

This is a repository copy of To keep, or not to keep? That is the question. Studying divestment from a cross cultural approach.

White Rose Research Online URL for this paper: https://eprints.whiterose.ac.uk/213819/

Version: Accepted Version

Article:

Encino-Muñoza, A. G., Sumner, M., Sinha, P. orcid.org/0000-0003-4384-9429 et al. (1 more author) (2019) To keep, or not to keep? That is the question. Studying divestment from a cross cultural approach. The Design Journal: An International Journal for All Aspects of Design, 22. pp. 1051-1028. ISSN 1460-6925

https://doi.org/10.1080/14606925.2019.1595414

This item is protected by copyright. This is an author produced version of an article published in The Design Journal. Uploaded in accordance with the publisher's self-archiving policy.

Reuse

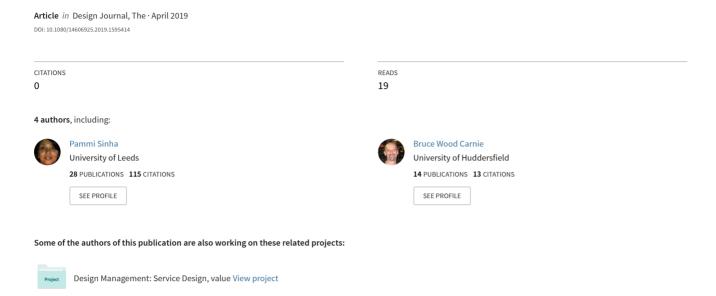
Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



To keep, or not to keep? That is the question. Studying divestment from a cross-cultural approach





To keep, or not to keep? That is the question Studying divestment from a cross-cultural approach

Ana Gabriela Encino-Muñoza*, Mark Sumnera, Pammi Sinha, Bruce Carnieb

Abstract: The aim of this paper is to present preliminary findings of a study that is focused on divestment, its elements and the relationship with sociocultural context. Divestment is a concept that comprises those activities that include emotional and physical disposal of material possessions. This paper explores divestment within the context of sustainable consumption, as well as the potential for design disciplines to contribute to the creation of new solutions for the development of sustainable communities. The research was carried out within a cross-cultural framework acknowledging the relevance of contextual and cultural factors involved in the divestment processes: this was accomplished by comparing two countries; Mexico and United Kingdom. This work can contribute to design interventions to affect divestment decision-making process by identifying culturally dependent and independent elements that can impact the pre and post-consumption stages. The outcomes also enable ways of creating and promoting new commercialisation channels.

Keywords: Divestment, Sustainable Consumption, Design, Cross-cultural

1. Introduction

Extensive research has reported how contemporary consumption patterns contribute to rapid degradation of environment, endangering equilibrium in ecological systems and the ability to maintain life as we know it. As a result of production and consumption activities, more energy has been used since 1900 than in all human history before 1900 (McNeil, inThorpe, 2007, p. 28). Material usage, including extracted, harvested and consumed materials, has increased by 60% since 1980 (OECD, 2012, p. 2). Also, due to population growth, urbanisation and social and economic developments, global per capita waste generation keeps increasing showing a tendency of growth of 20% approximately until 2100 (ISWA Report, 2014, p. 6).

Copyright © 2019. The copyright of each paper in this conference proceedings is the property of the author(s). Permission is granted to reproduce copies of these works for purposes relevant to the above conference, provided that the author(s), source and copyright notice are included on each copy. For other uses please contact the author(s).

^a University of Leeds

^b University of Huddersfield

^{*}Corresponding author email: sdagem@leeds.ac.uk

Taken together, these studies support the notion that consumerism is becoming a constraint for the development of sustainable societies. New ways of reducing resources usage and waste generation are required. In the particular case of design, we have witnessed the development of innovative solutions such as eco-friendly materials, recyclable products. However, the benefit of these eco-efficiency gains have been outweighed by the increase in consumption. Therefore, there is an acute need to investigate thoroughly the implications and motivations of overconsumption. This is reflected by the Agenda 2030 for Sustainable Development (2015) and the 2020 Horizon Programme (2014) which both recognise the importance of developing sustainable consumption for achieving a more sustainable society.

