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All that Glitters isn't Transparency: Exploring the Impact of Digital Product Passports in the Fashion Industry
An Experimental Study on Customer Responses to Regulatory-Driven Transparency

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Abstract
Customers' sustainability demands are increasing and with that, the pressure on fashion brands to display transparent sustainability information. The Digital Product Passport has been introduced as part of an upcoming EU regulation to ensure that detailed supply chain information is easily accessible for products sold within the EU, yet little is known about its expected customer impact. The aim of the thesis was to examine how this mandatory introduction will influence post-purchase customer responses, specifically brand trust, customer engagement and word-of-mouth intention within the fashion industry, and if it differed for fast fashion and traditional luxury brands. This was studied through a quantitative online experiment using a self-completion questionnaire on the Swedish market. Findings showed that the presence of a Digital Product Passport significantly influenced brand trust, customer engagement and word-of-mouth intention through increased perceived transparency and reduced skepticism, and that this effect was consistent for fast fashion and luxury brands. By contributing to the understanding of how regulatory-driven transparency mechanisms influence post-purchase customer responses, this study not only expands on sustainability and customer experience research but also highlights the potential of Digital Product Passports as strategic assets. Rather than solely being seen as a mandatory implementation, the Digital Product Passport is an opportunity for businesses to gain benefits and create competitive advantages by re-shaping the post-purchase customer journey.

Keywords: Digital Product Passport, Customer Experience, Transparency, Sustainability, Brand Trust, Customer Engagement, Word-of-Mouth, Fashion Industry, Post-Purchase Customer Journey

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Definitions

Digital Product Passport (DPP): A digital identity card for products, and an information tool that is accessible to all relevant stakeholders along the entire value chain. It includes details on a product's technical performance, materials and their origins, repair and recycling options, and lifecycle environmental impacts. (European Commission, 2024; European Union, 2024).

Sustainability: While this thesis recognizes all three dimensions of sustainability (environmental, social, and economic), it primarily focuses on environmental sustainability, which is the most emphasized in the fashion industry (Kong et al., 2021) and the most addressed in DPPs. Environmental sustainability includes aspects such as emissions, waste, and recycling (Lozano, 2012).

Fashion industry: Fashion industry is in this thesis used to describe the textile and clothing industry.

Fast fashion brands: The term is in this thesis used to describe the low end of the fashion spectrum and is defined as equivalent of mass market brands (Vock, 2022).

Luxury brands: The term is in this thesis used to described as the high end of the fashion spectrum and is defined as traditional luxury rather than new luxury (Vock, 2022).

Customer Experience (CX): A multidimensional construct consisting of five dimensions: cognitive, emotional, behavioral, sensorial and social. It relates to individual touchpoints and interactions between a company and a customer throughout the customer journey (Lemon & Verhoef, 2016).

Customer journey: CX can be conceptualized as a customer journey, which is a dynamic process spanning three stages: pre-purchase, purchase, and post-purchase (Lemon &Verhoef, 2016).

Post-purchase customer responses: In this thesis, the term entails how the customers respond to the DPP and its transparent nature in the post-purchase stage. Used as a common term for the dependent variables in this thesis (brand trust, customer engagement and WoM intention).

Greenwashing: Companies showing false or misleading sustainability information (Alexa et al., 2022).

Personal innovativeness: How open someone is to try new technologies (Hoyer et al., 2020).

1. Introduction

1.1 Background

Sustainability has historically always been in contrast to the fashion industry's values, but the recent rise in customer attention has put the issue at the forefront. Even though the fashion industry is one of the largest globally and is projected to continuously grow, it can also be described as being in a never-ending state of crisis (Johnson, 2024). Second only to the oil industry, fashion is one of the world's most polluting sectors (Alexa et al., 2022), surpassing the combined environmental impact of aviation and shipping (Bildirici et al., 2024). Throughout the fashion supply chains, issues such as material usage, waste, emissions and pollution all affect the fashion industry's environmental footprint (Bildirici et al., 2024). As a result, there is growing pressure for fashion brands to adopt transparent and traceable supply chain practices (Tickle et al., 2024).

In response to these challenges, the Digital Product Passport (DPP) has emerged as a technological solution designed to provide customers with detailed product information encouraging informed decision-making. According to the Ecodesign for Sustainable Products Regulation (ESPR), a DPP is a digital identity card for products, storing essential information to enhance sustainability, facilitate circularity and ensure regulatory compliance. This information should include but is not limited to a product's technical performance, materials and their origins, repair and recycling options, and lifecycle environmental impacts. It is an information tool that makes information available to all relevant stakeholders along the entire value chain (European Commission, 2024; European Union, 2024), and can easily be made accessible to customers through for example a QR code (Quick Response code) (Götz et al., 2022). In June 2024, the ESPR came into force as part of the EU 2020 Circular Economy Action Plan. A core element of this regulation is the DPP, which will gradually become compulsory for all products (with exceptions such as food and pharmaceuticals) sold on the EU market, regardless of product origin (European Commission, 2024). Priority categories include batteries, textiles and electronics, and by 2030, DPPs will be a mandatory requirement (European Union, 2024) to enhance sustainable practices and transparency. This sustainability mainly refers to environmental sustainability, which is the most common within the fashion industry (Kong et al., 2021) as well as the most covered in DPPs, and includes e.g. emissions, waste, and recycling (Lozano, 2012). Sustainability can, however, be said to have different dimensions, where environmental, social, and economic are the ones consistent throughout the literature (Chaudhary, 2020; Kong et al., 2021; Lozano, 2012).

In Sweden, the Fiber Traceability Initiative is paving the way for DPP adoption and increased transparency. This industry-wide collaboration, led by Axfoundation, Filippa K and GS1 Sweden, has launched a beta version of a digitally traceable wool supply chain. This enables customers to scan a QR code sewn into Filippa K's newest collection to access detailed product information about a garment's journey from farm to finished product, including the product's origins, care instructions, and second-life options (Axfoundation, 2025).

The implementation and effects of DPPs in the fashion industry will likely vary depending on brand type. The fashion industry spans a wide range of brand categories, differing in quality, price point, and perceived luxury. Traditional luxury and fast fashion brands are at different ends of the spectrum, with "new luxury" falling in the middle (Vock, 2022). This study focuses on the two extremes, allowing for a clearer comparison of how DPPs may influence post-purchase customer responses across different brand types. Within the literature, the terms "mass market" and "fast fashion" are used interchangeably to describe the low end of the spectrum (Alexa et al., 2022; Joy et al., 2012; Tickle et al., 2024; Vock, 2022). However, this thesis will consistently use fast fashion for clarity. For the different brand types, the introduction of new customer interaction touchpoints is expected to influence the customer experience (CX) in various ways (Gallardo-Garcia et al., 2023), through, for example, DPPs. The customer experience may, in turn, influence post-purchase customer responses.

Post-purchase customer responses can further be affected by growing customer skepticism, particularly due to fear of greenwashing, when companies show false or misleading sustainability information (Alexa et al., 2022). For example, a 2023 investigation used AirTags to track clothes returned to fast fashion brands recycling initiatives promising a second life. Out of 21 items, seven turned out to be destroyed or downcycled, four were shipped to Africa and most likely dumped as waste, several were lost in shipping or simply stored for extended periods of time, and only five were resold as promised (Changing Markets, 2024). Information about this type of greenwashing increases skepticism towards the trustworthiness of a company's communication, and 88% of Generation Z Americans do not trust brands sustainability communication (The Business of Fashion & McKinsey & Company, 2022). How the introduction of DPPs will affect customer perceptions and responses, and whether customers will trust the information, is therefore highly relevant.

1.2 Aim, Purpose and Expected Contribution

The aim of this thesis is to examine how the introduction of extensive product information provided in a DPP influences post-purchase customer responses in the fashion industry.

Additionally, it will explore the differences within the fast fashion sector compared to the traditional luxury sector.

The purpose of the thesis is to understand how the introduction of DPPs can support fashion brands sustainability efforts, particularly from a Swedish customer perspective. This thesis provides a theoretical contribution since previous research lacks insight into the post-purchase customer responses and impacts of the DPP introduction. Previous CX research is largely focused on the pre-purchase and purchase stage, leaving post-purchase consequences mostly unexplored. Since the regulation will be implemented within the next few years, research on this topic is expected to increase in both quantity and relevance. From a business perspective, this thesis will provide actionable insights into post-purchase customer responses that can be used to increase loyalty and, in turn, profitability. The fact that it is a mandatory implementation further increases the relevance in understanding post-purchase customer responses, to learn whether extensive DPPs can be used to create competitive advantages or if they are sufficient with basic information.

