

**Koç University Graduate School of Social Sciences and Humanities
Design, Technology and Society PhD Program**

**DEVELOPING A LABEL SYSTEM
TO INCREASE SUSTAINABILITY AWARENESS
AND SUSTAINABILITY LITERACY OF FASHION CONSUMER**

**Ph.D Thesis Study Map
January, 2023**

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RQs & AIMS

TASK 1

Ways of increasing sustainability awareness and literacy of fashion consumer

TASK 2

Consumer feedback on fashion sustainability; Fashion consumers' level of sustainability awareness, literacy and behavior

TASK 3

The state of the art on types and information depth of sustainability
The benefit and obstacles of developing a label system to communicate sustainability of fashion products

TASK 4

Evaluation of the label system idea; Feedback on developing it

TASK 5

Consumer feedback on fashion sustainability; Characteristics of a label system to communicate sustainability of fashion products

TASK 6

Ideation of developing a label system

TASK 7

Evaluation of the label prototype ideas and four personas

TASK 8

Developing label system design prototypes

TASK 9

Finalizing the label system prototypes

TASK 10

Testing and evaluating the usability of the label system prototypes

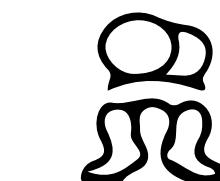
TASK 11

Evaluation of industry experts

METHODS



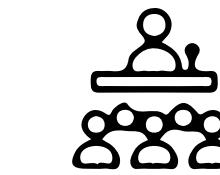
Literature Review I



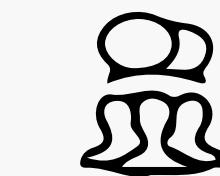
Focus Group Sessions I



Literature Review II



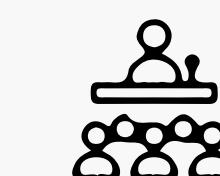
Conference Workshop @GFC 2020



Focus Group Sessions II



Design Workshop I



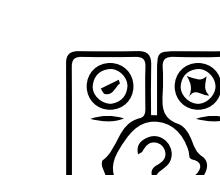
Doctoral Consortium @NORDES 2021 Conference Workshop @GFC 2021



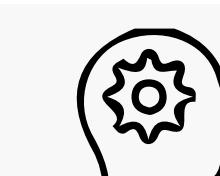
Design Workshop II



Design Workshop III



Usability Tests



Expert Interviews

FINDINGS

- Lack of sustainability awareness and literacy & lack of credible information and communication sources causing to avoid or reduce sustainable behavior (Reimers et al., 2016; Evans & Peirson-Smith, 2018; James & Montgomery, 2017)
- Confusing, misleading, technical and ambiguous labels, certifications, and concepts (Parguel et al., 2015)

- Fashion consumer has low awareness and literacy; need diversified type and level of information; have trust, transparency problems with existing information sources; require a credible and digestible tool to mediate sustainability information.
- Sustainability is a broad and multidimensional concept covering production methods, environment, human welfare, and product care

- Labels systems or tools may solve awareness and credibility issues of existing sustainability communication (Parguel et al., 2015)
- Two types of sustainability information: Ecological and Social (Koszwecka, 2011)
- Four sustainability issues that fashion consumer is interested in: Environment, animal welfare, employee welfare, slow fashion attributes (Reimers, 2016)

- Focusing on characteristics of the label system should be the aim, not the organization of existing information, terms and certifications. Because this is the expertise of another field.
- The label system should be an attention grabbing and easy to understand tool with online and offline extensions.

- Fashion consumers have diversified interest, motivation, and level of awareness to sustainability
- Type of information they want to receive, their credible source of information and the way they want to be communicated differ.
- Sustainability communication can't be limited to a homogenous group of consumers but consumers can be segmented into diverse personas. The segments emerged from focus groups are as follows Romantic Optimists, Egocentrics, Confused Aleks, Gloomies.