Sustainable consumption is one of the most relevant topics and at the same time, one of the most controversial. On one hand, it is a fact that the global environment is deteriorating in a large scale due to human activities and, on the other hand, it has been observed that consumption patterns are increasing despite the fact that individuals are now well informed regarding environmental and social issues linked to consumption. At first glance, the concept of sustainable consumption seems to be a contradiction in itself, however, the term refers to the evaluation that needs to be done to existing consumption patterns and contemporary lifestyles not only for consuming less but also "consuming differently, consuming efficiently, and having an improved quality of life (UNEP, 1999 cited in Jackson, 2006, p. 5).

Numerous studies have explored the implications of a more sustainable way of consuming, and what this situation implies for stakeholders and how it can be achieved. These studies have been emerging from different fields of study such as ecology, sociology, and psychology, among others. These have hinted at the complexity of the subject. In the case of design there has been significant contributions to sustainable consumption. However, we see levels of consumption continue to increase as well as the associated generation of waste. This raises the question; can design practice be used to motivate sustainable consumption patterns?

Different answers for this question have been given: design longer-lasting products (Cooper, 2010), create emotionally durable products (Chapman, 2015), slow design (Strauss & Fuad-Luke, 2008), among others. All of them have been an attempt to control over consumption. However, there are still uncertainties about acquisition and discarding practices in our contemporary societies; there is a need to explore the decision making that drives consumption and the barriers to sustainable consumption patterns.

Therefore, this research focuses on sustainable consumption from a different viewpoint: divestment, which is defined as "a point of intersection for practices, -where certain forms of engagement with objects have waned or been interrupted, and others have replaced them" (Glover, 2015, p. 127). It is proposed that this phenomenon is intrinsically linked to and potentially drives the acquisition of goods and waste generation.

Studying divestment represents a challenge in the sense that it is not only a consequence of consumption process at a cultural macro-level, but also because it is part of social dynamics and individual human interactions. Therefore, this project aims to investigate the drivers for divestment including cultural factors in order to find new ways of contributing to sustainability by examining how context plays a role in the divestment process.

It is important to note that material possessions are important for human beings not just as satisfiers of basic needs; they are part of the identity construction processes for individuals and they are also part of cultural exchanges, they are discourses without words (Appadurai, 1988; Douglas & Isherwood, 2002; Miller, 2012). Thus, as a process, divestment also comprises different activities that

have purposes themselves, "[it] is a spatially, socially and economically differentiated process, one that can be anticipated to connect in myriad ways to the making of social relations, identities, and distinction" (Gregson, Metcalfe, & Crewe, 2007, p. 683); in other words, divestment is not exclusively a consequence of not needing or not wanting something but a complex intertwined layer of purposes and meanings.

1.1 Design and Divestment

From the design perspective, understanding divestment is essential, not only because it is part of a product life cycle, but because it helps to identify replacement drivers, consumer needs and their connections to satisfaction, dissatisfaction, obsolescence and waste generation. Traditionally, this process of consumption has been treated as a linear model (Fig. 1), however, a more detailed examination needs to be done in order to find links among the different stages.



Figure 1. Linear Consumption Process. Source: Kotler & Armstrong, 2016, p. 155

It is acknowledged that these links comprise individual and cultural factors. Therefore, by understanding how context plays a role in divestment processes, it is possible to identify different components in divesting dynamics to set new perspectives and policies in sustainability. For this reason, design can encourage sustainable practices in divestment activities allowing new possibilities for designing products, services and businesses, challenging the way in which these activities are traditionally carried out. Ideally, resources usage can be optimised, waste generation can be reduced, and unsustainable lifestyles can be transformed.

A taxonomy of disposal has been previously developed by Harrell and McConocha (1992) who propose four different categories: keeping, throwing away, selling and swapping, and giving away. A more sophisticated classification was proposed by Glover, who grouped activities according to outcome and purpose in four multi-activity categories: retainment; storing, making do and treasuring; altruistic; return-oriented and ridding (Glover, 2012). However, since divestment is a complex and, relatively, new topic, further investigation is needed in order to uncover links of the outcomes (used channels), drivers (motivations interacting with outcomes) and culture (values and norms influencing outcomes and drivers). Therefore, even when the type of divestment might be similar, drivers or components can vary according to the context. From this understanding, links can be built between divestment drivers and consumption activities that can lead a move away from the linear model to a circular model for consumption and divestment.

1.2 Culture and Divestment

One of the questions for the present research is to investigate to what extent culture influences divesting decision making in individuals with the intention of understanding how divestment should be explored as a more adequate or efficient path to sustainability. To this end, culture can be defined

as a "relatively organized system of shared meanings" (Smith & Bond, 1998, cited in Leung & van de Vijver, 2008, p. 146) and these meanings are studied through values and norms involved in the divestment process.