1.3 Research Questions

Based on the aim and purpose of this thesis, the main research question that will be discussed is

- How does the introduction of Digital Product Passports influence post-purchase customer responses in the fashion industry?

A secondary research question that will also be explored is

- How does this differ between fast fashion and traditional luxury fashion brands?

1.4 Delimitations

This study focuses on the effects of DPPs on customers within Sweden. This decision was made to limit the scope due to time constraints and to provide high quality insights in one market. Sweden is additionally at the forefront of sustainability innovations, as well as part of the EU where the DPP regulation will be implemented. The study is conducted through an online questionnaire using imaginary scenarios. Since DPPs are not yet widely spread in clothing tags, conducting a real-life experiment would be challenging.

The study specifically examines the effects that the DPP introduction will have on the fashion industry and hence disregards other sectors. This stems from the fashion industry showing one of the highest degrees of pollution. Sustainability is also heavily discussed within the sector,

with strong customer preferences and high skepticism. The paper focuses on the two extremes within the fashion industry, fast fashion and traditional luxury, to detect differences and still delimit from the whole, extremely complex, sector. We also choose to solely focus on the post-purchase stage in the customer journey, since the pre-purchase and purchase stages are already well-developed in previous literature. This provides both actionable insights and a more focused research area.

2. Literature Review & Theoretical Framework

2.1 Literature Review

2.1.1 The Digital Product Passport

The definition of the DPP in literature has somewhat varied, where different scholars and institutions have defined and expanded on the concept. However, there is a clear consensus that the DPP functions as a digital information provider and a unique identifier, ensuring traceability and transparency of product-related data across its lifecycle. The qualities of DPPs can be strengthened through integrating blockchain technology, where the data integrity and certified product quality ensures trustworthy information (Marchesi et al., 2022). Jansen et al. (2023) further distinguish between the DPP and the DPP system. The DPP system is an IT infrastructure that enables data collection, facilitates stakeholder interactions and links the physical products to its digital record. This research focuses on the DPP and the digital record it provides to stakeholders, and not the DPP system.

Previous research has mainly focused on the requirements and contents of DPPs. Donetskaya and Gatchin (2021) distinguish between two types of DPP requirements, those related to the content of the DPP itself, and those concerning back-end design solutions. Similarly, Plociennik et al. emphasize that requirements must be adaptable across multiple industries to ensure a broad applicability and promote circular economy goals. While many researchers have proposed industry-specific DPP structures, there is no consensus on a standardized format, and ongoing research continues to propose varied models (Legardeur & Ospital, 2024). These inconsistencies pose barriers to widespread adoption, particularly in sectors like the fashion industry, where supply chain complexity and customer engagement add further dimensions to implementation.

As an initiative designed to advance the circular economy and minimize waste, the DPP has been widely studied for its role in supporting sustainable practices (Adisorn et al., 2021; Plociennik, et al., ; Walden et al., 2021). A core challenge highlighted by research is the current lack of product information needed to support a circular economy (Basal & Demircioglu, 2024). DPPs have been described as a possible solution, but uncertainties remain regarding its optimal implementation strategy across different industries (Jansen et al., 2022; Walden et al., 2021). The implementation of DPPs has mostly been explored in industries prioritized by the EU, such as batteries and electronics. Research in these specific industries has focused on key drivers, barriers, potential use cases and stakeholder benefits as well as the implementation (Berger et al., 2022, 2023; Dalhammar et al., 2022; Walden et al., 2021). In the fashion sector, Ospital et

al. (2023) explore the DPP's potential to centralize information and increase transparency in the supply chain, while Adisorn et al. (2021) emphasize that DPPs could serve both business-to-business and customer-facing relationships. However, existing studies on DPPs in the fashion industry remain largely conceptual and there is still limited empirical research on how customers interact with them.

Although DPPs are primarily studied from a business and regulatory perspective (Götz et al., 2022; Jansen et al., 2023) their effectiveness ultimately depends on customer adoption and interaction. Despite this, few studies have examined how customers engage with DPPs. While understanding policies designed to facilitate the circular transition is essential to achieving regulatory objectives and environmental sustainability, they often fail to consider customers as active participants (Duarte et al., 2024). However, DPPs have been proposed to lead to benefits for both customers and retailers, particularly in shaping customer trust and brand loyalty. Adisorn et al. (2021) highlight that DPPs can help customers make informed choices, while also enabling retailers to enhance customer service and offer more customer-oriented solutions. Similarly, Psarommatis et al. (2024) argue that DPP adoption enhances competitiveness, supply chain transparency and efficiency, and strengthens relationships with external stakeholders, while also improving brand reputation. They further argue that from a customer perspective, DPPs could increase product trust, facilitate informed purchasing decisions, and improve loyalty. However, it remains unclear to what extent transparency enabled by DPPs influences customer behavior and trust (Zhang & Seuring, 2024). Lopes and Barata (2024) highlight the importance of studying how customers perceive DPPs, emphasizing the need for user experience research to ensure widespread engagement. The DPP has been suggested as a new technology that will affect the future of the CX, and as it becomes the norm, other benefits such as digital engagement are likely to follow (Lojacono, 2024). Adopting digital tools like DPPs can create synergies between supply chain digitalization and traceability, offering a competitive advantage in the CX, such as increased trust, transparency and customer engagement (Balaska et al., 2025). Despite previous literature proposing potential benefits for customers, there is a lack of empirical proof. As DPPs move from theoretical frameworks to real-world applications, understanding their impact on customer behavior will be essential for maximizing their adoption and effectiveness.

2.1.2 Related Concepts to the DPP

While the concept of DPPs is new, several related frameworks have been studied extensively. Existing concepts such as the Bill of Materials (BoM), Product Lifecycle Management (PLM),

digital twins, and eco-certifications and eco-labels all contribute to product traceability but differ in their scope, accessibility and intended use compared to the DPP (van Capelleveen et al., 2023). While BoM and PLM systems are primarily manufacturer-centric tools for material tracking and product lifecycle optimization, DPPs are constructed to be dynamic records that extend across the entire value chain. The concept of digital twins shares strong structural similarities with DPPs, as both rely on digital representations of physical products. However, the digital twin focuses on mirroring reality into a virtual environment for supply chain optimization, and the DPP functions as a dynamic product record focusing on traceability, circularity and customer transparency. While digital twin functionalities may be integrated into the DPP, they are not inherently the same (van Capelleveen et al., 2023). Similarly, eco-certifications and eco-labels aim to provide sustainability transparency but differ from DPPs by offering a static snapshot of a product's environmental impact rather than a dynamically updated record of information reflecting the new information added along the value chain (van Capelleveen et al., 2023). While these frameworks enhance traceability and transparency, they operate within limiting boundaries. In contrast, the DPP functions integrate both supply chain and customer-facing data, offering an evolving, standardized record accessible across industries, and is thus the focus of this study.

2.1.3 Transparency in the Fashion Industry

New digital technologies such as DPPs can increase perceived transparency (Ospital et al., 2023), thus bridging the gap between customer transparency demands and the lack of reliable data. In the fashion industry, transparency is closely linked to traceability, as it involves disclosing information about product origins, supply chain practices and sustainability efforts. Transparency and traceability are often discussed together, with transparency defined as the disclosure of traceability information (Mol, 2015). However, transparency extends beyond traceability and has been studied in various ways.

Kim et al. (2020) highlight both price transparency and production transparency as relevant areas, where production transparency is the most relevant for DPPs. Nevertheless, Jestratijevic et al. (2024), propose that companies tend to emphasize corporate transparency (governance responsibilities and policies) more than traceability and actual supply chain (production) transparency, which is central in DPPs. However, existing production transparency initiatives have shown to increase both revenue, customer loyalty and brand reputation (Kim et al., 2020). Such communication has further been shown to influence customer perceptions of both brand transparency and authenticity, in turn, impacting customer attitudes, trust, and behavioral

intentions toward the brand (Yang & Battocchio, 2020). Furthermore, Kang and Hustvedt (2014), argue that perceived transparency enhances brand attitudes, strengthens trust, purchase intention and increases word-of-mouth (WoM). Similarly, Cheng and Huang (2024) find that transparency leads to increased overall brand perception, higher purchase intention, and greater trust in the brand. Huynh et al. (2024) also state that it leads to trust, loyalty, WoM, and purchase intention. However, according to Brandão et al. (2018), the attitude and not merely the trust is what determines the purchase intention or likelihood of WoM behavior after the purchase.

