ownership consumption for the aspects of the sharing as of technological adoption.

Our goal is to show how materialism and trust influence the attitude and behavioral intention of collaborative non-ownership consumption. We now develop our hypotheses.

5. Development of the model and hypotheses

The cadenced attitude-intention-behavior system can be understood succinctly and objectively as: attitude is the expression of feeling in relation to something; Intention is the stated propensity to do so; and behavior consists of the action itself⁶⁹. The importance studying of the attitude of the consumers lies on the fact that its understanding favors the understanding and prediction of the behavior^{70 71 72}.

⁶⁴ Cait P. Lamberton and Randall L. Rose, "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems", *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368

⁶⁵ Russell W. Belk, "You are what you can access: Sharing and collaborative consumption online", *Journal of Consumer Research* 67 (2014): 8, doi: 10.1016/j.jbusres.2013.10.001

⁶⁶ Angela Maria Maurer et. al., "Yes, We also can! O desenvolvimento de iniciativas de consumo colaborativo no Brasil", *BASE-Revista de Administração e Contabilidade da UNISINOS* 12 (2015): 1.

⁶⁷ Livia Fioravanti, "Cenários do consumo colaborativo no brasil para 2022", *Inventta Inteligência em Inovação e HUB* (2012).

⁶⁸ Luis Felipe Dantas Gutman, Luiz Antonio Joia and Valter Assis Moreno Junior, "Antecedentes da intenção de uso de sistemas de home broker sob a ótica dos investidores do mercado acionário", *Revista de Administração* 49(2014): 2, dx.doi.org/10.5700/rausp1151.

⁶⁹ M. Fishbein and I. Ajzen, *Belief, Attitude, Intention and Behavior: An introduction to theory and research* (Amherst: Mass, 1975).

⁷⁰ Roger D. Blackwell, Paul Miniard and James F. Engel, *Comportamento do consumidor*, (São Paulo: Pioneira Thomson Learning, 2005).

In this sense, intentions can be as the conscious plan to perform a specific behavior or even a particular judgment of how it will behave in the future in relation to the acquisition, disposal and use of products and services^{73 74 75}, and, overall, depends on consumer favoritism in this regard. The strong link between intention and behavior makes many theories of social psychology identify stated intentions, as goals, not only as strong predictors of the performance of a particular desired behavior, but also as best predictor^{76 77}.

The relationship between attitude and behavioral intention has been examined in different contexts. It is well-supported that attitude is one antecedent of behavioral intention. We also hypothesize this relationship to test it in the context of collaborative non-ownership consumption. Thus:

H1. Attitude positively influences behavioral intention on collaborative non-ownership consumption.

Many studies^{78 79 80} see materialism as a predictor of participation in collaborative consumption. Habibi, Kim and Laroche⁸¹, in a research on developed country, show that materialism has a positive impact on the propensity to participate in collaborative non-ownership consumption systems. Many studies^{82 83 84}, however, suggest that sharing and materialism are incompatible. Considering materialism as an individual value that changes in different cultures, this study tries to clarify how materialism influence attitude about collaborative non-ownership consumption in a developing country. Considering that most studies suppose the incompatibility of materialism and sharing, we believe that materialism could be a barrier to collaborative and sharing behaviors. So, we hypothesized those three dimensions of materialism (success, happiness and centrality) has negative effects on attitude formation. Thus:

H2: Materialism has negative effect on attitude of collaborative non-ownership consumption practices.

⁷¹ Leon G. Schiffman and Leslie L. Kanuk, *Consumer behavior* (New York: Prentice hall, 2000).

⁷² See note 75 above.

⁷³ See note 76 above.

⁷⁴ John C. Mowen and Michael S. Minor, *Comportamento do consumidor* (São Paulo: Prentice Hall, 2003).

⁷⁵ Naresh Malhotra and J. Daniel McCort, "A cross-cultural comparison of behavioral intention models-Theoretical consideration and an empirical investigation", *International Marketing Review* 18(2001): 3, doi: 10.1108/02651330110396505

⁷⁶ Icek Ajzen, "The theory of planned behavior", *Organizational Behavior and Human Decision Processes* 50(1991): 2, doi.org/10.1016/0749-5978(91)90020-T

⁷⁷ Edwin E. Locke and Gary P. Latham, *A theory of goal setting & Task performance* (New York: Prentice Hall, 1990).

⁷⁸ Thorsten Hennig-Thurau, Victor Henning, and Henrik Sattler, "Consumer File Sharing of Motion Pictures", *Journal of Marketing* 71 (2007): 4, doi.org/10.1509/jmkg.71.4.1

⁷⁹ Cait P. Lambertson and Randall L. Rose, "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems", *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368

⁸⁰ Mohammad Reza Habibi, Andrea Kim, and Michel Laroche, "From Sharing to Exchange: An Extended Framework of Dual Modes of Collaborative Nonownership Consumption", *Journal of the Association for Consumer Research* 1, (2016): 2 doi:10.1086/684685.

⁸¹ Ibid.

⁸² Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

⁸³ Russell W. Belk, "Why not share rather than own?", *The Annals of the American Academy of Political and Social Science* 611 (2007): 1, doi: 10.1177/0002716206298483

⁸⁴ Russell W. Belk, "Sharing", *Journal of Consumer Research* 36(2010): 5, doi.org/10.1086/612649

Trust is a strongly cited construct both as a determining factor of collaboration⁸⁵, and as an influencer in the adoption of technology⁸⁶. In this sense, trust is believed to be a moderation of the relationship between the attitude and intention to use shared products on online platforms as potential consumers need to rely on the technology of collaborative platforms to adopt them as a consumer intermediary and to trust the supplier/owner of the product, in the sense of offering an object with real conditions of use at the necessary moment⁸⁷. So, we hypothesized:

H3a: Trust in Stranger has positive effect on the attitude of collaborative non-ownership consumption practices.