- The label system should have engaging and entertaining strategies.
- Personification of the label is an option. The information can be clustered in two levels to address diverse needs of personas. 1st level gives simple messages and images for romantic optimists and egocentrics. 2nd level shows five criteria for all personas, especially for confused Aleks and gloomies.
- Plus, call to actions to motivate confused Aleks and gloomies to go deeper with detailed infos can be added.

- Creating personas to segment fashion consumer and address their diverse needs is valuable.
- Four personas are relatable.
- The label system should be addressing to the diversified needs of these personas with its characteristics, online and offline extensions.
- The ideation and prototyping process of the label system and personas can be structured as a communication model in future.

2 design sketches with 1st level of simple message and image, and 2nd level with five criteria and details.
1 conceptual design of a fictional character Pamukçuk (which means little cotton piece) storytelling the journey of a sustainable fashion product.

3 alternative label system design prototypes
- Pamukçuk
- Collaborative World
- Saturated Earth

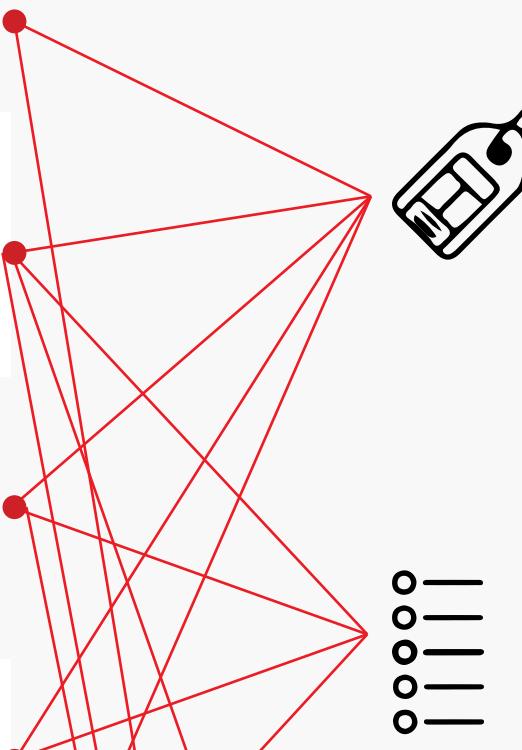
19/26 participants saw the icon of label without a nudge. All participants related it directly to sustainability or related concepts (organic, ethical, environment friendly, recycled, carbon-free). Several patterns observed in participants responses.
- Romantic Optimists advised to add emotional and social extension to the label.
- Egocentrics highlighted that label should be fun, interactive and animated.
- Confused Aleks and Gloomies stated they need more details with different characteristics (e.g. the label should be visible everywhere such as in main page of websites, shopping displays; label should show negative impact)
- Romantic optimists were more in favor of Pamukçuk. They found Saturated Earth more technical and distant.
- Egocentrics liked total score of Saturated Earth and found functional for comparison of products.
- Confused Aleks found Collective World more professional, easy to understand and motivating to learn more. They stated the details level is good enough and convincing.

10 sustainability and/or fashion experts evaluated 5 criteria, 4 persona and 3 label system prototypes. 4 themes emerged on the label system's accomplishments, potential to achieve and challenges regarding experts' responses and comments. The themes are as follows: (1) The label system can facilitate trustworthy communication and informed decision making. (2) The label system can be used versatile and modular to environment, context, content, and priorities of the target audience. (3) The label system can be used as a data source for new experiences, traceability and transparency. (4) There are challenges to face.