Regardless of how beneficial these transparency efforts can be, Kim et al. (2020) argue that if the revealed production information is not satisfactory, it can instead lead to negative brand impacts. On the other hand, Tickle et al. (2024) mention that all transparency, either good or bad, speaks for the honesty of a brand and can thus increase customer trust. While customers want to make informed decisions, they do not always conduct extensive research and instead rely on brand-provided transparency (Bhaduri & Ha-Brookshire, 2011). This highlights the need for company openness and information disclosure (Sodhi & Tang, 2019). However, according to Kim et al. (2020), the most important aspect for customers is not the amount of information available but rather how fair it is perceived. Bhaduri and Ha-Brookshire (2011) agree that transparent communication can positively influence customer purchasing behavior, but can also have negative effects if customers do not trust the brand's sustainability claims. According to Sansome et al. (2024), the overall trend is towards increased distrust due to recent scandals and false statements. This CSR (corporate social responsibility) skepticism can lead to both negative WoM and decrease the customers' brand perception (Skarmeas & Leonidou, 2013). Greenwashing can create a false perception of the sustainability of the brand (Alexa et al., 2022), and to mitigate this threat, it is suggested to use a third-party authenticating certification, to ensure the validity of the sustainability claims. Even so, different brands using different authentication services does not seem to be enough, but customers would rather see one standard certification for all brands (Bhaduri & Ha-Brookshire, 2011).

The sustainability of a brand is, however, not only dictated by the brand itself, but also by its suppliers (Karaosman et al., 2020). The supply chains within the fashion industry are often complex, which makes ensuring sustainable practices throughout the whole chain more difficult (Karaosman et al., 2020). Tickle et al. (2024) agree that fashion supply chains often use many tiers of suppliers, which increases the risk of suppliers being unwilling to disclose their exact practices. It is also expensive and time-consuming to map out the transparency along all

supplier tiers (Tickle et al., 2024). Karaosman et al. (2020) further argue that the level of trust in the buyer-supplier relationships can impact the degree of sustainability implemented.

While the DPP introduces a new way for companies of addressing transparency and traceability and has been promoted as a tool for increasing transparency (Ospital et al., 2023), there is little empirical evidence on whether customers actually engage with them or perceive them as valuable. Transparency has long been associated with trust, but research also suggests that excessive transparency or information can reduce rather than enhance it.

2.1.4 Fast Fashion versus Luxury Brands

Fast fashion brands such as H&M and Zara are known for quick production cycles, low prices, and new styles (Joy et al., 2012). At the other end of the fashion spectrum, traditional luxury brands such as Prada or Gucci are known for high prices, superior quality, and a focus on tradition (Vock, 2022). Tickle et al. (2024) assert that fast fashion brands always have experienced skepticism and critique concerning sustainability. Kong et al. (2021) further claim that customers show more negative perceptions of fast fashion brands not behaving sustainably than of luxury brands. Part of this criticism may be justified, since around 60% of fast fashion garments are produced using petroleum, which results in major pollution, and workers in the low-cost factories often face serious health risks and violations of human rights (Tickle et al., 2024). Additionally, it is an industry built on the concept of disposable products only used a few times, which further speaks for its unsustainability (Alexa et al., 2022).

Nonetheless, even though customers are increasingly aware of environmental issues and sustainability, fast fashion is still highly demanded and purchased. This can be partly explained by the instant gratification and the trendy, new looks it offers (Joy et al., 2012). Kong et al. (2021) highlight that there exists an attitude-behavior gap, where customers who value sustainability still do not always choose sustainable options. Even though they claim that this gap has no clear explanation, it is still evident that more sustainably knowledgeable customers are more likely to purchase sustainable garments than their counterparts (Kong et al., 2021). In addition, Ye and Kim (2024) argue that the clear gap between intention and action can be resolved in several ways. They discuss the importance of experiences in the purchase journey, and mention education as the most prominent experience dimension to reduce the gap. This relates to sharing knowledge about the value of purchasing sustainably and educating customers into making consciously better choices, which can be done by implementing educational digital solutions (Ye & Kim, 2024).

Even though luxury fashion brands are increasing their sustainable communication, these efforts might not always lead to positive outcomes. Luxury brands are often associated with words such as superficiality, excess, and exclusivity, whereas sustainability initiatives are associated with ethics, moderation, and inclusivity. This is known as the CSR-luxury paradox, which mentions differing values as one reason for misfits. It creates the possibility that sustainable communication from a luxury brand can result in negative customer responses, if customers perceive it as misaligned with their brand interests (Vock, 2022). Historically, luxury brands have both been known to source exclusive materials through harmful extraction or abuse of workers, and to throw away garments not sold to ensure continued exclusivity of the pieces (Sun et al., 2025). These actions stand in stark contrast to the values of sustainability. On the other hand, since both luxury and sustainability, especially in the fashion industry, stand for scarcity, rarity, and timelessness, there is also reason to believe that the opposite of the paradox can occur, and that sustainability efforts also can strengthen luxury brands' image (Vock, 2022). To avoid the risk of misfits and the CSR-luxury paradox, luxury brands can potentially benefit from more indirect sustainability communication (Kong et al., 2021), since they might have more to lose (Tickle et al., 2024).

Although several sources propose that a CSR-luxury paradox exists, Grazzini et al. (2021) argue that the gap to be perceived as sustainable is larger for fast fashion brands than for luxury brands. This means that sustainability efforts should have larger impacts on purchase intention for fast fashion brands. They argue that there is a strong alignment between luxury fashion brands and sustainability, which leads to smaller effects of newly introduced environmentally friendly initiatives than fast fashion brands. This aligns with Vock (2022) which claims that CSR efforts tied to a specific product are shown to have a greater positive impact on fast fashion brands than on traditional luxury brands. Additionally, Grazzini et al. (2021) argue that the high degree of skepticism towards fast fashion brands has resulted in a stronger effort to use more sustainable materials and take environmentally friendly actions, but there is still a long way to go. Fast fashion brands can be shown to have more transparent practices than luxury brands (Jestratijevic et al., 2024), but the information provided by luxury brands is more accessible (Tickle et al., 2024). However, a clear consensus on the CSR-luxury paradox and the sustainability perception of the specific fashion brand types does not exist.

2.1.5 Identified Research Gap

Although DPPs have gained increased attention, existing literature struggles to explicitly define the content and scope of the DPP (Legardeur & Ospital, 2024), thus slowing down the adoption

into new industries. While previous research has mainly focused on the business and regulatory side (Götz et al., 2022; Jansen et al., 2023) within sectors like batteries and electronics (Dalhammar et al., 2022) and their role in advancing the circular economy (Walden et al., 2021), there is limited research on the customer side in the fashion industry. Although some have suggested a link between DPPs and CX (Lojacono, 2024), concrete empirical evidence is still lacking. This gap makes it difficult for fashion brands to design effective transparency strategies that generate optimal customer responses, especially in a sector known for complex supply chains (Karaosman et al., 2020). Understanding how the introduction of DPPs affects post-purchase customer responses can provide businesses with the opportunity of creating competitive advantages. Lopes and Barata (2024) highlight the urgency of additional research on this topic to ensure engagement and maximize adoption and it will thus be studied in this thesis.

In parallel, sustainability is a rising trend and potential crisis for brands who do not act accordingly. This can have enormous impacts on customers, which makes understanding their reactions to new implementations of utter importance (Johnson, 2024). Yet, literature offers conflicting views on whether all transparency is beneficial, or if it must also be perceived as fair and truthful (Bhaduri & Ha-Brookshire, 2011; Kim et al., 2020; Tickle et al., 2024). This presents a further gap, particularly in how transparency is perceived and processed by customers, rather than just how it is communicated. A final research gap concerns differences between brand types. Research suggests that fast fashion brands might gain more benefits from sustainability communication but also face more skepticism, while it for luxury brands remains unclear whether transparency reinforces or undermines the brand image (Grazzini et al., 2021; Vock, 2022). How these brand-level differences affect the final perceptions and customer responses post-purchase remains unexplored and is therefore addressed in this study.