A central concept for studying culture is the so-called norm. As stated by Lin and Iyer: "'normal behaviour' is steeped in cultural preferences and it is the co-evolution of these preferences through the interaction of different socio-technical systems that determines the resource efficiency of a behaviour" (2007, in Spencer, Lilley, & Porter, 2015, p. 198). Together with these concepts, the individual component also plays a fundamental role to understand the elements of divestment. From this perspective, individual component is expressed and enacted when applying cultural beliefs (Minkov, 2013, p. 135). This component also helps to outline an agenda for designers or any other agencies involved (government, non-profitable organisations, companies, and etcetera).

2. Methods

The methodological strategy used for this research was designed to identify the factors driving decision making process for divestment. A cross-cultural framework was adopted; in these type studies, "data are systematically collected and analyzed from two or more sociocultural contexts for the purposes of making comparisons between groups on a phenomenon of interest" (Schrauf, 2017, p. 1). This research explores divestment in two countries that function as cultural units: Mexico and United Kingdom.

There are a series of reasons for selecting this methodological strategy. Firstly, a comparison between both countries presents a good opportunity for highlighting the individual and cultural components in divestment decisions. Second, contributions for both countries and general theory of sustainable consumption can be done by studying these countries as cultural units. These territories also present opportunities in the field of differences that they have in environmental, social and economic indicators. And finally, Mexico and United Kingdom were chosen as study areas for practical reasons -in terms of connections with institutions in both countries.

For a cross-cultural study, countries work as cultural units. Several studies validate the country as a valid unit, one that encloses its own culture and that "despite globalization, the nation remains a key unit of shared experience and its educational and cultural institutions shape the values of almost everyone in that society" (Inglehart & Baker cited in Minkov, 2013, pp., p. 25). This idea is also supported by studies that suggest that green consumption is context-dependent (Nair & Little, 2016).

With the purpose of studying both, individual and contextual factors in the divestment process, the research consisted of two stages: the first stage of the research was an online survey conducted to categorise participants according to their attitudes and behaviours towards ethical purchases. A total of 293 participants were involved (162 in United Kingdom, 131 in Mexico). This data was analysed to classify participants into four different groups according to their level of engagement with environmental and social causes. These profiles range from an authentic environmental active behaviour to an environmentally unresponsive one. The profiles are authentic greener, trendy greener, pragmatics, and detached.

The second stage consisted of detailed interviews with participants using the Photo-Elicitation Interview method (Harper, 2002) with the aim of investigating how participants made divestment decisions (Fig. 2). For this phase of the data collection process, a total of 30 participants across the four different profiles were interviewed. The interviews were based on exploring photographs

participants had taken of key belongings defined by the project methodology. Photo-elicitation interview helps the participant to provide more accurate information because "photographs elicit precise and 'at times even encyclopaedic' information" (Collier, 1957, cited in Auken, Frisvoll, & Stewart, 2010, pp., p. 375). Themes of the interview included the decision making on replacement and divestment and their links as well as contextual factors involved in this process.



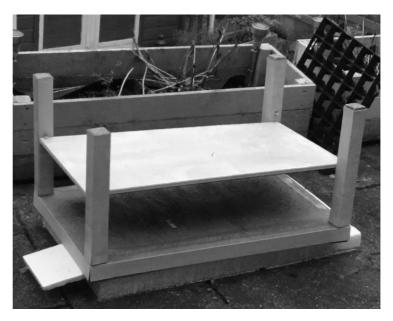


Fig. 2. Example of photos taken by participants and used for Photo-Elicitation Interview. The case of furniture. [On the left, Mexico's participant picture; on the right United Kingdom's participant picture)

To explore social and cultural influences in full, three categories of products were selected as units of analysis: clothing, furniture and mobile phones, allowing to identify patterns among different types of goods and consumers attitudes. This approach allowed a diverse exploration of factors around divestment decisions within a sociocultural context.

3. Findings and Discussion

The survey result identified the distribution of sustainability attitudes per country as shown in Figure 3. Results showed that there are differences can be observed particularly in the percentage of green profiles, however, no correlation has been identified at this stage of the study between profiles and the divestment activities: preferred channels for divesting goods are distributed in each culture independently of the profile. The channels selected for divestment in each country are frequently common among each category of products. This means that, according to the type of good, the decision-making can have similarities without having differences among consumer profiles.

