

PLAY TO PROSPER IN FASHION: GIVE MY AGENCY BACK!

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Abstract

The fashion industry plays a major role in driving planetary decline, primarily through encouraging overconsumption and fast fashion. While the industry's impact is well-documented, less attention has been given to the role of consumers in sustaining these systems through their decisions and everyday practices. Engaging consumers in exploring the industry's complex challenges is essential, and playful experiences offer a promising perspective. This contribution investigates the potential of games to foster transformative change. It begins with an overview of Italian case studies, showing that while educational games on sustainable fashion can raise awareness, they often fall short of prompting lasting behavioural change. To address this, a game-based project was developed in collaboration with an Italian B-Corp focused on eco-social sustainability. Using a participatory approach, company staff joined a one-day workshop to map the fashion supply chain and co-create game mechanics, dynamics, and aesthetics. A prototype was tested with participants of diverse backgrounds, using pre- and post-gameplay questionnaires to assess changes in interest, knowledge, and practices. Preliminary results suggest that gameplay can influence perceptions and behaviours, though revisions are needed to include more actionable content and everyday best practices.

Keywords: *Games for change, Consumer behaviour, Fashion, Eco-social responsibility, Player accountability*

INTRODUCTION

Once celebrated for its creativity and cultural influence, currently the fashion industry is increasingly under scrutiny for its role in contributing to environmental and social challenges. Indeed, it is indisputably true that the fashion industry has evident responsibilities in contributing to the planetary downfall. Central to this critique is the industry's stimulation of overconsumption, exemplified by the rise of the so-called phenomenon of fast fashion. Usually, fast fashion products are designed for quick disposal to encourage consumers to purchase frequently and replace items just as rapidly.

Together with other textile-dominated fields (e.g. healthcare sector), textile production

is considered to be the most harmful one to the environment. Indeed, according to the last EU report (EEA, May 2024) textile production accounts for 20% of global clean water pollution, while only 1% of used clothes are recycled, with most being incinerated or landfilled.

In such a scenario lots of efforts have been devoted to challenges like product recyclability, dematerialization and traceability (Alves et al., 2023; Schauman et al., 2023) by enabling top down interventions, but minor attention has been paid to the leading role fashion consumers have in fueling the current fashion assets through their decision making processes, attitudes and daily practices (Garcia-Ortega et al., 2023). Indeed, many consumers remain only partially aware of

the fashion industry's negative impact. Studies like those by Morrison and Beer (2017) suggest that demographic factors such as age influence consumer attitudes toward sustainable fashion, while Mandarić et al. (2023) highlight gender as a key factor in awareness of sustainable practices.

Against this backdrop, there is an emerging interest in understanding how consumers can be empowered to challenge these destructive practices (Alves et al., 2023). This paper seeks to explore how games as a form of playful interaction might be harnessed to allow fashion consumers to exercise greater agency. By engaging consumers in literacy-oriented experiences, games could reshape their decisions and behaviours, offering new ways to navigate the complex and often opaque fashion industry.

To do so, first the contribution envisions the concept of prosperity fashion by investigating key components and the role of the stakeholders. Then, a brief state of the art about the use of games as a bottom-up literacy strategy is outlined. A specific focus is devoted to providing an overview of the design of playful activities in the Italian landscape. Later on, a game design case study and its methodology are illustrated and a preliminary research field experiments presented. In the end, authors discuss the results in light of the research objective, that is to demonstrate that games can serve as an impactful tool in terms of fashion consumers' awareness.

DEFINING AGENCY WITHIN THE FRAMEWORK OF PROSPERING FASHION

To gain how extensively fashion impacts planetary wellbeing (Wilde et al., 2022), hereafter we briefly enlist four issues which mutually contribute to the definition of fast fashion as a wicked problem (Buchanan, 1992) from a perspective which extends beyond the human gaze.

Resource consumption. Textile production requires vast natural resources, particularly water and land, through various stages, such as agricultural cultivation, machine cleaning, and wet processing. For example, according to Asmi et al. (2022) each pair of denim jeans produced results in 33.4 kg of CO₂ emissions, consumes 3,781 litres of water, and requires 12 square metres of land for production.

Waste production and pollution. Defined as waste couture (Claudio, 2007), the EU textile

market produced 6.95 million tonnes of textile waste in 2020, averaging 16 kg per person, with only 4.4kg per person separately collected for reuse or recycling (EEA, May 2024). About 82% of this waste was from post-consumer textiles, while the rest came from manufacturing or unsold items.