Although some studies have examined how transparency influences customer behavior together with Signaling Theory (e.g. Kim et al., 2020; Yang & Battocchio, 2020), which addresses information asymmetry between two parties (Spence, 2002), the theory is predominantly applied in a pre-purchase context. Since DPPs in the beginning might be accessed post-purchase and create a post-purchase interaction, this thesis instead focuses on CX theory, which better captures how digital transparency shapes ongoing customer relationships and post-purchase customer responses.

2.2 Theoretical Framework

2.2.1 Customer Experience

The concept of CX is a relatively new research field, however, its roots date back to the 1950s and the idea that people do not inherently desire products but rather experiences (Abbott, 1955). Since then, CX has evolved into a multidimensional construct consisting of five dimensions: cognitive, emotional, behavioral, sensorial and social components (Lemon & Verhoef, 2016). However, Brakus et al. (2009) propose a four-dimensional model of brand experience: sensory, affective, intellectual and behavioral, that is widely used among scholars. The primary difference is that Brakus et al. (2009) include the social aspect into the affective category, given their conceptual overlap. CX may relate to a specific aspect of an offering and consists of individual touchpoints, or interactions between a company and a customer (Lemon & Verhoef, 2016).

According to Lemon and Verhoef (2016), CX is best conceptualized as a customer journey, a dynamic process spanning three stages: pre-purchase, purchase, and post-purchase. The pre-purchase stage can in theory encompass all interactions before a purchase, but in practice it covers the CX from the identification of a need to the need being met (Lemon & Verhoef, 2016). The purchase stage covers all customer-brand interactions during the transaction, such as choice, ordering and payment. While typically the shortest stage, it has received significant research attention, especially regarding marketing activities' influence on customer behavior (Lemon & Verhoef, 2016). The post-purchase stage includes all interactions following a purchase, ranging from product consumption to repurchase intention. Previous research on this stage has focused on both purchasing behaviors and non-purchasing behaviors such as Word-of-Mouth (WoM), loyalty, and customer engagement (Lemon & Verhoef, 2016). This stage could theoretically extend to the end of a customer's life, however, practically, this stage only relates to interactions with the brand or product. The stage is critical as customers form evaluations and intentions regarding future interactions with the brand. Despite this, post-purchase research is limited (Dahl et al., 2016). Post-purchase evaluations influence both future experiences and the overall perception of the brand. In this way, the post-purchase stage determines whether a customer will continue or discontinue their purchase journey. This process can extend through the so-called loyalty loop, in which certain triggers reinforce customer loyalty and lead to continued purchases (Lemon & Verhoef, 2016).

Within this customer journey four main customer touchpoints that shape CX can be identified: partner-owned (interactions jointly designed by the company and their partners), customer-

owned (individual decision-making processes and personal reflections), social or external touchpoints (broader societal and external influences) and brand-owned (direct interactions controlled by the company) (Lemon & Verhoef, 2016). An example of a brand-owned touchpoint could be new technological advancements. Since they alter customer-brand interactions, perceptions and expectations, they simultaneously transform CX. Customers with high personal innovativeness traits, who are willing to try new technologies, are more receptive to these changes (Agarwal & Prasad, 1998; Hoyer et al., 2020). As digital innovations redefine how brands engage with customers, CX models must adapt to reflect these new conditions (Gallardo-Garcia et al., 2023).

An important aspect of CX theory is to understand the connected outcomes it provides. Previous research on CX theory shows no clear consensus on what variables act as components or consequences of CX. While CX studies draw from diverse fields such as marketing, service quality, and relationship management, it is dynamic and multidisciplinary, and many aspects of CX remain underdeveloped (Gallardo-Garcia et al., 2023; Lemon & Verhoef, 2016). Researchers have proposed different models linking CX constructs, but no universally accepted sequence of cause and effect has been established for all related variables and their relationships. For example, satisfaction has both been proposed to be covered by the conventional CX dimensions, but also to be a consequence of CX stretching beyond the immediate interaction (Brakus et al., 2009; Lemon & Verhoef, 2016). In addition to satisfaction, CX also influences other important outcomes, such as brand trust, customer engagement and WoM intention. Brand trust reflects a brand that keeps its promise to customers and has been explored as a consequence of CX (Lemon & Verhoef, 2016). CX develops and creates trust-based relationships between the customer and the brand, which in turn fosters brand loyalty (Sahin et al., 2011). Additionally, customer engagement has also emerged as a concept related to CX and has been conceptualized as a highly interactive touchpoint throughout the customer journey. Customer engagement is often defined as a multidimensional construct including cognitive (thought and attention to the brand), emotional (affective responses), and behavioral (brand-related actions) components (Hollebeek, 2011). Khan et al. (2020) expand on the CX framework and show that a positive CX leads to customer engagement, which in turn leads to enhanced loyalty. WoM has also been proposed to be an outcome of CX, and to be strongly related to loyalty (Bilgihan et al., 2016).

This thesis applies CX theory within a new context, DPPs, to examine how DPP-enabled transparency influences post-purchase customer responses. DPPs have been suggested to

enhance CX, but rather than measuring the extent to which DPPs affect specific CX dimensions, this study focuses on post-purchase customer responses induced by DPPs as a brand-owned touchpoint. Measuring abstract CX dimensions offers limited practical implications whereas evaluating post-purchase customer responses can deliver more tangible findings. Previous literature has proposed a connection between CX and post-purchase customer responses such as brand trust, customer engagement and WoM intention. Because of this connection, the CX dimensions were used as an underlying assumption for the connection between the DPP and the dependent variables, and to ensure a broad coverage over several CX dimensions. In this way, the DPP is conceptualized as a touchpoint in the customer journey that creates and delivers a CX leading to post-purchase customer responses. The focus of this thesis is on the DPP and the direct consequences of its introduction. Thus, the dependent variables are studied individually as direct DPP outcomes, and their potential interaction and dependencies are disregarded. The dependent variables chosen in this thesis are post-purchases customer responses, specifically brand trust, customer engagement and WoM intention. These were all chosen because of their strong connection to both the DPP and CX theory as well as their practical relevance.

2.3 Hypothesis Generation

2.3.1 The DPPs Effect on Post-Purchase Customer Responses

DPPs have been suggested to lead to customer benefits, but concrete empirical evidence is lacking. Previous literature, however, proposes that transparent communication and access to information can increase brand trust (Cheng & Huang, 2024; Kang & Hustvedt, 2014; Kim et al., 2020; Yang & Battocchio, 2020). Given that one of the core functions of DPPs is providing transparent information, it is reasonable to assume that DPPs have the potential to increase brand trust. This link is also suggested by Psarommatis et al. (2024), but not empirically proven. Furthermore, customer engagement has been proposed as a consequence of a DPP being present (Lojacono, 2024; Psarommatis et al., 2024). While engagement can take different forms, we argue that cognitive engagement (hereafter referred to as customer engagement) is the most relevant in this context, as DPPs encourage users to think and allows for a new informational touchpoint with the brand (Hollebeek, 2011). Lastly, WoM intention is an outcome of CX (Bilgihan et al., 2016), especially studied in the post-purchase stage (Lemon & Verhoef, 2016), where customers share their experiences with others. Since DPPs are proposed to create new CXs (Lojacono, 2024), we argue that it has the potential to also increase WoM intention.

Based on this, we hypothesize that

H1a The presence of a Digital Product Passport leads to higher brand trust compared to no presence of a Digital Product Passport

H1b The presence of a Digital Product Passport leads to higher customer engagement compared to no presence of a Digital Product Passport

H1c The presence of a Digital Product Passport leads to higher WoM intention compared to no presence of a Digital Product Passport

2.3.2 The Moderating Effect of Personal Innovativeness

New technology introductions will shape the future CX and customer journey (Hoyer et al., 2020). Since DPPs can be seen as a new digital brand-owned touchpoint, it is thus expected to affect CX. According to Hoyer et al. (2020), the way CX is perceived by customers is influenced by their relationship to technology and their level of personal innovativeness. They further argue that customers that are more open to trying new technologies and are more innovative and ready to learn about new offerings are more likely to benefit from new technology implementations. They therefore propose that personal innovativeness can act as a moderator in the customer journey.