WORK PACKAGES

WP 1

Idea of Developing a Label System



WP 2

5 Sustainability Criteria

- 1- Material, Raw Material & Procedure
- 2- Environmental Impact
- 3- Social Impact
- 4- Animal Welfare
- 5- Post Purchase Product Care

WP 3

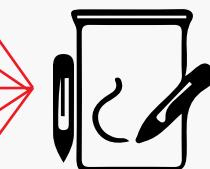
4 Personas

- 1- Romantic Optimists
- 2- Egocentrics
- 3- Confused Aleks
- 4- Gloomies



WP 4

3 Label System Design Prototypes

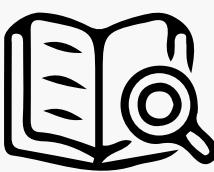


WP 5

Characteristics of, and Guidelines to Develop a Label System Increasing Sustainability Awareness and Literacy of Fashion Consumer

METHODOLOGICAL DETAILS OF WORK PACKAGE 1-2-3

TASK 1



Literature Review I

Fashion studies, cultural studies, sustainability and environmental studies, communication and marketing, behavioral psychology literatures were reviewed to investigate status of sustainability research studies in fashion context and sustainability awareness and literacy level of fashion consumer

TASK 2



Focus Group Sessions I

For the first set of focus group sessions, participants, aged between 27 to 45, were recruited via snowball sampling. Each focus group session had six participants (ten females, eight males), all from Turkey. They were white collar employees with middle income level. Their self-reported knowledge of sustainability was low. Likewise, they indicated that sustainability was typically not a criterion they pay attention to while shopping for fashion products. Participants' brand preferences consisted of fast fashion brands such as H&M, Zara, Pull & Bear, Massimo Dutti, Mango, and higher segment brands such as COS, Calvin Klein, and Diesel, as well as local and individual designers and department stores.

During the sessions, participants were given a virtual shopping task with images from H&M online store, a multinational clothing retail company. Participants were asked to choose a complete outfit for themselves with no budget limit. Twelve product images consisting of clothes, accessories and shoes were shown. Some product details mentioned tags such as "Conscious", referring to H&M's sustainable product line, "Premium Quality", higher quality and relatively more expensive product line. Following the outfit selection, participants discussed their choices. Then, they were invited to discuss their perceptions and behaviours related to sustainable fashion (e.g., what they understand from sustainability, what makes an object or a process sustainable, their concerns and expectations regarding fashion sustainability). Further questions iteratively changed after every session. Each meeting took approximately 2-2,5 hours. The meetings were voice-recorded. The recordings were firstly deductively coded (Miles et al., 2014) based on the sessions' program and question themes. Answers were grouped and analysed under these predefined themes and specific questions (e.g., what sustainability refers to, obstacle against sustainable fashion purchase). Moreover, particular themes also unexpectedly emerged from responses (e.g., types and sources of credible information). These findings were inductively coded (Miles et al., 2014) and thematically analysed based on the patterns of the answers.

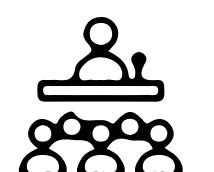
TASK 3



Literature Review II

Fashion studies, marketing and communication; sustainability and environment studies literature were investigated to document the status of sustainable fashion communication methods and arguments on labels, certificates and tag systems communicating sustainability information.

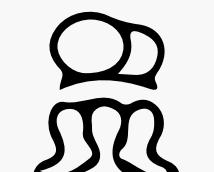
TASK 4



Conference Workshop @GFC 2020

Findings of the first focus group set and two rounds of literature review pointed to five sustainability criteria to increase fashion consumers' sustainability awareness and literacy. In order to receive feedback on these criteria, they were introduced to experts in the first conference workshop conducted at the Global Fashion Conference (GFC) 2020, Lyon, France. Five fashion studies experts specifically experienced in sustainability research participated in the workshop. Experts were from Italy, England, Denmark, and India. They were asked to match five criteria to a list of commonly used sources of information such as labels, terms, and certifications on sustainable, ethical, organic procedures and materials on a spreadsheet. Then, experts discussed ways of communicating the five criteria. Their comments, evaluations and critiques were taken into consideration to develop label system idea.