Erosion of human rights. To keep fast fashion products affordable, textile production is often outsourced to under-resourced communities, such as low-income, low-wage workers, predominantly women, in low- and middle-income countries (LMICs). In addition to being underpaid, textile workers are increasingly exposed to life-threatening environmental and occupational hazards, which occur before, during, and after the production process (Bick et al., 2018).

Spread of an unrepresentative culture. In the name of the "illusion of democratisation of fashion" (Atik et al., 2022), the clothing production defines beauty ideals by pursuing a logic of Western standardisation rather than of representation. This shift leads to different intersectional forms of discrimination. For example, the current one-size-fits-all model of production reflects a lack of diversity in terms of body shape which can result from age, ethnicity or health conditions (Cavusoglu et al., 2023).

In light of this, we propose a framework to challenge the current fashion system and to envision how to feed prosperity within the textile production field. In our vision, prosperity in fashion finds itself at the intersection of three circles (Fig. 01).

Ethical economy refers to economic practices that prioritise fairness, transparency, and responsibility toward workers, consumers, and the environment. In fashion, this reflects in: fair labour practices by ensuring that workers throughout the supply chain are paid fairly, work in safe conditions, and are treated with dignity; responsible consumption and production by reducing waste, overproduction; focusing on quality over quantity, creating products that are made to last.

By accessibility we refer to making fashion inclusive and available to a broader range of people. This could encompass several aspects such as affordability by ensuring that sustainable and ethically produced fashion is not just for those with higher incomes, but accessible to people with various financial means. In the same way accessibility can be understood as transparent information to enhance knowledge accessibility for consumers to



Fig. 01

have access to clear information about the sustainability, ethics, and quality of the products they buy, so they can make informed choices.

Lastly, environmental sustainability emphasises reducing the fashion industry's ecological impact and conserving resources. This involves choosing sustainable materials, such as renewable, organic, or recycled options, to limit environmental harm. It may also include minimising waste by adopting zero-waste designs, upcycling, and recycling old clothing. Efficient use of water and energy is another key aspect, cutting back on resources and pollutants in production processes like dyeing. Lowering emissions is also essential, achieved by optimising manufacturing and transportation and sourcing materials locally whenever possible.

In this framework it is essential to consider three key stakeholders who play a crucial role due to their significant influence and vested interest in the fashion industry — designers, consumers, and companies. Through their choices in terms of decision-making process within their competency-related areas of the fashion ecosystem, all these stakeholders can become fashion activists in the sense of “agents of appropriate change” (Banerjee,

2008). This implies going beyond the more traditional role of designers as “aesthetic providers” (Murzyn-Kupisz & Hołuj, 2021), consumers as passive subjects and companies as only for profit focused organisations.

DESIGN-BASED INTERVENTIONS FOR EMPOWERING FASHION CONSUMERS: AND GAMES?

From fashion consumer's point of view, their commitment towards fashion activism can be practised by positioning themselves as wearers capable of independently and freely choosing whether to maintain or reject the current design–production–distribution–consumption model (Lange, 2019). In this perspective, engaging fashion wearers in uncovering wicked problems related to the fashion industry is crucial. By raising awareness, we can foster a shift in mindset that emphasises individual accountability. This heightened responsibility can drive positive behavioural change, leading to a more sustainable and equitable choice that benefits every agent involved in the system.

There are several ways to engage fashion consumers through design-oriented actions. Mazzarella (2023) argues that fashion activism can be led through participatory design processes, while Hackney et al. (2019) experimented with affective design to relocate clothing behaviour and relationship with fashion. However, while valuable in incorporating diverse perspectives, this kind of design-led approaches might result to be ineffective as they inadvertently tend to lead to a top-down knowledge transfer. As a result, participants may feel the responsibility of being concerned about the impact of their wearer-clothing relationships (Neto & Ferreira, 2022) without being deeply engaged with it. The formal and serious nature of this approach can restrict creativity and reduce wearers' sense of ownership, which are essential for fostering deeper understanding of complex topics like sustainability in fashion.

Since shifts in wearers' behaviour are slow to change (Nguyen, 2024), innovative strategies are essential to inspire individuals to adopt more sustainable fashion choices, driving positive change within the industry. According to Tassell et al. (2022), sustainable behaviour can be achieved through the arousal of positive mental states which can serve as behavioural triggers.

In light of this, game-based activities

present a favourable model by inviting participants to explore sustainability issues through play, enjoyment, discovery, and experimentation. Because play is intrinsically enjoyable, people are motivated to continue exploring and learning without the need for external rewards and this increases intrinsic motivation, which is essential for behavioural change (Csikszentmihalyi, 1990). Moreover, an advantage of game-based activities lies in its social and collaborative framework, which supports peer-to-peer learning. Participants engage with each other directly, sharing insights, discussing strategies, and collectively addressing sustainability challenges (Ginsburg, 2007, Blackmon, 1994, Ryan, Rigby, & Przybylski, 2006). This dynamic interaction enhances the learning experience, fostering a sense of community and shared purpose that is difficult to achieve in the more formal, structured setting of other design-led approaches.