H3b: Trust in Online Platforms has a positive effect on the attitude of collaborative non-ownership consumption practices.

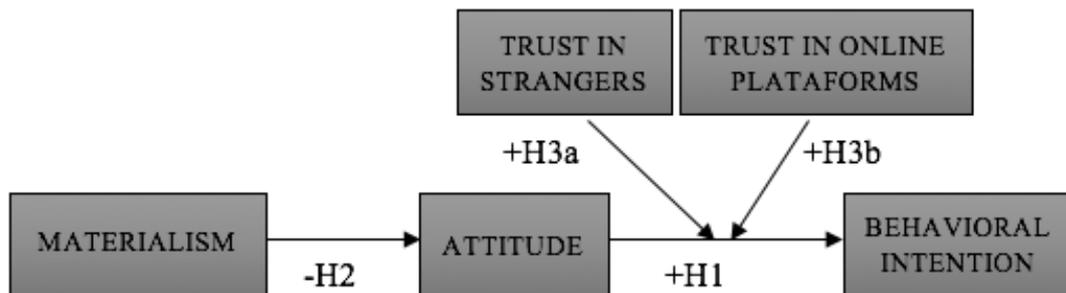


Figure 1. Model of the effects of materialism and trust on attitude and behavioral intention on collaborative non-ownership consumption

6. Method

6.1 Subjects and procedure

Our target population consists of students of Administration Courses in Universities of Fortaleza. We chose this population because students will be important decision makers in institutions and tend to be younger and more willing to use technological tools such as online platforms. The questionnaire was applied inside of all three Universities of Fortaleza. We introduced the questionnaire explaining what is collaborative consumption and what is considered as a sharing practices on online platforms. The first question asked if the person had participated in any collaborative non-ownership consumption in the last 2 years (61,9% answered No). As an opinion survey, we asked participants to respond with their opinions about the phenomenon and their trust in unknown persons and institutions. Furthermore, participants answer materialism's items about their personal values. We collected 650 questionnaires, 604 of which were considered valid (all items answered). The age range of the participants varied between 17 and 54 (mean= 22,04) and 56,6% being males.

6.2 Measures

The measures of all the constructs in the model were based on the literature. Nevertheless, they were slightly modified to suit the context of the study. We adopted

⁸⁵ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

⁸⁶ Luis Felipe Dantas Gutman, Luiz Antonio Joia and Valter Assis Moreno Junior, "Antecedentes da intenção de uso de sistemas de home broker sob a ótica dos investidores do mercado acionário", *Revista de Administração* 49(2014): 2, [dx.doi.org/10.5700/rausp1151](https://doi.org/10.5700/rausp1151)

⁸⁷ Helena Oliveira Dali Pizzol, "Proposição de uma escala para mensuração do consumo colaborativo: compreendendo o compartilhamento de bens e a sua relação com os valores pessoais" (Master's diss., Pontifícia Universidade Católica do Rio Grande do Sul, 2015).

and modified items developed by Hamari, Sjöklint and Ukkonen⁸⁸ to measure attitude (5 items) and behavioral intention (4 items), items developed by Naef and Schupp⁸⁹ to measure trust in others (4 items) and trust in institutions (2 items) and items developed by Pizzol⁹⁰ to measure trust in others (1 item) and trust in the system (2 items). We use Garcia's Brazilian Scale of Material Values (BSMV)⁹¹ developed from original versions of Material Values Scale (MVS)^{92 93} and adapted to Brazilian context. BSMV (17 items) has three dimensions to measure materialism: centrality (7 items), happiness (6 items) and success (4 items). The Appendix 1 shows the resume of items of the questionnaire and theoretical dimensions. Additional, we included some socio-demographic items.

The scales for the attitude and behavioral intention, developed by Hamari, Sjöklint and Ukkonen⁹⁴, as well as the scales for the trust in others and trust in institutions, developed by Naef and Schupp⁹⁵, were originally written in English. Both were translated and re-translated by professionals to guarantee that the meanings be preserved. The Pizzol's⁹⁶ and Garcia's BSMV⁹⁷ scales were originally developed in Portuguese. All items were 7-point Likert-type scales.

7. Findings and discussion

Before the running structural equation modeling to test the hypotheses, to purify and validate the measures, we first conducted an exploratory factor analysis (EFA) and a reliability analysis to calculate Cronbach's alpha for the scale items to ensure internal consistency⁹⁸. The Attitude scale had good results except for AT5 which presented low communality ($C < 0.5$). The Intention scale presented excellent numbers. The Trust scale was good except for items TP8 and TP9, which had low measure of sampling adequacy ($MSA < 0.6$), and TS5 that presented low communality. Those three items were excluded. In the materialism scale, all the items had a good MSA except the item M9 that were deleted. We also deleted items with lower communalities ($C < 0.5$), respectively: M15, M16 and M17.

Unlike the expected number of factors for materialism (three factors: happiness, centrality, and success), the EFA presented 4 factors. Based on the EFA the

⁸⁸ Juho Hamari, Mimmi Sjöklint, and Antti Ukkonen, "The Sharing Economy: Why People Participate in Collaborative Consumption," *Journal of the Association for Information Science and Technology* 9 (2016): 67, doi:10.1002/asi.23552

⁸⁹ Michael Naef and Jürgen Schupp, "Measuring trust: Experiments and surveys in contrast and combination", (paper presented at the SOEP papers on Multidisciplinary Panel Data Research, Bonn, Germany, march 2009).

⁹⁰ Helena Oliveira Dali Pizzol, "Proposição de uma escala para mensuração do consumo colaborativo: compreendendo o compartilhamento de bens e a sua relação com os valores pessoais" (Master's diss., Pontifícia Universidade Católica do Rio Grande do Sul, 2015).