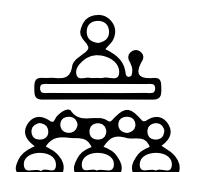
TASK 5



Focus Group Sessions II

Based on the findings from first focus group set, literature reviews and the feedback from conference workshop, the second set of focus group sessions was conducted for a deeper investigation of five criteria and consumers' informational needs. Three sessions were conducted with six participants in each session, all from Turkey, aged between 26 and 42, varying to eight females and ten males. Participants' self-reported knowledge of sustainability, income level and preferred fashion brands were the same as the previous set. Sessions were done online due to Covid-19 lockdowns. In this set, six vignettes were used to collect responses in a particular context related to five criteria (Miles et al., 2014). Participants were asked to share what they would do if they had experienced a situation in the vignette. Each vignette summarised stories of fictional characters who needed to decide on their sustainable fashion-related purchase or behaviour. Before the session started, participants answered vignettes individually. Then, they were invited to debate on their opinions and the vignettes collectively. As in the first set, participants ended the sessions by discussing their perceptions, behaviour, expectations, and concerns about sustainable fashion. Meetings took approximately 2-2,5 hours. They were video-recorded. Deductive and inductive coding was used like in the first set. Findings from all focus group sessions indicated that participants differed from each other in terms of (1) their motivation to enhance their sustainability literacy, (2) the factors that may facilitate a purchase of sustainable fashion products, (3) the type of information they seek, and (4) sources of information they find credible. Four major patterns were observed in their responses and these diverse and common preferences emerged as four personas to segment sustainable fashion communication. These personas are Romantic Optimists, Egocentrics, Confused Alecs, and Gloomies.

TASK 7



Doctoral Consortium @NORDES 2021 Conference Workshop @GFC 2021

Developing a label system to communicate 5 sustainability criteria and 4 personas were exhibited in a doctoral consortium workshop in Nordic Design Conference (NORDES) 2021, Kolding, Denmark. These personas, criteria and the motivation to create them were exhibited for evaluation and validity to eighteen PhD candidates and four scholars from design and fashion studies.

All the findings were also exhibited to an audience in Global Fashion Conference 2021. Participants were asked to roleplay as one of the personas by using specific cases in given vignettes including criteria and characteristics of the label system.

WP 1

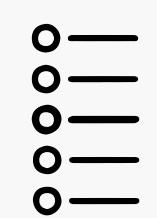
Idea of Developing a Label System



WP 2

5 Sustainability Criteria

- 1- Material, Raw Material & Procedure
- 2- Environmental Impact
- 3- Social Impact
- 4- Animal Welfare
- 5- Post Purchase Product Care



WP 3

4 Personas



- 1- Romantic Optimists
- 2- Egocentrics
- 3- Confused Alecs
- 4- Gloomies

List of Publications

International Peer Reviewed Scientific Journals

Kaner, G. & Baruh, L. (2022) Fashion Sustainability Literacy: Evaluation of Labelling Systems' Potential to Help Raise Consumers' Awareness. Journal of Fashion Marketing and Management. (Submitted)

Kaner, G., Baruh, L. (2022) "How to speak 'sustainable fashion': four consumer personas and five criteria for sustainable fashion communication". International Journal of Fashion, Design and Technology. 2022.

International Peer Reviewed Conference Proceedings

Kaner, G. (2022) "Developing a label system to increase sustainability awareness and literacy". Global Fashion Conference, Germany. 2022. (Accepted)

Kaner, G. (2021) "Experimenting and Evaluating Sustainable Fashion Label System Prototype". Global Fashion Conference, Warsaw, Poland. 2021.

Kaner, G. (2020) "Gathering and Filtering Past Sustainability Sources for a Sustainable Label System". Global Fashion Conference, Lyon, France. 2020.

Book Chapters

Kaner, G. "Greenwashing: How Difficult It is to Be Transparent to Consumer – H&M Case Study" in Green Marketing in Emerging Markets Palgrave Macmillan in their Palgrave Series on Marketing in Emerging Economies. Mukoza, C., Hinson, R.E., Mogaji, E., Kirgiz, A.C. 2021

Kaner, G. "Digital Revolution of the Fashion System: Examples From Turkey" in Interdisciplinary Reflections of Digital Transformation. Kirgiz, A. & Hawks, B. B. Turkmen. Istanbul. 2020.