Despite the potential of games to influence the fashion industry, currently there is a lack of literature exploring the intersection of gaming and fashion activism. Indeed, gamification is usually intended as a marketing strategy opportunity for fashion brands (Noris et al., 2023) or as a digital media phenomenon which enables fashion in becoming both culture and play in a virtual space (e.g. metaverse) to deeply engage with online communities (Wanick & Stallwood, 2023).

THE USE OF PLAYFUL EXPERIENCE IN FASHION: AN OVERVIEW OF CASE STUDIES IN THE ITALIAN LANDSCAPE

Fashion is a symbol of the Italian economy as it represents one of the most well-known specialisations of Made in Italy. According to one of the latest research of the Italian observatory Symbola, Italy is the first exporter in the EU and the second in the world, after China (€347 billion), of products from the Textile, Fashion and Accessories (TMA), with an export value of €66.6 billion. With its 36 fashion districts, Italy has major responsibilities in contributing to the eco-social impact of the fashion industry.

In light of the objectives of the current study, we performed desk research to survey the use of playful activities in the Italian landscape, targeting fashion consumers as primary users. Four case studies can be mentioned as interesting in the perspective of actively engaging fashion consumers: a) Declù is a role-playing game developed by

Trama Plaza, a volunteer-based association based in Milan, which encourages collaboration among players, who must work together and make sustainable decisions to succeed; b) Vesti il Futuro (<https://vestilfuturo.manitese.it/>) is an educational initiative designed by Mani Tese with the aim of involving Italian schools through 3 mini games, which simulate fashion industry dynamics to invite participants in examining the effects of fast fashion; c) Facciamo Shopping, developed by Reattiva, is an educational game intended to raise awareness among young people about consumerism, where participants engage in virtual purchasing where they must choose between fast fashion items and sustainable options; d) Wear a Change (<https://www.weareable-fashion.eu/it/>) is an initiative by We are Able, offering a toolbox of resources for sustainability in fashion. While not a game per se, it provides educational materials and practical activities for young adults and students.

While these educational games on sustainable fashion can raise awareness and encourage reflection, they may struggle to create lasting behavioural change. Key limitations include the temporary and unrepeatable experience, which may not lead to habitual change, and a gap between simulated scenarios and real-life consumer decisions, where convenience and cost prevail. The focus on individual actions over collective and systemic issues may also limit impact, as large-scale sustainability requires both industry and policy shifts. Additionally, the simplified narratives within these games might oversimplify complex issues. Lastly, the lack of scalability and accessibility of these initiatives can limit their broader societal influence.

Improving these aspects could enhance their effectiveness in promoting sustained sustainable consumption. For this reason, we decided to engage with a game design process, which could deal with highlighted pain points.

THE CASE STUDY OF “FODYNEST: WEAVING THE CHANGE”

In what follows we present an ongoing project with the Italian B-Corp startup Fody, based in Pistoia (Italy). In our vision, Fody embodies the framework illustrated above since the mission of the company is to implement activities with a high eco-social impact, creating value for people and the environment.

RESEARCH METHODOLOGY

Co-exploration and co-creation with Fody

A participatory research approach was chosen as a methodology driving the project. For this reason, Fody staff was involved as design partners in the first stage of the design process. To collect insights both regarding Fody's workflow and strategic decisions, a one-day workshop was organised.

The objective of the activity was the co-exploration of fashion supply chains in order to gain a deeper understanding of how the Fody supply-production chain differs from the most traditional fashion chain. To do so, participants were involved in a journey mapping activity.

By writing down on different coloured post-it, they were asked to pinpoint five key aspects of the design–production–distribution–consumption model:

- a) stakeholders; b) touchpoints; c) raw materials;
- d) means of transport; e) wastes.

The workshop included a sequence of four activities (Fig. 02):

- Mapping of standard fashion supply chains and Fody supply chain;
- Identification of win and pain points;
- Discussion of the emerging opportunities, challenges and limitations of both the supply chains;
- Exploration and envisioning of game features according to Fody's mission.