⁹¹ Patrícia Alves de Oliveira Garcia, "Escala Brasileira de Valores Materiais - EBVM: elaboração e validação de uma escala para materialismo como valor de consumo" (Master's diss., Universidade de Brasília, 2009).

⁹² Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

⁹³ Marsha L. Richins, "The Material Values Scale: Measurement Properties and Development of a Short Form", *Journal of Consumer Research* 31(2004): 1, doi.org/10.1086/383436

⁹⁴ Juho Hamari, Mimmi Sjöklint and Antti Ukkonen, "The sharing economy: Why people participate in collaborative consumption", *Journal of the Association for Information Science and Technology* 67 (2016): 9, doi: 10.1002/asi.23552

⁹⁵ Michael Naef and Jürgen Schupp, "Measuring trust: Experiments and surveys in contrast and combination", (paper presented at the SOEP papers on Multidisciplinary Panel Data Research, Bonn, Germany, March 2009).

⁹⁶ See note 90 above.

⁹⁷ See note 91 above.

⁹⁸ Lee J. Cronbach, *Essentials of psychological testing* (New York: Harper and Row, 1970).

theoretical dimension centrality was divided into two, that we named: centrality linked to pleasure (CP) and centrality linked to non-simplicity (CS).

Table 1. Factor loadings of EFA and reliability and validity values

Dimensions	Items	Factors loading	Alpha's Cronbach	KMO	Xi-square
Attitude	AT1	0,899	0,923	0,842	1953,543 (GL6)
	AT2	0,927			
	AT3	0,937			
	AT4	0,843			
Intention	IT1	0,778	0,922	0,844	1831,605(GL6)
	IT2	0,803			
	IT3	0,858			
	IT4	0,804			
Trust in Strangers	TS1	0,899	0,854	0,836	2127,374 (GL15)
	TS2	0,869			
	TS3	0,869			
	TS4	0,88			
Trust in platforms	TP6	0,827			
	TP7	0,854			
Success	M8	0,783	0,705	0,8	1955,74 (GL78)
	M5	0,709			
	M11	0,654			
	M3	0,627			
Happiness	M2	0,825	0,723		
	M4	0,804			
	M10	0,538			
Centrality linked to pleasure	M14	0,801	0,679		
	M6	0,697			
	M12	0,635			
centrality linked to non-simplicity	M13	0,812	0,644		
	M7	0,796			
	M1	0,594			

Then we calculated Cronbach's alphas for each construct. Table 1 shows the descriptive statistics and Cronbach's alphas of the final constructs. The reliability measure ranged from 0.923 to 0.644 which shows satisfactory levels of internal consistency.

To analyze our developed model, we chose variance-based methods such as Partial Least Square (PLS) analysis, as the focus of this research is the explanation of an endogenous construct (determined by a predictor) with many variables. PLS-SEM is a causal modeling statistical approach that aims to maximize the explained variance

of dependent latent variables^{99 100}. For this research, PLS-model estimation was performed using SmartPLS.

The first step is analyzing convergent validities by the Average Variance Extracted (AVE)¹⁰¹ with the referential values is $AVE > 0.5$ ¹⁰². To elevate the value of the AVE value, the variables with factorial loads (correlations) of lower values should be eliminated¹⁰³. We decided to eliminate items of Centrality linked to non-simplicity because they presented factorial loads lower than 0.4. Doing this, we improved not only the AVE's values but also other reliability and validity values.

Table 2. Reliability and validity values for the SEM

Latent variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Attitude	0,923	0,926	0,946	0,814
Centrality linked to pleasure	0,678	0,687	0,823	0,608
Happiness	0,721	0,729	0,843	0,642
Intention	0,922	0,924	0,945	0,811
Materialism	0,800	0,808	0,848	0,361
Moderating Effect - Attitude* Trust Platforms	1,000	1,000	1,000	1,000
Moderating Effect - Attitude* Trust Strangers	1,000	1,000	1,000	1,000
Success	0,711	0,722	0,822	0,537
Trust Platforms	0,651	0,744	0,845	0,733
Trust Strangers	0,922	0,928	0,945	0,810

Cronbach's alpha and composite reliability are used to measure Model Reliability and should be higher than 0.7¹⁰⁴. In addition, some of alpha's Cronbach were a little lower than 0.7, all latent variables presented excellent Composite Reliability (higher than 0.823). All variance inflation factors (VIFs) for the indicator were less than 5, as recommended by Hair, Ringle and Sarstedt¹⁰⁵. To discriminating validity, we analyzed loading estimates that need to be higher in original latent variable comparing to others¹⁰⁶. Even after excluding lower loading values procedures, several insignificant loading estimates were also found. Similar results were seeing in several studies using original translated scale in many countries¹⁰⁷. Even in case of

⁹⁹ Wynne W. Chin, "The partial least squares approach for structural equation modeling", in *Modern methods for business*, ed. George A. Marcoulides (London: Lawrence Erlbaum Associates, 1998).

¹⁰⁰ Joe F. Hair, Christian M. Ringle and Marlo Sarstedt, "PLS-SEM: Indeed a silver bullet", *Journal of Marketing Theory and Practice* 19(2011): 2

¹⁰¹ Christian M. Ringle, Dirceu da Silva and Diógenes de Souza Bido, "Structural Equation Modeling with the Smartpls", *Brazilian Journal of Marketing* 13(2015): 2

¹⁰² Jörg Henseler, Christian M. Ringle and Rudolf R. Sinkovics, "The use of partial least squares path modeling in international marketing", in Rudolf R. Sinkovics, Pervez N. Ghauri (ed.) *New challenges to international marketing* (Bingley, Emerald Group Publishing Limited, 2009).

¹⁰³ See note 107 above.

¹⁰⁴ Joseph F. Hair Jr. et. al., *A primer on partial least squares structural modeling (PLS-SEM)* (Los Angeles: SAGE Publishing, 2014).