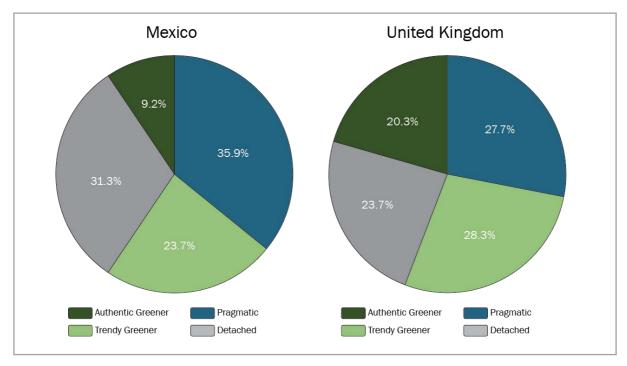


Fig. 3. Percentage of profiles by country

The second analysis was executed to identify preferred channels for divesting goods in each country. This information is also providing information to understand the normative situation within each of the participating cultures. For this analysis, results are shown in the three groups of products: clothing (Fig. 4), furniture, (Fig. 5) and mobile phones (Fig. 6), indicating the percentage of participants that chose different channels to divest their things. In the case of mobile phones, the category "keep" is considered as a divestment classification in the sense that, the phones are no longer in use, but they are still owned by the participants.

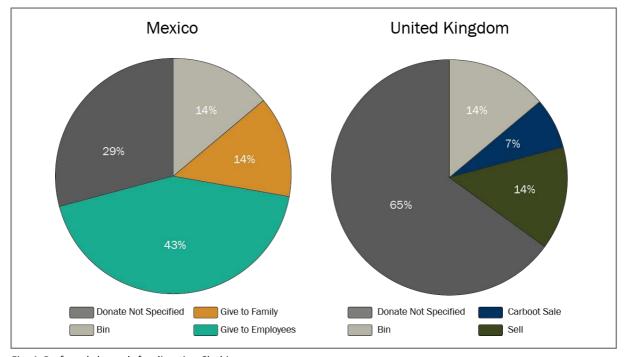


Fig. 4. Preferred channels for divesting Clothing

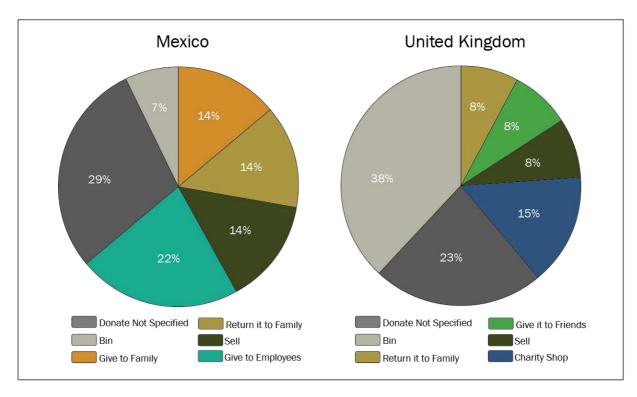


Fig. 5. Preferred channels for divesting Furniture

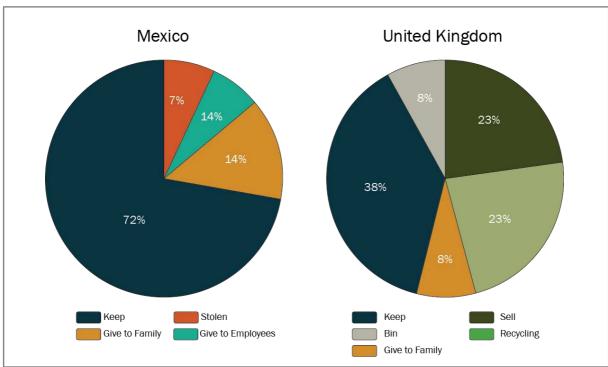


Fig. 6. Preferred channels for divesting Mobile Phones

These results illustrate the landscape of divestment in both countries for each of the product categories. The factors that drive individual's decision making for choosing the divestment channels were explored via the qualitative research data from the interviews with participants. Regarding differences between countries, it was observed that divestment channels and their distribution is not equal nor sufficient for societies' needs. Compared to the amount of information that consumers

receive for purchase making, the amount of information and options for divestment is insignificant. A frequent response from interviews was the lack of information that individuals have regarding divestment options and their effects.