As a result of the workshop we collected many inspiring insights to be converted into game design mechanics, dynamics and aesthetics (Hunicke et al., 2004) as well as game contents. Below we sum up with the most significant value-driven messages, which Fody decided to pursue and aspire to spread as a work organisation operating towards a more eco-social oriented fashion industry:

- *Repurposing rather than dismissing*: Fody offers an alternative form for early disposal waste to textile-based companies by collecting their inventories (e.g. unsold stock, production waste) and transforming them into new products;
- *Making for profit-driven company purposes sustainable through non-profit actions*: although Fody operates as a for-profit entity, it balances this by engaging in non-profit actions. For every textile product sold in B2C or B2B markets, they produce an equal quantity of



Fig. 02

items—mainly blankets—which are donated to communities in need, such as refugees or animal shelters;

- *People empowerment through work experience*: Fody prioritises employing individuals who face systemic barriers to employment, such as those with disabilities or older adults often excluded by traditional companies. This commitment fosters social sustainability by empowering marginalised individuals through professional inclusion programs.

Game design

“FODYNEST: Weaving the Change” was developed as a tabletop game for eco-social change in fashion. To foster engagement and critical thinking—helping players not only retain data but also internalise best practices—FODYNEST is designed as a competitive management game. Players assume the role of a company executive who has to carry on business interests while optimising resources sustainably. Each round, players can place their worker tokens on various board locations to collect textiles, produce goods for sale or donation, expand their team, or enhance

production with new machinery. The objective of the game is to collect as many points as possible to scale the scoreboard and win the game (here you can find the whole game rules: https://docs.google.com/document/d/1bWRZEyaA8HA-POS-QfY5S6m-jRGJgrY6rGT6TSd_XVGk/edit?usp=sharing).

The design of some game mechanics and dynamics has been inspired by the production model of the Fody in order to demonstrate how profit can be ethically and sustainably achieved through conscientious decision-making. Below are some examples of how a set of game mechanics were designed to act as activators and facilitators of eco-social change.

- *Sustainability awareness through tactile experiences*: each player begins with basic resources, including a textile card displaying fabric on its cover and a sustainability index on the other. When in the material gathering phase, players can add textile tokens to their resources, draw a new textile card from the deck and guess their level of sustainability only by touching the fabric-made cover. The design intent here is to reinforce both material recognition and to stimulate the habit of questioning a fabric's origin and environmental impact in players.
- *Social responsibility rather than technology supremacy*: Production game mechanics mirror Fody supply chain by dividing goods into for-profit and nonprofit items, encouraging a balance between economic and social objectives. The game dynamics associated with human and technology enabling resources (e.g. machinery) further emphasise the importance of creating an eco-social and work ethical model. For example, workers progress through workshops, internships, and employment stages, unlocking bonuses. Additional bonuses are awarded by matching workers' preferences with specific tools, highlighting their individual value.
- *Information and best practices knowledge transfer through quiz and either/or situation*: in order to gain coins or points players could tempt fate by drawing a card by two decks. The first contains true or false or multiple choice quizzes about sustainability in fashion, while the second poses players in front of a choice between more sustainable versus economically beneficial actions. The game is balanced to

stimulate critical thinking and to demonstrate that sustainable choices ultimately lead to success, even if initially less profitable.

Game prototype

Aligned with the sustainability objectives set by the game design, we created the first physical prototype using Fody. During the workshop, we gathered offcuts from Fody's production, consisting of various textile materials. Smaller pieces were used to create tactile fabric cards, while a larger piece was used to prototype the board game.

FIELD EXPERIMENTS THROUGH PLAY SESSIONS

To prove whether engaging fashion consumers in a playful activity could be an effective way to foster their attitudes towards more sustainable practice, we involved 18 people, aged 22-38, in 5 play sessions. Data were collected through a mixed method in order to verify the research hypothesis and to evaluate participants' experience as players. This preliminary field research was performed at Santa Chiara Fab Lab (Siena, Italy) and each play session was structured as follows.

First, participants were asked to sign an informed consent form and to fill a self-evaluation grid before the play session started. Inspired by the tool of conflict spectrum (Kraybill, 2004), the grid has been designed to help participants assess their levels of engagement, knowledge, and practices related to sustainability in the textile industry. The grid consists of three gradient colour horizontal bars, each representing a different area for self-assessment. Participants were asked to position their figure on this scale to rate themselves on each dimension.

Once completed this step, a facilitator introduced the game instructions. Consciously, we decided not to reveal the game objectives and design process in order to reduce sources of bias which could influence participants' behaviours within the game and in expressing personal opinions or overall feedback. When confident with the game mechanics, participants played a mean of 6-7 game rounds (Fig. 03).