¹⁰⁵ See note 101 above.

¹⁰⁶ See note 99 above.

¹⁰⁷ Mitch Griffin, Barry J. Babin and Finn Christensen, "A cross-cultural investigation of the materialism construct: Assessing the Richins and Dawson's materialism scale in Denmark, France and Russia.", *Journal of Business Research* 58(2004): 8

the creation of a Brazilian's version of the Material Values Scale, factor loadings of the BSMV in Garcia¹⁰⁸ were next not so high with loads between 0.79 and 0.51. All loads are presented in Table 3.

Table 3. Outer loading of the estimate model

	Loadings of Original Sample (O)	P Values
AT1 <- Attitude	0,900	0,000
AT2 <- Attitude	0,927	0,000
AT3 <- Attitude	0,937	0,000
AT4 <- Attitude	0,843	0,000
Attitude * Trust Platforms <- Moderating Effect - Attitude*Trust Platforms	1,143	0,000
Attitude * Trust Strangers <- Moderating Effect - Attitude*Trust Strangers	1,184	0,000
IT1 <- Intention	0,884	0,000
IT2 <- Intention	0,891	0,000
IT3 <- Intention	0,927	0,000
IT4 <- Intention	0,899	0,000
TP1 <- Trust Platforms	0,921	0,000
TP2 <- Trust Platforms	0,786	0,000
TS1 <- Trust Strangers	0,913	0,000
TS2 <- Trust Strangers	0,894	0,000
TS3 <- Trust Strangers	0,890	0,000
TS4 <- Trust Strangers	0,904	0,000
M11 <- Success	0,742	0,000
M3 <- Success	0,645	0,000
M5 <- Success	0,802	0,000
M8 <- Success	0,734	0,000
M10 <- Happiness	0,784	0,000
M2 <- Happiness	0,759	0,000
M4 <- Happiness	0,858	0,000
M12 <- Centrality linked to pleasure	0,782	0,000
M14 <- Centrality linked to pleasure	0,730	0,000
M6 <- Centrality linked to pleasure	0,825	0,000
M10 <- Materialism	0,685	0,000
M11 <- Materialism	0,631	0,000
M12 <- Materialism	0,544	0,000
M14 <- Materialism	0,482	0,000
M2 <- Materialism	0,555	0,000
M3 <- Materialism	0,517	0,000
M4 <- Materialism	0,682	0,000

¹⁰⁸ Patrícia Alves de Oliveira Garcia, "Escala Brasileira de Valores Materiais - EBVM : elaboração e validação de uma escala para materialismo como valor de consumo" (Master's diss., Universidade de Brasília, 2009).

M5 <- Materialism	0,691	0,000
M6 <- Materialism	0,598	0,000
M8 <- Materialism	0,586	0,000

We used SmartPLS (v. 3.2.6) to test the model and estimate the path coefficients in Figure 2.

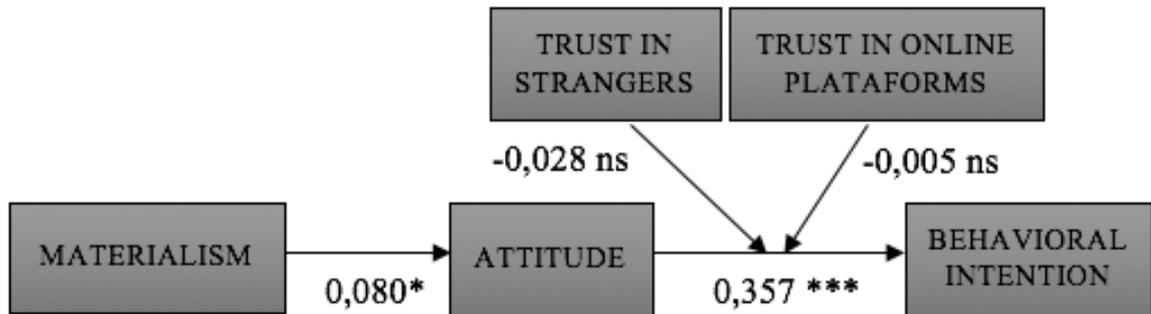


Figure 2. Model of the effects of materialism and trust on attitude and behavioral intention on collaborative non-ownership consumption

SmartPLS use the Partial Least Squares (PLS) method for the structural equation modeling. To test whether path coefficients differ significantly from zero, p-values were calculated using bootstrapping procedure¹⁰⁹. The results are shown in Table 4.

Table 4. PLS estimated path coefficients and p-value

Relations	Coefficients of Original Sample (O)	P Values
Attitude -> Intention	0,357	0,000
Materialism -> Attitude	0,080	0,097
Materialism -> Centrality linked to pleasure	0,697	0,000
Materialism -> Happiness	0,805	0,000
Materialism -> Success	0,832	0,000
Moderating Effect - Attitude*Trust Platforms -> Intention	-0,005	0,901
Moderating Effect - Attitude*Trust Strangers -> Intention	-0,028	0,284
Trust Platforms -> Intention	0,012	0,753
Trust Strangers -> Intention	0,419	0,000

Some values useful to evaluate the structural model are coefficient of determination, R^2 ^{110 111}, predictive relevance, effect size, f^2 ¹¹², and path coefficients¹¹³.

¹⁰⁹ See note 105 above.

¹¹⁰ Joe F. Hair, Christian M. Ringle and Marlo Sarstedt, "PLS-SEM: Indeed a silver bullet", *Journal of Marketing Theory and Practice* 19(2011): 2

¹¹¹ Wynne W. Chin, "The partial least squares approach for structural equation modeling", in *Modern methods for business*, ed. George A. Marcoulides (London: Lawrence Erlbaum Associates, 1998).

¹¹² Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences* (New York: Psychology press, 1988).