METHODOLOGICAL DETAILS OF WORK PACKAGE 4-5

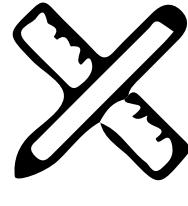
TASK 6



Design Workshop I

Participants were given 5 criteria and 4 personas to brainstorm on developing a label system by taking these inputs into consideration. 2 UX/UI designers, 2 users, 1 fashion professional, 1 sustainability researcher, 1 storyteller attended at the workshop session via Zoom. They worked online on Miro board to take notes, draw sketch and interact their ideas. The sessions took approximately 3 hours.

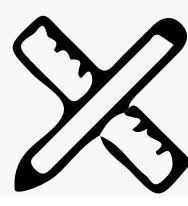
TASK 8



Design Workshop II

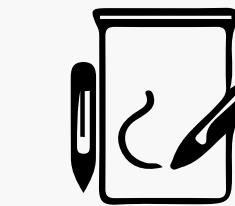
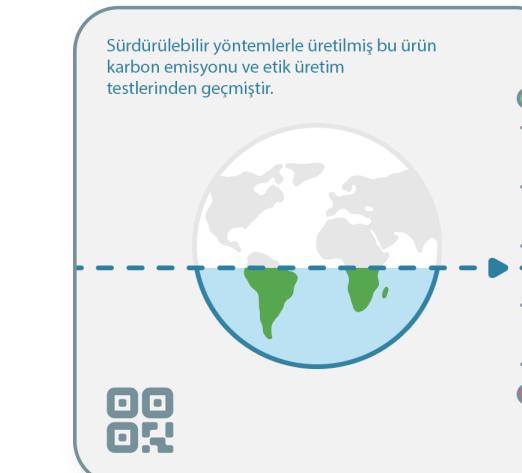
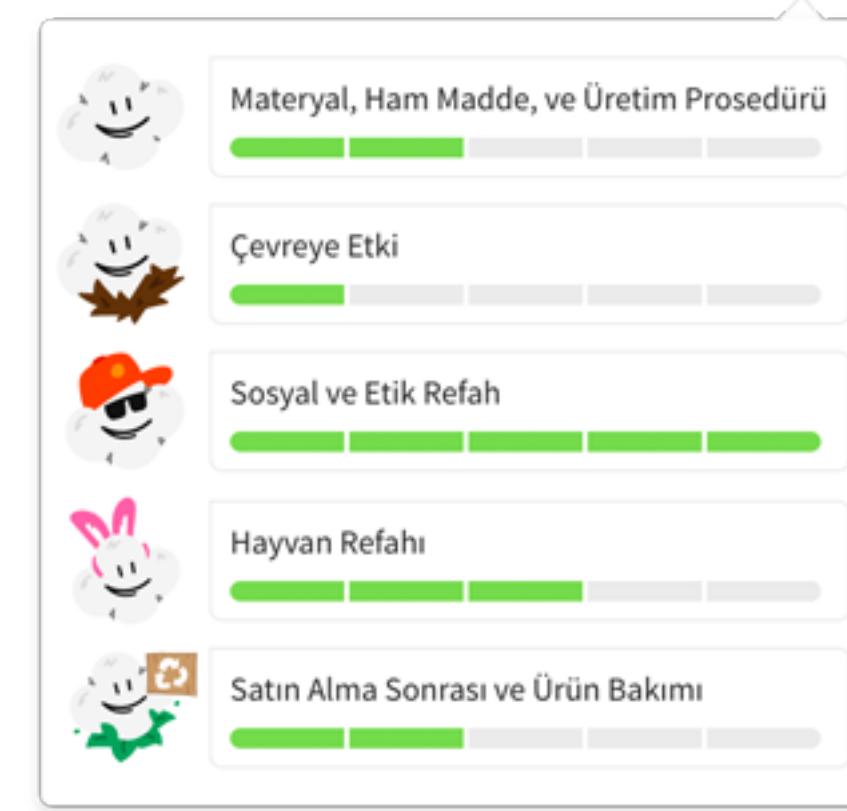
Based on the outputs of the first workshop session, the second one was conducted. Most of the participants were same. 3 prospective users (1 new), 3 UX-UI designers (2 new), 1 fashion professional (new), 1 sustainability researcher, 1 storyteller attended. The participants worked on the board they previously used. This time they concentrated on sketching prototypes. They sketched two creative prototypes and developed one more conceptual design of a slightly different idea. The two represented diverse earth icons. One with a more abstract representation of loading sustainability score of the product. The other one displayed icons of the criteria on the earth. In the conceptual design of the third one, they developed a fictional character which they named as *Pamukçuk* (little cotton piece). Due to the time limited they postponed the sketch of this one to the next session. The sessions took approximately 3 hours.