3.1 Elements of Divestment

This research has identified preferred divestment channels for different types of goods and the main elements driving the divestment decision making process. It was observed that frequency and types vary from one country to another, however, from the qualitative analysis, divestment can now be classified in two ways:

- 1. Effective divestment, which is the activity of physically discarding goods. This implies a spatial separation from objects
- 2. Virtual divestment which is the activity of mentally discarding objects. This implies the fell into disuse but there is no spatial separation.

This types are culturally independent, this means that they occur in both countries. In addition, in both cases, effective and virtual divestment, the elements are those that the user puts under consideration while the decision of divesting is being made (Fig. 7). They are drivers for choosing one or another way for divesting goods and what is behind this decision. The drivers' elements can be classified in two main groups:

- Intangibles: elements of divestment decision making that occur prior to the decision and include life story or emotional influences of the divestor, as well as environmental and social concern linked to the divestment choice.
- Tangibles: elements of divestment decision-making process that relate to material interactions: the classification of the items, the variety of channels for divesting and the proximity of them.

In general terms, both groups require an effort, either intellectual (the process of selecting) or physical effort (the process of executing).

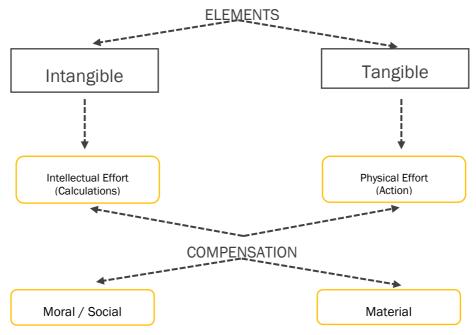


Fig. 7. Elements found in Divestment Decision-Making Process

These elements have been proven to have a compensation or reward that works as the motivation. This can be either moral or material reward. The decision making is also influenced by new investment and the outcome that the divestor will obtain from that. It is the case, to mention one, of the divestment of mobile phones of participants in this research; reasons for keeping them are the high material value that is attributed to the object against the perceived small benefit that can be obtained from this transaction. These values can also be contextually negotiated, here is where the cross-cultural comparison contributes to clarify divestment process.

The decision making for divestment channel will depend on the energy invested and the compensation that can be perceived from them. It was previously mentioned that divestment is not exclusively an activity to dispose of something, by any means. It is also linked to other social activities as connections, reinforcements of relationships or identities. It is because of this, that the divestor is constantly negotiating with the values and social norms that will allow her or him to produce the most convenient outcome.

As observed in the research, environmental motivations are not a powerful driver when it comes to be a sustainable consumer or divestor. On the contrary, virtual divestment -particularly in the mobile phone's category, is justified under an environmental argument: the majority of participants who retain their old mobile phones indicated that by doing so, they are helping the environment by preventing goods from entering into the waste stream. This is an activity that can be classified as low effort investment towards the contribution to sustainability. However, by retaining these products, the divestor has blocked that product from having a second life or being recycled. This issue becomes particularly relevant for mobile phones that are manufactured with valuable materials that could be reused.

Interestingly, participants that had a high score in the ethical consumption survey, did not show a resolute interest of looking for the most sustainable channel for divestment. This is not a generalisation but participants, including those who were categorised as pragmatic and detached consumers, have a balanced interest in social or ecological issues. In this particular research, it was more common to find patterns among societies than among profiles. This also confirms the rule of homogeneity in countries as cultural units, sharing specific codes and behaviours. Together with this, it is also emphasised the importance of institutions as strong nodes within the communities to foster sustainable practices of divestment. This also means that organisations can become institutional facilitator or inhibitor and coercive elements. This provides the possibility of classifying motivations in different categories: those related with individuals and those linked to contextual motives (triggers that are connected to social dynamics and structures).

3.2 Norms and values involved in Divestment Decision-Making

An initial objective of the project was to identify elements of culture that are shaping one way or another the divestment decision making process. As previously mentioned, culture can be studied by understanding values and norms. Regarding this topic, photo-elicitation interviews provided information that can indicate the influence of specific values directly in the divestment process. These cultural conditions are different in each country. They are linked, on one hand to infrastructure, which is the material part of the divestment decision making process. On the other hand, the moral component of this process is also a powerful driver when it comes to deciding if, how and when divest a specific good.

In the case of Mexico, most of the participants expressed their aversion towards second-hand items. With a few exceptions, the fact of buying something used means that it is very poor quality and that the individual does not have enough resources to pay for better quality items. In some cases, it was confessed as a secret: "Between us two, let me tell you that I sometimes buy used clothes". The fact that charity shops do not appear on the map as consolidated institutions has to do also with this attitudes towards second-hand items, since the places in which they can be found are mostly informal establishments. Therefore, these circumstances prevent the participants to actively engage in the upcycling processes in a deeper way.