¹¹³ Joseph F. Hair Jr. et. al., *Multivariate data analysis* (Upper Saddle River: Prentice Hall, 2010).

The coefficient of determination (R²) of the structural model were calculated for each endogenous variable. The coefficient of determination for Attitude (0.006) was considered weak and for Intention (0.460) was considered moderate¹¹⁴ but for the area of social and behavioral sciences, Attitude is classified as having a small effect while Intention has a large effect¹¹⁵. For the effect size, f², Attitude-Intention (0.176) and Trust in Strangers-Intention (0.211) have good values, showing medium effect size, and Materialism-Centrality linked to pleasure (0.943), Materialism-Happiness (1.842) and Materialism-Success (2.253) have good values, showing large effect size¹¹⁶. Path coefficients are used in the evaluation of causal relation and are at the table 4¹¹⁷.

As predicted, strong support was found for the effects of Attitude and Behavioral intention, with a coefficient of 0.357 and significance at the level of 1%, supporting H1. Materialism presented positive coefficients (0.080) at the level of 10% rejecting H2. The result for Materialism go against the idea of incompatibility of materialism and sharing advocated by Richins and Dawson¹¹⁸ and Belk^{119 120} and corroborated Habibi, Kim and Laroche¹²¹ in that materialism has a positive impact on the propensity to choose one or more non-ownership consumption modes. To see if moderation effects exist, we compared the effect of the independents variables Trust in Strangers and Trust in Platforms with the effect of the combination of Attitude vs. Trust in Strangers and Attitude vs. Trust in platforms. Moderation effects weren't perceived on this research, rejecting H3a and H3b, but it's important to highlight that Trust Strangers as an independent variable shows a significant effect (at the level of 1%) on intention (0,419). Thus, Trust Strangers has a high and direct effect on behavioral intention to participate in collaborative non-ownership consumption.

As discussed, collaborative non-ownership consumption, as an alternative mode of consumption, is rapidly growing among consumers and offers the possibility of access to goods without owning them. The general aim of this article is to analyze how materialism and trust can play a role this scenario. For this, we developed a model that hypothesized materialism as a value that precedes attitude on collaborative non-ownership consumption, attitude as a predecessor of behavioral intention, and Trust in Strangers and Trust in Platforms as moderators of the relation of attitude and behavioral intention.

Important researchers have long disseminated the idea of incompatibility between sharing and materialism^{122 123 124} but the results of this study go against that. We

¹¹⁴ See note 116 above.

¹¹⁵ See note 118 above.

¹¹⁶ Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences* (New York: Psycholog press, 1988).

¹¹⁷ Joseph F. Hair Jr. et. al., *Multivariate data analysis* (Upper Saddle River: Prentice Hall, 2010).

¹¹⁸ Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

¹¹⁹ R. W. Belk, "Why not share rather than own?", *The Annals of the American Academy of Political and Social Science* 611 (2007): 1, doi: 10.1177/0002716206298483

¹²⁰ R. W. Belk, "Sharing", *Journal of Consumer Research* 36(2010): 5, doi.org/10.1086/612649

¹²¹ Mohammad Reza Habibi, Andrea Kim, and Michel Laroche, "From Sharing to Exchange: An Extended Framework of Dual Modes of Collaborative Nonownership Consumption", *Journal of the Association for Consumer Research* 1, (2016): 2 doi:10.1086/684685.

¹²² Marsha L. Richins and Scott Dawson, "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research* 19 (1992): 3, DOI: 10.1086/209304

¹²³ Russell W. Belk, "Why not share rather than own?", *The Annals of the American Academy of Political and Social Science* 611 (2007): 1, doi: 10.1177/0002716206298483

recommended further researches about why materialistic people have a positive attitude on sharing practices. As there are many forms of collaborative non-ownership consumption, materialists, as well as non-materialists, might have some different levels of willingness to participate of those practices. Another point to be better explored is the difference between being a sharer and a provider. Further investigation is recommended about these concepts.

A positive and strong relation between attitude and behavioral intention on collaborative non-ownership consumption was expected, as other researchers have already found similar results with collaborative consumption in a specific platform¹²⁵. Nevertheless, we expected that Trust in Strangers and Trust in Platforms potentiated the relation between attitude and behavioral intention, as many people may like the idea of participating in collaborative non-ownership consumption, yet did not intend to practice due to a lack of trust in platforms or in unknown people that are participating. Although we did not find the moderation effect, we found trust strangers having a strongly positive effect on intention. Our finding is somehow consistent with the theory that trust is an important element to collaborative consumption^{126 127}. Trust in strangers is mostly endorsed by Botsman and Rogers¹²⁸. We recommend further researches on the effect of trust in collaborative consumption.

8. Limitations and conclusion

We also acknowledge a number of limitations in our study. The data was obtained from convenience samples, rather than random, probability-based samples. Although there is no apparent reason to question the quality of the data, caution is required regarding generalization. Another point is the many distinct online communities and types of sharing. We did not consider differences among types of collaborative non-ownership consumption and treated all practices together, as general. In this sense, it ignores individual differences among each practice and it is hard to believe that the same person will have the same attitude and behavioral intention for each practice as Habibi, Kim and Laroche¹²⁹ highlighted in their study. So, we believe that individual differences among the many practices of collaborative non-ownership consumption can result in different outcomes.

Although, our objective was to see collaborative non-ownership consumption in general and understand how materialism and trust can affect attitude and behavioral intention in this situation, materialism viewed as negative by society can be used as a driver for collaborative consumption by encouraging people to access what they have always dreamed of at a lower cost, with a lower social and environmental impact. Even if the money obtained by offering a rent was used in non-sustainable things, the offer of rents is still a way to help people access things and improve their quality of life at a lower financial and environmental cost. Governments and businesses, through investments in campaigns, to raise awareness and develop a sustainable behavior over time can drive a next step.