TASK 9

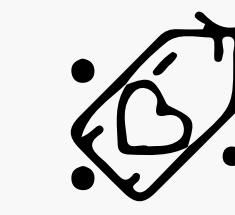


Design Workshop III

In the last session, to finalize two sketches and to sketch the third prototype, only UX/UI designers (all same from previous sessions) attended the workshop. Three designers worked on three prototypes, the forth designer worked together with the research to make sure all the input from previous sessions were taken into consideration to finalize the prototypes. The sessions took approximately 3,5 hours. Names of the prototypes below as follows: 1st *Pamukçuk*, 2nd *Collective World*, 3rd *Saturated Earth*.



WP 4 3 Label System Design Prototypes



WP 5 Characteristics of, and Guidelines to Develop a Label System Increasing Sustainability Awareness and Literacy of Fashion Consumer

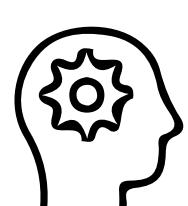
TASK 10



Usability Tests

25 participants took the usability test. They were invited via snowball sampling. Their personas ranged as 7 Romantic Optimists, 6 Egocentrics, 6 Confused Alecs, 6 Gloomies. Participants were given a questionnaire on their demographics, whether they use online shopping or not, and their self-reported personas. They were given four statements each defining one persona. Based on their answers their personas were detected. In the test process, first, the participant were given an online shopping interface with a primary detail of label prototype. (*Pamukçuk*: only icon. *Collective World*: earth icon and a statement. *Saturated Earth*: a partially saturated earth icon with a statement.). When the participants (19) saw the icon, the researcher shared the second shopping interface with the detailed version of the label. When the participants did not see the icon, the researcher nudged to the icon then shared the second level. Participants comments and critiques were asked on the icon and details. In the second step, participants saw same shopping page with extended version of the label (*Pamukçuk*: five criteria, their icons, and criteria score with 5 pieces bar. *Collective World*: a general statement on total score, five criteria, their icons, and criteria score with a line bar using color codes to show the progress. *Saturated Earth*: five criteria, their icons, progress bar with different colors). Participants comments and critiques were asked on the icons, texts and details. In the last part, participants were given all three prototypes. They were asked to comment and compare what they saw.

TASK 11



Expert Interviews

10 expert interviews were conducted with 2 sustainability consultants, 2 employees from sustainability-focused NGOs, 2 fashion marketing and communication Consultants, 2 fashion designers (1 focused on sustainable fashion), 2 fashion brand executives (1 fast and 1 slow fashion). They were invited via personal acquaintances and snowball sampling. Experts had experience of 5 to 15 years in their fields. Meetings took approximately 1 hour. Interview questions were semi-structured to collect comments and critiques. Experts were given the 5 criteria, 3 prototypes, 4 personas. Their answers were coded and analysed under these titles. The analysis indicated a saturation under 4 themes.