Hence, we hypothesize that

H2a The greater the personal innovativeness, the stronger the relationship between the presence of a Digital Product Passport and brand trust

H2b The greater the personal innovativeness, the stronger the relationship between the presence of a Digital Product Passport and customer engagement

H2c The greater the personal innovativeness, the stronger the relationship between the presence of a Digital Product Passport and WoM intention

2.3.3 The Mediating Role of Perceived Transparency

Balaska et al. (2025) claim that introducing digital technologies, such as DPPs, increases both trust, customer engagement, and transparency for the customers. Ospital et al. (2023) further state that introducing DPPs is a way to increase transparency in the production and supply chain and is backed up by Psarommatis et al. (2024) who say that it not only improves supply chain transparency but also efficiency. Since the DPP is an informative transparency tool, it is reasonable to believe that also the perception of transparency will be positively influenced by the DPP presence. Kim et al. (2020) claim that for customers, fairness of information is more important for perceived transparency than the actual amount of information. Huynh et al. (2024)

further state that transparency positively influences customer trust as well as WoM. This is shared by Kang and Hustvedt (2014), who argue that perceived transparency increases the overall brand attitude, as well as strengthening trust and WoM intention.

We therefore hypothesize that

H3 The presence of a Digital Product Passport leads to higher perceived transparency compared to no presence of a Digital Product Passport

H4a Perceived transparency is positively related to brand trust

H4b Perceived transparency is positively related to customer engagement

H4c Perceived transparency is positively related to WoM intention

If H3 and H4 hold, there is reason to believe they would also interact. The presence of a DPP would thus influence brand trust, customer engagement and WoM intention through perceived transparency.

This relationship leads us to hypothesize that

H5a The relationship between the presence of a Digital Product Passport and brand trust is mediated by perceived transparency

H5b The relationship between the presence of a Digital Product Passport and customer engagement is mediated by perceived transparency

H5c The relationship between the presence of a Digital Product Passport and WoM intention is mediated by perceived transparency

2.3.4 The Mediating Role of Brand Skepticism

Greenwashing is one reason for the growing trend of increased distrust among customers (Sansome et al., 2024). For both luxury and fast fashion brands, there have been examples of unsustainable behavior resulting in increased distrust from the customers (Sun et al., 2025; Tickle et al., 2024). Especially in the fast fashion sector, customers have long doubted the validity of the information provided, making these brands particularly vulnerable to skepticism. Such skepticism can act as a barrier that undermines how well transparency efforts are received (Alexa et al., 2022; Skarmeas & Leonidou, 2013). Hence, brands that operate in industries with high levels of skepticism, such as within fast fashion, need to prove their actual transparency to a higher degree (Tickle et al., 2024). However, the introduction of DPPs offers a way to reduce

skepticism by providing verified, transparent and detailed product information (Adisorn et al., 2021; Marchesi et al., 2022). By addressing customer doubts, DPPs can shift customers' perceptions and make transparency efforts more credible. Thus, we propose that the presence of a DPP reduces the skepticism towards the brand, which in turn boosts perceived transparency, ultimately leading to enhanced brand trust, customer engagement, and WoM intention.

Therefore, we hypothesize that

H6a The relationship between the presence of a Digital Product Passport and perceived transparency is mediated by brand skepticism

H6b The relationship between the presence of a Digital Product Passport and brand trust is serially mediated by brand skepticism and perceived transparency

H6c The relationship between the presence of a Digital Product Passport and customer engagement is serially mediated by brand skepticism and perceived transparency

H6d The relationship between the presence of a Digital Product Passport and WoM intention is serially mediated by brand skepticism and perceived transparency

2.3.5 Fast Fashion versus Luxury Brands

This study focuses on the post-purchase customer responses induced by the introduction of DPPs within the fashion industry, with a specific focus on the comparison of fast fashion and luxury brands. The differences in the findings for the two sectors will therefore also be evaluated and presented. Previous literature on the topic provides arguments for both luxury as well as fast fashion to experience the most impact of sustainability efforts (Grazzini et al., 2021; Kong et al., 2021; Vock, 2022). Aspects such as degree of skepticism, amount of information displayed and alignment with brand values all affect the impact that DPPs will have. Based on the many different opinions on the matter, previous literature alone does not suffice to explain the effects of the DPP implementation on the different brand types. Thus, a clearly supported hypothesis cannot be formulated and the different effects on the two brand types will be studied as an additional dimension of the already formulated hypothesis.

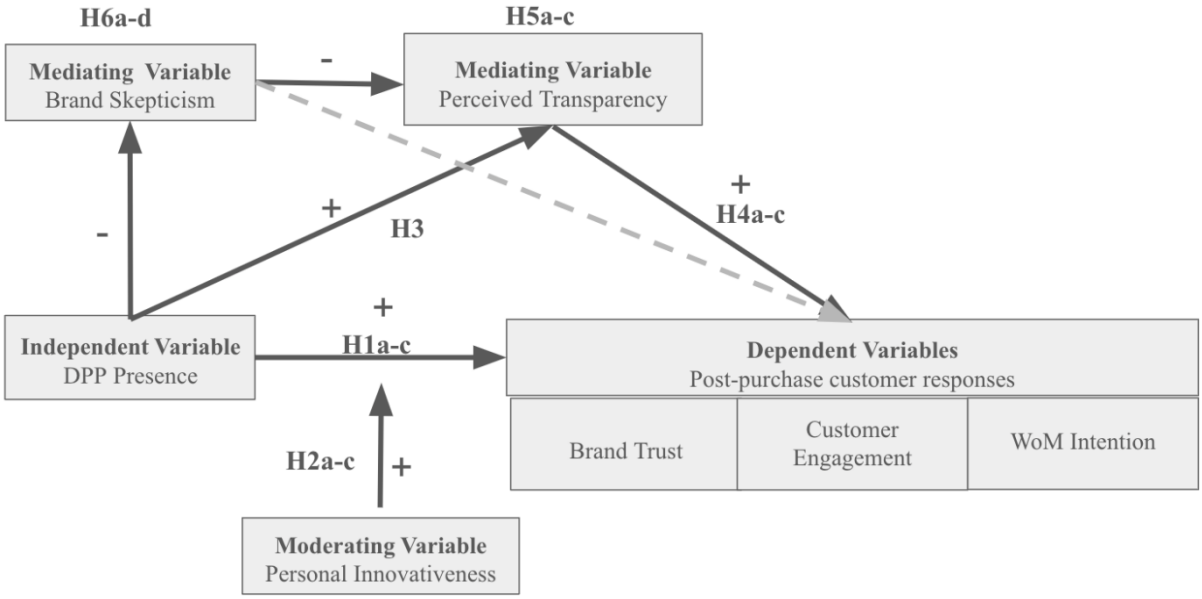
2.3.6 Conceptual Framework

Figure 1 shows an overview of the relationships between the hypotheses generated in the above section. When a DPP is present, it is hypothesized to positively affect the dependent variables

independently and to be moderated by Personal Innovativeness. It is further proposed to be mediated by both Brand Skepticism and Perceived Transparency.

Figure 1.

Visual Representation of the Hypotheses



Note. H6b-d test the entire serial mediation model

3. Methodology

3.1 Research Approach

This study takes a positivist epistemological position, meaning that knowledge can be derived from objective, measurable data. This is grounded in an objectivist ontological stance, suggesting that social phenomena exist independently of how we perceive or interpret them (Bell et al., 2019). This viewpoint aligns with our aim of examining post-purchase customer responses caused by the introduction of a DPP. By adopting a positivist position, we acknowledge that the appropriate way to acquire knowledge is to directly measure and observe them (Bell et al., 2019). This motivated the use of a quantitative experimental research design and the collection of primary data through self-completion questionnaires in Qualtrics. In line with positivist social science, a deductive approach was adopted (Bell et al., 2019), where existing theories and research on transparency and customer behavior guided the hypothesis formulation that were later tested empirically. While previous research on the DPP is nascent and has primarily employed qualitative methods, research on transparency and customer behavior can be seen as mature. Several studies have utilized quantitative experimental approaches to empirically assess transparency concepts, like product and CSR transparency, impact on customer behavior (Huynh et al., 2024; Kim et al., 2020; Vock, 2022). This study was inspired by previous studies in related fields and offers new insights into DPP literature with its quantitative research approach.