¹²⁴ Russell W. Belk, "Sharing", *Journal of Consumer Research* 36(2010): 5, doi.org/10.1086/612649

¹²⁵ Juho Hamari, Mimmi Sjöklint and Antti Ukkonen, "The sharing economy: Why people participate in collaborative consumption", *Journal of the Association for Information Science and Technology* 67 (2016): 9, doi: 10.1002/asi.23552

¹²⁶ Cait P. Lamberton and Randall L. Rose, "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems", *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368

¹²⁷ Rachel Botsman and Roo Rogers, *What's mine is yours: how collaborative consumption is changing the way we live* (London: Collins, 2011).

¹²⁸ Ibid.

¹²⁹ Mohammad Reza Habibi, Andrea Kim, and Michel Laroche, "From Sharing to Exchange: An Extended Framework of Dual Modes of Collaborative Nonownership Consumption", *Journal of the Association for Consumer Research* 1, (2016): 2 doi:10.1086/684685.

It is important to perceive that people can do something more sustainable without realizing it. So, governments and businesses, as controllers and influencers of society, may promote activities that help consumers to change their behavior even if it isn't conscious. To offer new alternatives to consume what people want to and try raising awareness upon them can be initial steps to achieve a sustainable development. Besides that, businesses can also use their innovative power to design solutions, as to provide consumers with information and engaging in sustainable public procurement, that can both enable and inspire individuals to lead more sustainable life-styles, reducing impacts and improving well-being¹³⁰.

Trust is large cited by many authors as an important element in collaborative consumption but its effect was quantitatively poorly explored. This research helps to highlight the importance of trust in strangers for the collaborative consumption occur and offer to the companies the possibility to improve strategies to raise the consumer trust in other members of the platform community.

Some form of trust is important for all collaborative consumption¹³¹ and, as shown in this research, trust in strangers is especially important for sharing tangible asserts. A comprehension of the mechanism of individual trust in others is relevant to stimulate people to participate in collaborative non-ownership consumption and, like other personal benefits, drive people to be part of the system. After individuals become part of this, companies can embrace the opportunity to influence the people's behavior to sustainable development and to be more engaged in community causes. As highlighted by Lamberton¹³², it is essential to understand trust in order to understand collaboration.

Another relevant point is that non-consumption, seen by many as a solution to the environment, can have strong impacts on the economy, while collaborative non-ownership consumption can positively move the economy while offering the same advantage, with lower environmental impacts. Sustainable development is not only about taking care of the environment, but also ensuring a better quality of life to people. This study shows that materialism can be used to boost collaborative non-ownership consumption by governments, encouraging policies, and by the companies, through the creation of targeted strategies based on the characteristics of the consumers interested in their products.

1. References

- Agyeman, Julian. *Introducing just sustainabilities: Policy, planning, and practice*. London: Zed Books Ltd., 2013.
- Ajzen, Icek "The theory of planned behavior". *Organizational behavior and human decision processes*, 50 (1991): 2. doi.org/10.1016/0749-5978(91)90020-T.
- Algar, Ray. "Collaborative consumption". *Leisure Report* 4 (2007). <http://www.oxygen-consulting.co.uk/insights/collaborative-consumption/> .
- Barnes, Stuart J. and Jan Mattsson. "Understanding current and future issues in collaborative consumption: A four-stage Delphi study". *Technological Forecasting and Social Change* 104 (2016). doi.org/10.1016/j.techfore.2016.01.006.
- Belk, Russell W. "Why not share rather than own?". *The Annals of the American Academy of Political and Social Science*, 611 (2007): 1. doi: 10.1177/0002716206298483.

¹³⁰ "Sustainable consumption and production", United Nations, 2017,

<http://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

¹³¹ Cait P. Lamberton, "Consumer Sharing: Collaborative Consumption, from Theoretical Roots to New Opportunities" in *Cambridge Handbooks in Psychology*, ed. Cambridge University (Cambridge: Cambridge University Press, 2015)

¹³² Ibid.