As the opposite, the element of pride appears when the topic of charity shops is discussed. Most of the participants make donations and a great majority is willing to buy things from them. This, at first sight seems to be a more sustainable divestment practice. However, it was also found that by donating to a charity, the divestor seems to justify a new purchase. Consequently, there might be links between a new cycle of consumption and the encouragement of this act.

4. Conclusions

From these findings it is possible to provide support for outlining not only a role for designers to but also the possibilities for individuals, society, industries and government to tackle unsustainable consumption and waste generation problems. This research, in general terms, contributes to sustainability by generating routes that promote new ways of delivering goods, alternative models of acquisition and waste management and their implications for public policy. In this scenario, designers can amplify their capacities by assuming new responsibilities in communities: they can become facilitators in generating creative channels for the exchange of goods and materials in an innovative and synergic way.

Design as an active agent in the process of divestment

Since design is a conduit by which humans modify, transform and shape material culture (Soto, 2013, p. 214), and recognising its creative nature, design it is a powerful mechanism to enhance sustainable practices in divestment. Even when cultural circumstances can vary from one context to another, it is still possible to outline general actions that include activities for design in order to promote a more sustainable way of divestment, without impacting on the purchase phase in which, the role of design would be a preventive plan to minimise waste generation and assure the products an optimal lifespan.

The role for design in divestment practices in order to contribute to sustainability can act in various ways: finding new habits to promote activities under different design fields to encourage individuals to act. Considering the fact that most of environmental discourses, use negative pressures which creates a source of anxiety for the consumer (Parodi & Tamm, 2018, p. 69) the role for design is to find solutions that enhance human capacities to embody sustainability. As Hobson exemplifies: "instead of telling us not to drive cars for the obvious reasons –'peak oil' pollution, obesity, safety, noise- we can appeal to the part of all of us that love the outdoors, wants interaction and small adventures on the way to work and school, and resents being at the mercy of multinational oil companies and dubious foreign policy decisions. (Lane & Gorman-Murray, 2011, p.8). This is specifically the task of design when an intervention in sociocultural practices is being proposed. In these terms, the main actions of design (Fig. 8) can be summarised in aspects that occur in three

different moments of divestment decision-making process: before, in and after and they can be grouped in three categories: when product lifespans can be still shaped by design, facilitating connectivity through design and acknowledging the relevance of cultural values when delivering a design project.

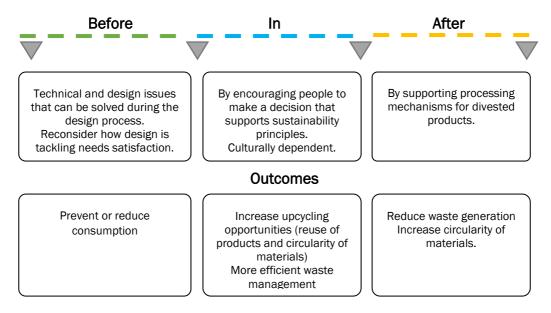


Fig. 8. Stages for Design Interventions in Divestment practices

When product lifespans can be still shaped by design

Recent research on the field of consumers' priorities when purchasing different types of goods found that longevity and reliability are features that were evaluated as highly important and more than 85% of participants declared that these aspects were "unique purchasing aspects that factored into consumers' decisions" (Gnanapragasam, Cole, Singh, & Cooper, 2018, p. 913). From these findings (Gnanapragasam et al., 2018), it could be concluded that, goods need to be designed and produced to last longer. However, findings of the current study can complement the previous research conclusions to draw a broader picture of the problem. This is because it has been observed that users' behaviour and perception about longevity and reliability changes once the product has been acquired. Results from this study also showed how participants classify functionality and performance as a priority when acquiring a product, they also tend to highlight these characteristics when describing satisfaction levels. Nonetheless, once divestment decisions are being done, evaluation of features can transform radically.

The complexity of consumer behaviour is contained in the example outlined in the previous paragraph. It demonstrates how it is the key to understand purchase and divestment activities and their connection. These features (longevity, reliability, performance and functionality) in any specific good, tend to be of high impact when acquiring something new but at the same time, they are not preventing users from replacing or discarding them. Therefore, this is one of the factors that require further investigation to reveal more detail about the inputs that the divestor includes in their divestment decision-making process. The fact that these characteristics are important for the user is genuine, so is the fact that there is a vast number of products that fall into disuse when they are still completely functional.