3.1.1 Research Design

A self-completion questionnaire was chosen to allow for easier data collection and to enable faster responses from a greater geographical population. They are quicker to administer and eliminate interviewer interaction, reducing interviewer variability (Bell et al., 2019). Additionally, participants were forced to answer the questions in a specific order, ensuring no incomplete responses and minimizing the risk of missing data. The questionnaire was designed to appear short and clear, and open-ended questions were minimized to ensure ease of completion and higher response quality (Bell et al., 2019). While this approach offers advantages, we acknowledge its limitations. First, experimental settings may not fully replicate real customer decision-making. Additionally, limited attention spans in online questionnaires could affect response quality. To mitigate this risk, the questionnaire was refined and tested through two pre-studies and a pilot test, ensuring clarity and ease of completion (Bell et al., 2019).

The use of self-completion questionnaires ensures consistency in question presentation and was thus favored over structured interviews that may introduce effect or response bias. Moreover, structured interviews are time-consuming and would have limited the sample size, reducing statistical power (Bell et al., 2019). The alternative of adopting a qualitative approach was also evaluated. While it can provide more in-depth analysis regarding customer behavior, it does not allow for statistical testing and comparability across participants (Bell et al., 2019). Since the study aims to test predefined concepts rather than explore emerging themes, a quantitative experimental questionnaire was considered the most appropriate approach.

3.2 Pre-Study and Pilot Study

To develop the stimuli for the experiment, two pre-studies and one pilot study were conducted. The aim of both pre-studies was to help with stimuli creation to avoid introducing confounding variables, and the aim of the pilot study was to verify the data quality.

3.2.1 Insights From the Pre-Studies

The aim of the first pre-study was to validate that the stimuli product pictures in the main study were unisex and could represent both luxury and fast fashion brands. Therefore, participants were asked about their perceptions of three different product categories, chosen by the authors. See Appendix A for more details. 22 valid responses were collected (65% women and 35% men, mean age 24) from family and friends distributed through social media. Findings revealed no consensus regarding unisex and price point perceptions. These insights changed the experimental design of the main study, by excluding product category and picture, and new stimuli were subsequently created.

The second pre-study aimed to test the new stimuli. A scenario describing a fictional brand as either a traditional luxury brand or a fast fashion brand was created and tested. We collected five responses (60% men and 40% women, mean age 31) from family and friends through semi-structured interviews where the participants gave feedback and explained their reasoning. Findings suggested that the participants understood the new stimuli and the brand descriptions, thus only minor changes were made in terms of clarity.

3.2.2 Insights From the Pilot Study

Before the data collection of the main study, a pilot study of the self-completion questionnaire was conducted to verify the data collection quality and test the full experiment on a representative sample of the main study. This was done to ensure that the experiment functioned well, and that potential problems such as manipulation interpretation could be solved before

distributing the main study (Söderlund, 2018). A soft launch was conducted through Norstat where 26 responses were collected, and ages ranged from 18 to 76 years (M = 44.7, 42.3% women, 57.7% men). To check the manipulation, participants were shown one of four stimuli and asked to indicate on a 7-point Likert scale (1 = strongly disagree and 7 = strongly agree) if they believed that "the product I just bought was: highly priced, luxurious and superior quality" (inspired by Vock (2022)). Findings revealed that participants did not significantly perceive the luxury brand as more luxurious than the fast fashion brand ($M_{\text{Fast Fashion}}$ = 4.22, $SD_{\text{Fast Fashion}}$ = 0.69, M_{Luxury} = 4.02, SD_{Luxury} = 1.03, t(22.6) = -0.58, $p > .05$). Thus, the brand descriptions were rewritten to include simpler language, and key words were bolded to strengthen the manipulation and to avoid similar problems in the main study. However, the same manipulation check was kept ensuring stimuli comprehension.

3.3 Main Study

The questionnaire consisted of 18 questions, took approximately 7 minutes to complete, and was administered entirely in English. An opt-out option was included in the beginning, allowing participants to either proceed in English or exit the questionnaire. This aimed to decrease dropout rates mid-questionnaire due to language barriers. Even though the targeted population was Swedish, the questionnaire was conducted in English to ensure measurement reliability and validity. The questions were directly developed and inspired by previous studies in English. Constructing the questionnaire in English thus minimized translation errors that could affect the consistency of the measures.

Firstly, participants were informed about the study's purpose, estimated completion time, GDPR regulations, and the anonymity and confidentiality of their responses. Before proceeding, participants had to consent to participate.

The study employed a 2x2 between-subjects experimental design, where the two factors were DPP presence and brand type. The participants were randomly assigned to one of four experimental conditions: *DPP fast fashion (DPP FF), DPP luxury (DPP L), no DPP fast fashion (No DPP FF), and no DPP luxury (No DPP L)*. The randomization was executed using the Qualtrics randomization tool. Using randomized allocation ensured that potential observed differences between groups could be argued to be caused by the experimental treatment (Söderlund, 2018). Each experimental group was presented with a stimulus describing a fictive brand (fast fashion or luxury) and an accompanying image (DPP or standard clothing tag). The questionnaire was identical for all participants except for the display of experimental stimuli.

For the stimuli development, the fast fashion and luxury brand descriptions were developed based on typical characteristics of the brand type, inspired by Vock (2022). Each group was shown an image representing either a DPP or a standard clothing tag, serving as the control condition. Both the DPP and the standard clothing tag were designed by the authors with inspiration from the fashion brand Filippa K and EU Parliament recommendations on DPP requirements. See Appendix B for the complete stimuli and Appendix C for the full questionnaire.

The questionnaire was designed to minimize order effect bias. However, the manipulation check was positioned immediately after the stimuli, rather than at the end of the questionnaire. This decision was inspired by Favaron and Di Stefano's (2025) previous experimental research, where the manipulation check was placed directly after the stimuli to help participants fully process and understand the context. The pilot study findings indicated that participants struggled to distinguish between brand types, highlighting the importance of comprehension with complex stimuli. While placing the manipulation check after the treatment but before the questions might influence subsequent responses, it is suggested as a valid approach in an experiment (Söderlund, 2018).

3.3.1 Sampling and Distribution

Data collection took place between March 6th and 23rd. To obtain a broad and diverse sample of the geographical focus area (Sweden), the Swedish panel company Norstat was used to distribute the questionnaire nationwide. While Norstat facilitated data collection, the sample remains a convenience sample rather than a true randomized probability sample. A convenience sample does not ensure full randomness in selection of participants and may restrict sample representativeness and generalizability (Bell et al., 2019). However, due to this study's resource constraints and its focus on customer behavior, where convenience sampling is widely accepted (Bell et al., 2019), this sampling method was deemed appropriate.

A potential limitation of our sample is self-selection bias, as participants voluntarily chose to engage in the questionnaire. Additionally, panel participants may exhibit higher engagement levels than the general population, introducing potential bias. However, self-selection is an intrinsic challenge when conducting questionnaires, and even tough a large sample size was used to partially mitigate the issue, it is impossible to completely avoid (Bell et al., 2019).

3.3.2 Sample Description

In total, 896 responses were collected. However, 299 participants were excluded since they did not finish the questionnaire or were screened out after the GDPR and English question. Furthermore, two participants were excluded for being under the age of 18. This resulted in 595 valid responses, meaning 66.4% of people that opened the questionnaire were included in the study. The participants' ages varied from 18 to 90, with a median of 45, and a mean of 46.53. It consisted of 48.07% women, 50.76% men, 0.50% identified as non-binary/other, 0.34% preferred not to say, and 0.34% preferred to self-describe. The sample was somewhat knowledgeable about fashion (M = 3.27 on a 7-point scale) and people shopped on average every few months to a few times a year (M = 3.53 on a 7-point scale). The sample had on average never heard of a DPP or heard of it but didn't know much about it (M = 1.51 on a 5-point scale). The results confirm that the sample was not skewed as there were no extreme mean values regarding fashion consumption behaviors, ensuring a valid basis for customer behavior analysis. Furthermore, participants perceived the questionnaire to be somewhat easy to understand (M = 1.90 on a 5-point scale).

3.3.3 Measures and Variables

Since the experiment focuses on the presence of a DPP post-purchase, DPP Presence is considered the study's main independent variable. However, when examining differences between brand types, both DPP Presence and Brand Type are independent variables. The remaining variables are classified as either dependent, mediating or moderating variables, or control and background variables, shown in Table 1. A 7-point Likert scale was used throughout the study, in line with previous research. All variables, except for fashion expertise, DPP familiarity, purchasing frequency, clothing purchases, and the independent variables, were measured using this Likert scale. For all variables, 1 = strongly disagree and 7 = strongly agree, except for WoM where 1 = extremely unlikely and 7 = extremely likely. To increase reliability and validity, dependent, mediating and moderating variables were measured using multi-item scales, consisting of three to four items, to be able to calculate an average (Söderlund, 2018). All measurement items were adapted from pre-existing scales, and the adaptations made were simply to ensure relevance and context fit.