- Belk, Russell W. "Sharing". *Journal of consumer research*, 36 (2010): 5. doi.org/10.1086/612649.
- Belk, Russell W. "You are what you can access: Sharing and collaborative consumption online". *Journal of Business Research* 67 (2014): 8. doi: 10.1016/j.jbusres.2013.10.001.
- Belk, Russell W. "Three scales to measure constructs related to materialism: Reliability, validity, and relationships to measures of happiness". *NA-Advances in Costumer Research* 11 (1984). <http://acrwebsite.org/volumes/6260/volumes/v11/NA-11>.
- Belk, Russell W. "Materialism: Trait aspects of living in the material world". *Journal of Consumer research* 12 (1985): 3. doi: 10.1086/208515.
- Blackwell, Roger D., Paul Miniard and James F. Engel. *Comportamento do consumidor*. São Paulo: Pioneira Thomson Learning, 2005.
- Böckmann, Marco. "The Shared Economy: It is time to start caring about sharing: value creating factors in the shared economy". Paper presented at the Iba Bachelor Thesis Conference, Enschede, The Netherlands, 27 June, 2013.
- Botsman, Rachel and Roo Rogers. *What's mine is yours: how collaborative consumption is changing the way we live*. London: Collins, 2011.
- Brei, Vinicius Andrade and Carlos Alberto Vargas Rossi. "Confiança, valor percebido e lealdade em trocas relacionais de serviço: um estudo com usuários de internet banking no Brasil". *Revista de Administração Contemporânea* 9(2005): 2, dx.doi.org/10.1590/S1415-65552005000200008.
- Cheng, Mingming. "Sharing economy: A review and agenda for future research". *International Journal of Hospitality Management* 57 (2016). doi: 10.1016/j.ijhm.2016.06.003.
- Chin, Wynne W. "The partial least squares approach for structural equation modeling". in *Modern methods for business*, ed. George A. Marcoulides. London: Lawrence Erlbaum Associates, 1998.
- CNMC - Comisión Nacional delos Mercados y la Competencia. "Estudio Sobre Los Nuevos Modelos De Prestacion De Servicios Y La Economía Colaborativa— Resultados Preliminares", 2016. <https://blog.cnmc.es/2016/03/18/economia-colaborativa-resultados-preliminares-y-consulta-publica/>.
- Cohen, Jacob. *Statistical Power Analysis for the Behavioral Sciences*. New York: Psychology press, 1988.
- Cronbach, Lee J. *Essentials of psychological testing*. New York: Harper and Row, 1970.
- Fioravanti, Livia. "Cenários do consumo colaborativo no brasil para 2022". *Inventta Inteligência em Inovação e HUB*, 2012.
- Fishbein, Martin, and Icek Ajzen. *Belief, Attitude, Intention and Behavior: An introduction to theory and research*. Amherst: Mass, 1975.
- Garcia, Patrícia Alves de Oliveira. "Escala Brasileira de Valores Materiais - EBVM : elaboração e validação de uma escala para materialismo como valor de consumo". Master's diss., Universidade de Brasília, 2009.
- Ger, Güliz and Russell W. Belk. "Cross-cultural differences in materialism". *Journal of Economic Psychology* 17 (1996): 1. doi.org/10.1016/0167-4870(95)00035-6.
- Griffin, Mitch, Barry J. Babin and Finn Christensen. "A cross-cultural investigation of the materialism construct: Assessing the Richins and Dawson's materialism scale in Denmark, France and Russia.". *Journal of Business Research* 58 (2004): 8.
- Grönroos, Christian. "Creating a relationship dialogue: communication, interaction and value.". *The marketing review* 1 (2000): 1. doi: 10.1362/1469347002523428.
- Gutman, Luis Felipe Dantas, Luiz Antonio Joia and Valter Assis Moreno Junior. "Antecedentes da intenção de uso de sistemas de home broker sob a ótica dos

- investidores do mercado acionário". *Revista de Administração* 49 (2014): 2. dx.doi.org/10.5700/rausp1151.
- Habibi, Mohammad Reza, Andrea Kim, and Michel Laroche. "From Sharing to Exchange: An Extended Framework of Dual Modes of Collaborative Nonownership Consumption". *Journal of the Association for Consumer Research* 1, (2016): 2. doi:10.1086/684685.
- Hair, Joe F., Christian M. Ringle and Marlo Sarstedt. "PLS-SEM: Indeed a silver bullet". *Journal of Marketing Theory and Practice* 19(2011): 2.
- Hair Jr., Joseph F. et. al., *A primer on partial least squares structural modeling (PLS-SEM)*. Los Angeles: SAGE Publishing, 2014.
- Hair Jr., Joseph F. et. al. *Multivariate data analysis*. Upper Saddle River: Prentice Hall, 2010.
- Hamari, Juho, Mimmi Sjöklint and Antti Ukkonen. "The Sharing Economy: Why People Participate in Collaborative Consumption". *Journal of the Association for Information Science and Technology* 9 (2016): 67, doi:10.1002/asi.23552.
- Heinrichs, Harald. "Sharing Economy: A Potential New Pathway to Sustainability". *GAIA - Ecological Perspectives for Science and Society* 22 (2013): 4. doi:10.14512/gaia.22.4.5.
- Hennig-Thurau, Thorsten, Victor Henning and Henrik Sattler. "Consumer File Sharing of Motion Pictures". *Journal of Marketing* 71 (2007): 4. doi.org/10.1509/jmkg.71.4.1.
- Henseler, Jörg Christian, M. Ringle and Rudolf R. Sinkovics. "The use of partial least squares path modeling in international marketing", in Rudolf R. Sinkovics, Pervez N. Ghauri (ed.) *New challenges to international marketing*. Bingley, Emerald Group Publishing Limited, 2009.
- Inglehart, Ronald. *Culture shift in advanced industrial Society*. New Jersey: Princeton University Press, 1990.
- Kilbourne, William, Marko Grünhagen and Janice Foley. "A cross-cultural examination of the relationship between materialism and individual values". *Journal of Economic Psychology* 26 (2005): 5, doi.org/10.1016/j.joep.2004.12.009.
- Kramer, M. R. "Trust and Distrust in organizations: emerging perspectives, enduring questions". *Annual Review of Psychology* 50(1999): 1, doi.org/10.1146/annurev.psych.50.1.569.
- Lamberton, C. P. "Consumer Sharing: Collaborative Consumption, from Theoretical Roots to New Opportunities". in *Cambridge Handbooks in Psychology*, ed. Cambridge University Cambridge: Cambridge University Press, 2015.
- Lamberton, Cait Poyner and Randall L. Rose. "When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems". *Journal of Marketing* 76 (2012): 4, doi: 10.1509/jm.10.0368.
- Lawson, Stephanie J. "Forsaking ownership: three essays on non-ownership consumption and alternative forms of exchange". PhD diss., Florida State University, 2011.
- Locke, Edwin E. and Gary P. Latham. *A theory of goal setting & Task performance*. New York: Prentice Hall, 1990.
- Malhotra, Naresh and J. Daniel McCort. "A cross-cultural comparison of behavioral intention models-Theoretical consideration and an empirical investigation". *International Marketing Review* 18(2001): 3. doi: 10.1108/02651330110396505.
- Maurer, Angela Maria et. al. "Yes, We also can! O desenvolvimento de iniciativas de consumo colaborativo no Brasil". *BASE-Revista de Administração e Contabilidade da UNISINOS* 12 (2015): 1.
- Martin, Chris J. "The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?". *Ecological Economics* 121 (2016). doi.org/10.1016/j.ecolecon.2015.11.027.