This discrepancy could be attributed to a specific mind-set or a cultural norm that is very common in our times: in order to justify our purchases we are still pursuing the rationality, which has been strengthened by the moral acceptance of the *ethical consumer*. We are given implicit permission to buy or replace something if *we need it* (in rational terms) and if *it has good quality, is efficient and can last long*. Nevertheless, it is also important for this research to scrutinise under which conditions and in which types of products the quality and efficiency would be a substitute to longevity. This study questioned the need for longer lasting products, in terms of this being a general value among different categories of products. The proof that this is an imprecise assumption can be expressed by participants behaviours in divestment, which clearly illustrate how products that work perfectly and are efficient, are being discarded, while the owner opens another path to rationality: "this will be used by someone else, therefore, I am allowed to replace it".

This precept is also indicating that divestment circumstances can change from one product to another. Longevity can be good in some cases in order to prevent divestment; in some others, durability and long lifespans cannot bring any environmental benefit, as it was observed in some cases in which objects have been virtually divested and are materially immaculate.

Facilitating connectivity through design

It was observed that one of the main factors involved in the divestment decision making process is the balance between the new investment and the divestment effort requirement. Either physical or mental effort, the investment must represent a benefit to the divestor. For this, design can serve for both: emotional connections or to minimise the inversion in the so-called sustainable divestment. The type of rewards that the user can receive from these activities can also work synergistically (Neef, 1991), as a way of satisfying multiple needs at the same time. Emotional connection might not be created but can be enhanced.

Connectivity is also related to circularity. Communication through design can facilitate the integration of divested material to new streams. An example could be, based on findings on mobile phones divestment experiences, the intervention of design to either increase the perceived benefit to divestors or implement tools to increase the reward, in order to stimulate a more active engagement of divestors within the circularity of materials.

Start from culture and go backwards

Hofstede clarified that culture is also a matter of historic conditions: "cultural differences cannot be understood without the study of history... culture as mental programming is also the crystallization of history in the minds, hearts, and hands of the present generation" (Hofstede, 2001, p. 12). For this reason, it is fundamental, first, to understand values and norms before planning any intervention if we want to improve or amplify channels and their effectiveness in the long term. Well-established dynamics of divestment can be hard to change. In this particular case, the history and sociocultural conditions promote specific channels for divestment to be more suitable than others. . In this case, the role of design is to take advantage of this knowledge before delivering a solution. Even though design has "its own strong and appropriate intellectual culture... [other domains] have much stronger histories of inquiry, scholarship, and research than we have in design. We need to draw upon those stories and traditions where appropriate" (Cross, 2001, p. 55) Hence, before delivering a solution in order to promote sustainable ways of divestment, it is necessary to pay attention to social dynamics that are emerging from these conditions and use them to leverage in the existing and functional channels.

Further work

These three paths are the guidelines for developing specific design strategies that can be applied depending on the type of good and the context. Since this is a study in progress, norms and particularities of each culture are being explored thoroughly. This study aims to more precisely define the adequacy of divestment channels on each country regarding sustainability values. Further research is also being done to investigate the compatibility of design strategies and actions in both countries with the aim of encouraging more sustainable practices for divestment.