Table 1

Summary of Variables

Variable	*Description*
Independent Variable	
DPP Presence	Represents whether participants were exposed to the DPP stimuli or part of the control group.
Brand Type	Represents whether participants were exposed to a luxury brand or fast fashion description.
Dependent Variables	
Brand Trust (Trust)	Measures how much participants trust the brand and the information provided. Based on a three-item Likert scale inspired by Zhang and Zhao (2023), asking how much they agree with the following: "This brand makes me feel safe and secure", "I know this brand will be responsible for its behaviors", "I think this brand is trustworthy".
Customer Engagement (Engagement)	Assesses how engaged participants are after being exposed to the scenario. Measured using a three-item Likert scale, adapted from Hollebeek et al.'s 10-item scale (2014), asking how much they agree with the following: "Purchasing this brand get me to think about this brand", "Purchasing this brand stimulates my interest to learn more about it", "I will think about this brand a lot after the purchase".
Word of Mouth Intention (WoM)	Captures participants' intention to speak positively about the brand. Measured through a three-item Likert scale asking how likely they are to: "Tell others good things about this brand", "Recommend this brand to someone I know", "Share information about this brand with someone I know". Adapted from Bruner (2021).
Moderating Variables	
Personal Innovativeness (Innovativeness)	Measures how open participants are to trying new technologies. Based on a three-item Likert scale adapted from Agarwal and Prasad (1998), participants indicated how much they agreed with: "When I hear about a new technology, I search for a way to try it", "Among my friends or family, I am usually the first to try new technologies", "I like to experiment and try new technologies".
Mediating Variable	

Perceived Transparency (Transparency)	Assesses how ethically the manufacturing process is perceived. Measured using a four-item Likert scale asking how much participants agree that the "information provided by the brand is; fair, reasonable, justified and humane". Based on Kim et al. (2020).
Brand Skepticism (Skepticism)	Examines how skeptical participants are about the brand's social responsibility and the information presented. Assessed using a four-item Likert scale developed by Skarmeas and Leonidou (2013), with the statements: "It is doubtless that this is a socially responsible brand", "It is certain that this brand is concerned to improve the well-being of society", "It is sure that this brand follows high ethical standards", "It is unquestionable that this brand acts in a socially responsible way". Items were recoded so that higher scores reflected greater skepticism.
Control and Background Variables:	
Manipulation Check	Used to assess how participants perceived the fictional brand. Measured using a three-item Likert scale with the prompt: "I believe that the brand is … 1) of superior quality, 2) very highly priced and 3) luxurious". Adapted from Vock (2022).
CX Dimension	Captures the participant's experience. Measured using a four-item Likert scale derived from Brakus et al.'s 12-item customer experience scale (2009), one for each dimension. Asking how much they agree with: "This brand makes a strong impression on my senses", "This brand induces feelings and sentiments", "This brand is action oriented", "This brand makes me think".
Fashion Expertise	Measures how knowledgeable the participant is about clothing production and its ethical practices, 1 = Not knowledgeable at all, 7 = Expert level knowledge.
Clothing Purchases	Assesses participants' general purchasing habits by asking them to rank the following options best describing their clothing consumption: Ultra-Fast fashion, Fast Fashion, Premium, and Luxury
Purchasing Frequency	Captures how often participants purchase new clothing, ranging from 1 = never to 7 = very frequently.
DPP Familiarity	A brief explanation of DPPs was provided followed by an assessment of prior familiarity with the concept (1 = I had never heard of it, 7 = I

	am very familiar with it and understand how it works). If familiar with DPPs, participants were asked if they had seen or used a DPP before.
Demographics	Collects information on participants' gender, age, and where they currently live.

3.4 Data Analysis

3.4.1 Sample Quality Assessment

Once the data collection was completed, the data was imported into Excel for initial screening, and then imported into R-Studio version 4.4.3 for further analysis. Descriptive statistics, including means and standard deviations, were calculated and Cronbach's alpha was used to assess reliability of measures. All statistical tests were two-tailed, and a significance threshold set at $p < .05$ was chosen to minimize type-1 errors (Bell et al., 2019).

To assess the effectiveness of the manipulation, an t-test was conducted comparing all participants who received a fast fashion manipulation with those who received a luxury manipulation, regardless of DPP condition. Results showed a significant difference between the two groups ($M_{Fast\ Fashion} = 3.08$, $SD_{Fast\ Fashion} = 1.55$, $M_{Luxury} = 4.54$, $SD_{Luxury} = 1.65$, $t(588.49) = -11.15$, $p < .001$), confirming a significant difference between brand types.

To assess the demographic balance of the sample, a chi-square test was performed to examine gender distribution. In both cases $p > .05$, indicating no significant difference in gender distribution. Additionally, a one-way ANOVA (Analysis of Variance) was conducted to test age differences, which showed no significant differences ($p > .05$), confirming that age was evenly distributed across the sample.

3.4.2 Hypothesis Testing

Since previous research has suggested a connection between CX and this study's dependent variables (Trust, Engagement, and WoM), these relationships were used as an underlying assumption for hypothesis generation. To validate this relationship, linear regression analyses were conducted with CX Dimension and DPP Presence as independent variables. The results were significant and the assumption proved to hold, and the following hypothesis tests could thus be conducted. See Appendix D for more details.

Hypotheses H1 and H3 were tested through Welch two-sample independent t-tests, controlling for variance inequality, using the dataset grouped by the DPP Presence factor. These tests aimed to analyze whether there were any statistically significant differences of the dependent variables

between those exposed to the DPP and those not. Cohen's *d* was then calculated to determine the effect sizes of the differences (0.2 = small, 0.5 = medium, and 0.8 = large), to assess the practical significance of the findings in addition to statistical significance (Cohen, 1992). For H2, a linear regression was used to test whether Innovativeness moderated the relationship between DPP Presence and the dependent variables. H4 was evaluated using standard linear regressions to assess the significance of Transparency on the dependent variables, each tested in separate models.

For H5-H6, single and serial mediation analyses was conducted using the mediation and lavaan package in R (Rosseel, 2012; Tingley et al., 2014). The analyses used 5000 bootstrap simulations with a 95% CI (Confidence Interval). This number is commonly recommended in mediation analysis to ensure stable and accurate interval estimation, especially given the non-normal distribution of indirect effects.

In addition to the main hypotheses, in line with the second research question, further analyses were conducted to explore the differences between participants exposed to the two brand types. A two-way ANOVA was performed to analyze the differences of the dependent variables. To report effect sizes η^2 was used (.01 = small, .06 = medium, .14 = large) (Lakens, 2013). Additionally, interaction analyses were performed to explore brand type-specific effects. Multi-group mediation analysis using structural equation modeling (SEM) was conducted to compare if the mediation effects differed between brand types. This approach allowed for model comparison using chi-square difference test to determine whether the mediation paths were significantly different.

3.4.3 Hypothesis Testing Assumptions

Before conducting the hypotheses tests, the assumptions underlying each statistical test were evaluated (Field et al., 2012). For the t-test, ANOVA and linear regressions, key assumptions were considered. All dependent variables were continuous, and all participants were exposed to only one experimental condition, assuming independence of observation. The data was inspected for potential outliers and no major violations were identified. To assess homogeneity of variance, Levene's tests were conducted, showing no significant deviations ($p > .05$). Normality of the dependent variables was evaluated using the Shapiro-Wilk test. While some deviations from normality were observed, each group contained more than 130 observations. Therefore, based on the central limit theorem, it was reasonable to assume normality given the large sample sizes (Field et al., 2012).

For the regression models and moderation analysis, additional assumptions were checked (Field et al., 2012). Linearity was visually assessed confirming approximately linear relationships between dependent and independent variables. Homoscedasticity (equal variance of residuals) was tested using the Breusch-Pagan test, with all models yielding non-significant results ($p > .05$) indicating no problems. To assess multicollinearity, the Variance Inflation Factor (VIF) was calculated, which showed results below the commonly used threshold of 5, indicating no issues.