- Mowen, John C. and Michael S. Minor. *Comportamento do consumidor*. São Paulo: Prentice Hall, 2003.
- Muncy, James A. and Jacqueline K. Eastman. "Materialism and Consumer Ethics: An Exploratory Study". *Journal of Business Ethics* 17 (1998): 2, doi.org/10.1023/A:1005723832576.
- Naef, Michael and Jürgen Schupp. "Measuring trust: Experiments and surveys in contrast and combination". Paper presented at the SOEP papers on Multidisciplinary Panel Data Research, Bonn, Germany, March 2009.
- Ostrom, Elinor. *Governing the Commons*. Cambridge: Cambridge University Press, 1990.
- Pizzol, Helena Oliveira Dali. "Proposição de uma escala para mensuração do consumo colaborativo: compreendendo o compartilhamento de bens e a sua relação com os valores pessoais". Master's diss., Pontifícia Universidade Católica do Rio Grande do Sul, 2015.
- Porter, Michel E. and Mark R. Kramer. "The big idea: creating shared value". *Harvard Business Review* 89 (2011): 1.
- Richins, Marsha L. "Valuing things: The public and private meanings of possessions". *Journal of Consumer Research* 21 (1994), doi: 10.1086/209414.
- Richins, Marsha L. "The Material Values Scale: Measurement Properties and Development of a Short Form". *Journal of Consumer Research* 31(2004): 1. doi.org/10.1086/383436.
- Richins, Marsha L. and Scott Dawson. "A consumer values orientation for materialism and its measurement: Scale development and validation". *Journal of Consumer Research* 19 (1992): 3. DOI: 10.1086/209304.
- Ringle, Christian M., Dirceu da Silva and Diógenes de Souza Bido. "Structural Equation Modeling with the Smartpls". *Brazilian Journal of Marketing* 13(2015): 2. <https://ssrn.com/abstract=2676422>
- Rivera, Javier de et. al. "A netnographic study of P2P collaborative consumption platforms' user interface and design". *Environmental Innovation and Societal Transitions* 23 (2017). doi.org/10.1016/j.eist.2016.09.003.
- Rokeach, Milton. *The nature of human values*. Free press, 1973.
- Denise M. Rousseau et. al. "Not so different after all: A cross-discipline view of trust". *Academy of Management Review* 23 (1998): 3. doi: 10.5465/AMR.1998.926617.
- Schiffman, Leon G. and Leslie L. Kanuk. *Consumer behavior*. New York: Prentice hall, 2000.
- Schor, Juliet B. and Connor J. Fitzmaurice. "Collaborating and Connecting: the emergence of the sharing economy". in *Handbook on sustainable consumption*, Lucia Reisch and John Thøgersen. Cheltenham, UK: Edward Elgar, 2015.
- Singh, Jagdip and Deepak Sirdeshmukh. "Agency and trust mechanisms in consumer satisfaction and loyalty judgments". *Journal of the Academy of Marketing Science* 28 (2000): 1.
- United Nations. "Sustainable consumption and production", 2017. <http://www.un.org/sustainabledevelopment/sustainable-consumption-production/>
- Venkatesh, Viswanath et. al. "User acceptance of information technology: Toward a unified view". *MIS Quarterly* 27 (2003): 3.

APPENDIX

Appendix 1 – Resume of items of the questionnaire and theoretical dimensions

Construct	Dimension	Item	Statement	Origin
Attitude		AT 1	All things considered, I find the practice of sharing goods in online platforms looks like a wise move	Hamari, Sjöklint and Ukkonen (2015)
		AT 2	All things considered, I think sharing goods in online platforms is a positive thing	
		AT 3	All things considered, I think participating in the sharing of goods in online platforms is a good thing	
		AT 4	Overall, sharing goods and services within a sharing community makes sense	
		AT 5	The sharing of goods in online platforms is a better mode of consumption than selling and buying individually	
Behavioral Intention		BI 1	All things considered, I expect to practice the sharing of goods in online platforms often in the future	
		BI 2	I can see myself engaging in the sharing of goods in online platforms more frequently in the future	
		BI 3	I can see myself increasing my activities in online platforms of sharing goods if possible.	
		BI 4	It is likely that I will frequently participate in online sharing communities in the future.	
Trust	Trust institution	TI 1	I trust the offered services of sharing products by online platforms	Pizzol (2015)
		TI 2	I trust the members who participate in the sharing of products in online platforms	
		TI 3	The product sharing services in online platforms is safe	
		TI 4	I trust online platforms of sharing products	
		TI 5	I trust online companies	
	Trust others	TO 6	I trust strangers	Naef and Schupp (2009)
		TO 7	In general, I can trust people	
		TO 8	Nowadays, I can't rely on anybody (*)	
		TO 9	It's better to be cautious before trusting strangers (*)	
Materialism	Centrality	M 1	In general, I only buy what I need (*)	Garcia (2009)
		M 6	When I'm sad, I go shopping to feel better	
		M 12	I feel pleased when I'm shopping	
		M 7	I'm a simple person and I don't like buying a lot (*)	
		M 13	Regarding consumption and material goods, I try to live a simple life	

		M 14	Sometimes I buy things that are not useful, but I like it.
		M 15	I like luxurious and fine things
	Happiness	M 4	I would be happier if I could buy some things that I can't today
		M 2	If I could buy some things that I don't have, my life would be better than it is today
		M 9	I have everything I need to enjoy life (*)
		M 16	Sometimes I get little upset because I can't buy everything I would want to
		M 17	If I could have many things that are better than what I have today, I wouldn't be not a little happier (*)
		M 10	To be happier, I need to buy certain things that I don't possess today
		Success	M 8
	M 11		What a person has shows some of his/her most important achievements in life
	M 3		The things I own show who I am
	M 5		I know who is successful just by looking at what the person has

(*) reverse items