At the end of the game, participants were asked once again to fill the grid. The objective of the second self-evaluation was to understand how participants' assessment rates differ in each dimension after having played "*FODYNEST: Weaving the Change*". In this perspective, visualisation of the position variance of participants' figures



Fig. 03

can serve as a first indicator to monitor the impact of implementing playful activity in enhancing fashion sustainable practices.

In light of an iterative game design process, we involved participants in a 15 minutes focus group. The session covered the following questions to stimulate the narration about the gaming experience:

- How did you experience the game? Is there any you would like to modify? Would you play the game again?
- In your opinion, which are the objectives the game intends to achieve?

RESULTS

Results show that, by the end of the play session, 17 out of 18 reported an increased level of interest in fashion sustainability (Fig. 04). This outcome supports our hypothesis that games are powerful and critical tools for fostering awareness within civil society and its communities. Notably, the competitive dynamic embedded in the game design proved to be a key element of engagement, as participants fully embraced their roles as company leaders, thereby deepening their involvement. Moreover, they frequently asked if there would

be any chance to play once again or whether they could explain the game features and rules to people who may be interested in such issues and games.

Regarding participants' level of knowledge, only 4 participants significantly improved their self-assessment. This outcome may reflect limitations in the design of the game's informational content. Specifically, the data-driven information presented in the game was perceived as overly analytical and distant from participants' lived experiences, making it difficult for them to grasp the real-world significance and quantify the impact of the data. To address this, future iterations of the game should incorporate content redesign strategies (e.g. use of metaphors and similes) that make information more tangible and relatable. These adjustments could foster greater empathy and understanding among players.

There was no substantial change in participants' self-assessments of their future sustainable fashion practices. While some participants acknowledged that the game heightened their awareness of problematic practices in which they might engage, they also noted that the game lacked positive reinforcements by failing to suggest actionable good practices. During the focus group,



Fig. 04

participants highlighted the need for game content to include solutions and practical guidance to encourage behavioural change. However, participants affirmed that recognizing material levels of sustainability through the experience of touching inspired them to replicate the same action before purchasing any textile product.

CONCLUSIONS AND FUTURE DIRECTIONS

This paper underscores the urgent need for transformative action within the fashion industry, which continues to contribute significantly to environmental degradation and social inequity. By framing prosperity in fashion through the lenses of ethical economy, accessibility, and environmental sustainability, we highlighted the necessity of reimagining the roles of key stakeholders—designers, consumers, and companies—as agents of change. Moving beyond traditional roles, these stakeholders must actively engage in shaping a sustainable and equitable fashion ecosystem.

In this perspective, we identified game-based approaches as a promising way to promote literacy and inspiring behaviour change,

focusing on the figure of fashion consumers. Games' intrinsic enjoyment fosters sustained engagement, while their social dynamics support peer-to-peer learning and collective action. By positioning games as catalysts for fashion activism, this work opens pathways for empowering consumers to critically engage with the fashion system.

To experiment with this hypothesis, we designed a board game called "*FODYNEST: Weaving the Change*" by involving the Italian B-Corp startup Fody. Once prototyped, we tested it through play sessions. The objective of this preliminary field research was to monitor the impact of implementing playful activity in enhancing interest, knowledge acquisition and practices towards fashion sustainability.

Results of the "*FODYNEST: Weaving the Change*" play sessions suggest that games can effectively foster awareness and engagement with sustainability in the fashion industry, particularly through competitive dynamics and tactile interactions. By the end of the sessions, participants reported an increased interest in sustainable practices, affirming the game's potential to provoke reflection and stimulate critical thinking.

However, the findings also highlight areas for improvement. While the game successfully sparked curiosity and emotional connections—especially through tactile experiences with textile materials—it struggled to convey actionable practices for lasting behavioural change. Participants recommended integrating more relatable information, actionable solutions, and collaborative mechanics to better reflect the collective effort required for systemic change in the fashion industry.

In conclusion, “*FODYNEST: Weaving the Change*” shows promise as a tool for engaging consumers with the complexities of sustainable fashion, but further iterations are necessary to increase its impact. Future actions will be devoted to involve fashion sustainability experts in co-designing game contents and strategies to make sustainability principles more tangible and relatable, embedding positive reinforcements to encourage behavioural shifts. This iterative process will ensure that the game evolves into a powerful transformative tool for fostering eco-social change.

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CAPTIONS

[Fig. 01] Visualisation of a framework to prosper in fashion © Letizia Vaccarella

[Fig. 02] Mapping activity during the workshop with Fody staff © Giulia Teverini

[Fig. 03] Participants during a play session © Giulia Teverini / Letizia Vaccarella

[Fig. 04] Overall visualisation of participants' self-assessment © Letizia Vaccarella

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