References

- Appadurai, A. (1988). The social life of things: Commodities in cultural perspective: Cambridge University Press.
- Auken, P. M. V., Frisvoll, S. J., & Stewart, S. I. (2010). Visualising community: using participant-driven photo-elicitation for research and application. *Local Environment*, *15*(4), 373-388. doi:10.1080/13549831003677670
- Chapman, J. (2015). Emotionally durable design: objects, experiences and empathy: Routledge.
- Cooper, T. (Ed.) (2010). *Longer Lasting Products: Alternatives To The Throwaway Society*. New York: Gower Publishing.
- Cross, N. (2001). Designerly Ways of Knowing: Design Discipline versus Design Science. *Design Issues*, 17(3), 49-55.
- Douglas, M., & Isherwood, B. (2002). The world of goods: Routledge.
- Glover, A. (2012). Should it stay, or should it go? Practices of divestment. (PhD).
- Glover, A. (2015). The practices of material divestment. Extending the life of domestic durable goods. In Y. M. Strengers, C (Ed.), *Social Practices, Intervention and Sustainability. Beyond behaviour change*. Cornwall: Routledge.
- Gnanapragasam, A., Cole, C., Singh, J., & Cooper, T. (2018). Consumer perspectives on longevity and reliability: a national study of purchasing factors across eighteen product categories. *Procedia CIRP*, 69, 910-915.
- Gregson, N., Metcalfe, A., & Crewe, L. (2007). Identity, mobility, and the throwaway society. *Environmental and Planning D: Society and Space*, *25*, 682-700. doi:10.1068/d418t
- Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies, 17*(1), 13-26. Retrieved from
 - https://www.tandfonline.com/doi/pdf/10.1080/14725860220137345?needAccess=true
- Harrell, G. D., & McConocha, D. M. (1992). Personal factors related to consumer product disposal tendencies. *Journal of Consumer Affairs*, 26(2), 397-417. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1745-6606.1992.tb00034.x
- Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*: SAGE Publications.
- Jackson, T. (Ed.) (2006). The Earthscan Reader in Sustainable Consumption. Cornwall: Earthscan.
- Kotler, P., Armstrong, G., Harris, L. C., & Piercy, N. (2016). *Principles of Marketing* (7th European ed.). Harlow: Pearson.
- Lane, R., & Gorman-Murray, A. (Eds.). (2011). *Material Geographies of Household Sustainability*. Surrey: Ashgate.
- Leung, K., & van de Vijver, F. J. R. (2008). Strategies for Strengthening Causal Inferences in Cross Cultural Research:The Consilience Approach. *International Journal of Cross Cultural Management,* 8(2), 145-169. doi:10.1177/1470595808091788
- Miller, D. (2012). Consumption and its consequences: Polity.
- Minkov, M. (2013). *Cross-Cultural Analysis. The science and Art of comparing the World's Modern Societies and Their Cultures*. London: SAGE.
- Nair, S. R., & Little, V. J. (2016). Context, culture and green consumption: a new framework. *Journal of international consumer marketing*, *28*(3), 169-184. Retrieved from https://www.tandfonline.com/doi/pdf/10.1080/08961530.2016.1165025?needAccess=true
- Neef, M. (1991). Human scale development. Apex: London.
- Parodi, O., & Tamm, K. (Eds.). (2018). *Personal Sustainability. Exploring the Far Side of Sustainable Development*. Oxon: Routledge.

- Schrauf, R. W. (2017). Mixed Methods Designs for Making Cross-Cultural Comparisons. *Journal of Mixed Methods Research*, 1(18), 1-18. doi:10.1177/1558689817743109
- Soto, C. (2013). *The aesthetic factor in Industrial Design*. Mexico: Industrial Design Research Center UNAM.
- Spencer, J., Lilley, D., & Porter, S. (2015). The implications of cultural differences in laundry behaviours for design for sustainable behaviour: A case study between the UK, India and Brazil. *International Journal of Sustainable Engineering, 8*(3), 196-205. doi:10.1080/19397038.2015.1017621
- Strauss, C., & Fuad-Luke, A. (2008). The slow design principles. *Proceedings of the Changing the Change*.
- Thorpe, A. (2007). The Designer's Atlas of Sustainability Washington: Island Press.
- United Nations (2015). 2030 Agenda for Sustainable Development. Digital version
- Van Auken, Frisvoll, S; Stewart, S. (2010). Visualising community: using participant-driven photoelicitation for research and application. *Journal of Local Environment* 15(4): 373-388

About the Authors:

Ana G. Encino-Muñoz is a PhD student at the School of Design; BA in Industrial Design and MA in Social and Humanistic Research. After gaining experience in the industrial sector and design education, her research fields reflect upon interactions among design, material culture and sustainability.

Mark Sumner After building on experience at the private sector, he is now engaged in research projects to improve sustainability of textiles in terms of both, environmental and social impacts of the global industry. His research is also focused on developing solutions for circularity.

Pammi Sinha Associate professor in sustainable fashion, fashion industry, design management, creativity and remanufacture. Fellow of the Higher Education Academy and the Textile Institute. Research topics are design process and how design can contribute to sustainability within a developing economy.

Bruce Carnie currently works at the Department of Fashion and Textiles. Dr Carnie undertakes research in Design Management, Product Design and Communication Design (including marketing and branding). In addition, Bruce undertakes research in Textiles, Sustainability, Service Design and measuring 'value'.

Acknowledgements: This research was supported by *Mexican Council of Science and Technology* (CONACyT).