3.5 Reliability and Validity

3.5.1 Reliability

Reliability refers to the extent a specific variable consistently provides consistent results, indicating the stability and internal consistency of the construct being measured (Bell et al., 2019). In this study, Cronbach's alpha was used to assess the internal reliability of the multi-item scales, with an acceptable threshold set to .7, as suggested by Bell et al. (2019). The analysis was carried out in two steps. First, Cronbach's alpha was calculated for the entire dataset (see Table 2). Second, it was calculated across all experimental groups (see Appendix E). This was done to ensure that internal reliability was consistent not only within but also across all experimental groups. All multi-item measurements showed Cronbach's alpha values above the .7 threshold, indicating an acceptable level of internal consistency. As a result, the items within each construct were averaged to create an indexed variable.

Table 2

Cronbach's Alpha for Indexed Variables

Group Variable	Cronbach's Alpha (Total $N = 595$)	# items
Trust	.90	3
Engagement	.83	3
WoM	.88	3
Transparency	.91	4
Innovativeness	.88	3
Skepticism	.93	4

3.5.2 Validity

Validity refers to the credibility of research conclusions and the extent to which the study measures what it intends to measure (Bell et al., 2019). To ensure content validity, a subjective review was conducted to assess how well the questionnaire items reflected the theoretical constructs (Söderlund, 2018). The review indicated a high level of congruence between the variables measured and the questions asked, particularly since the scales were selected based on their alignment with the theoretical definitions of the constructs. In terms of construct validity, important for quantitative research, all measurement scales were adopted from previous studies where they have been tested and validated across multiple research contexts. This also minimized the risk of measuring unrelated or unintended concepts (Bell et al., 2019).

Additionally, ecological validity was considered, which refers to the extent the findings of the study reflect a natural occurring social setting (Bell et al., 2019). As the data was collected through a self-completion questionnaire, the ecological validity of this study may be somewhat limited. While the experimental stimuli were based on real-world sources to increase realism, they were still constructed by the authors, and presented in an experimental setting, and may not fully capture the way customers engage with DPPs in practice. Furthermore, placing the manipulation check directly after the stimuli might carry the risk of priming participants. However, it also helped to ensure that they clearly understood the context, something that may not occur naturally in a digital setting without real-world cues. In this way, the manipulation check may have contributed to a more grounded and realistic interpretation of the stimuli strengthening ecological validity. Although actions were taken to strengthen ecological validity, the artificial nature of the experiment and stimuli still pose potential limitations, which should be considered when interpreting the findings.

4. Results

4.1 Descriptive Statistics

Table 3 presents the means and standard deviations for all variables across the DPP and No DPP groups. An overall comparison of the descriptive statistics shows that the mean values are relatively moderate across both groups. Differences between the two groups appear to be small and tend to cluster below the midpoint value of 4.

In addition, a correlation analysis was conducted (see Appendix F) to examine the relationship between the dependent, mediating and moderating variables. Most correlations ranged between .3 and .8, indicating moderate level of association, strong enough to be theoretically relevant but low enough to disregard potential overlap. An exception was the Innovativeness variable which showed weak correlations with the other variables (ranging from .01 and .34). However, since Innovativeness is a moderating variable rather than a core variable, this weaker relationship is expected.

Table 3

Descriptive Statistics of the Variables

Group	DPP	No DPP		Total	
	n = 294	*n* = 301		*N* = 595	
Variable	*M*	*M*	*SD*	*M*	*SD*
	SD				
Trust	3.92	3.10	1.35	3.49	1.44
	1.42				
Engagement	3.91	3.48	1.28	3.68	1.31
	1.30				
WoM	3.81	3.21	1.31	3.50	1.37
	1.36				
Transparency	4.29	3.71	1.24	3.99	1.23
	1.16				
Innovativeness	4.07	3.06	1.42	4.01	1.37
	1.33				
Skepticism	3.76	3.97	1.41	3.39	1.41
	1.33				

4.2 Hypothesis Testing

4.2.1 Hypothesis 1

A t-test was used to test H1, where means and standard deviations are presented in Table 3. A comparison between a DPP being present and not, showed that Trust, Engagement and WoM were higher with a DPP than without one. This difference was significant for Trust ($t(586) = 7.15$, $p < .001$, 95% CI [0.594, 1.043]), Engagement ($t(589) = 4.04$, $p < .001$, 95% CI [0.220, 0.637]), and WoM ($t(587) = 5.35$, $p < .001$, 95% CI [0.373, 0.806]). The effect size for Trust ($d = 0.59$) and WoM ($d = 0.44$) was large, and medium for Engagement ($d = 0.33$). Thus, H1a, b, and c were supported.

4.2.2 Hypothesis 2

To test H2, linear regression moderation analyses were conducted with DPP Presence as the independent variable, Trust, Engagement and WoM as dependent variables, and Innovativeness as the moderating variable. The full results are presented in Table 4. For Trust, the overall model was significant ($F(3, 591) = 22.56$, $p < .001$, $R^2 = .10$), but the interaction term was not significant, thus H2a was not supported. For Engagement, the overall model was significant ($F(3, 591) = 10.18$, $p < .001$, $R^2 = .05$), and the interaction term was significant, thus H2b was supported. For WoM, the overall model was significant ($F(3, 591) = 15.85$, $p < .001$, $R^2 = .07$), but the interaction term was not significant, thus H2c was not supported.

Table 4

Linear Regression Results for H2

	Coeff.	*SE*	*t*(591)	*p*
Trust				
Intercept	3.11	0.79	39.44	< .001
DPP Presence	0.80	0.11	7.10	< .001
Innovativeness	0.07	0.06	1.27	.204
Interaction	0.15	0.08	1.85	.065
Engagement				
Intercept	3.48	0.07	47.53	< .001
DPP Presence	0.42	0.11	3.95	< .001
Innovativeness	0.04	0.05	0.82	.034
Interaction	0.16	0.08	2.12	< .001
WoM				
Intercept	3.22	0.08	42.61	< .001
DPP Presence	0.57	0.11	5.27	< .001

Innovativeness	0.13	0.05	2.37	.018
Interaction	0.08	0.08	0.98	.326

Note. Interaction refers to DPP Presence × Innovativeness

4.2.3 Hypothesis 3-5

A t-test was used to test H3, presented in Table 5. A comparison between a DPP being present and not showed that Transparency was significantly higher when a DPP was present than when a DPP was not present ($p < .001$), and the effect size was large. Thus, H3 was supported.

Table 5

T-test results for H3

Group	DPP		No DPP					
	n =294		*n* =301					
Variable	*M*	*SD*	*M*	*SD*	95% CI	*p*	*t*(593)	Cohen's *d*
Transparency	4.29	1.16	3.71	1.24	0.398, 0.784	< .001	6.00	0.49

To test H4, linear regression analyses were conducted with Transparency as the independent variable and Trust, Engagement and WoM as the dependent variables. The overall model for Trust *(*$F(1, 593) = 554.6$, $p < .001$, $R^2 = .48$), Engagement *(*$F(1, 593) = 131$, $p < .001$, $R^2 = .18$), and WoM *(*$F(1, 593) = 323.3$, $p < .001$, $R^2 = .35$) was significant. Table 6 further shows that Transparency had a significant positive effect on all dependent variables, thus H4a, b, and c were supported.

Table 6

Linear Regression Result for H4

	Coeff.	*SE*	*t*(593)	*p*
Trust				
Intercept	0.25	0.14	1.70	. 089
Transparency	0.81	0.03	23.55	< .001
Engagement				
Intercept	1.89	0.17	11.49	< .001
Transparency	0.45	0.04	11.44	< .001
WoM				
Intercept	0.87	0.15	5.70	< .001
Transparency	0.66	0.04	17.98	< .001

To test H5, a mediation analysis was conducted with DPP Presence as the independent variable, Trust, Engagement, and WoM as dependent variables, and Transparency as the mediator. The results are presented in Table 7. For Trust, both direct and indirect effects were significant ($p <$ .001), indicating partial mediation. Thus, H5a was supported. For Engagement, the direct effect was not significant ($p = .098$) whereas the indirect effect was significant ($p < .001$), suggesting full mediation. Thus, H5b was supported. For WoM, both direct and indirect effects were significant ($p < .05$) indicating partial mediation. Thus, H5c was supported.

Table 7

Mediation results for H5

	Coeff.	95% CI *LL*	95% CI *UL*	*p*
Trust				
Indirect effect	0.46	0.31	0.61	< .001
Direct Effect	0.36	0.19	0.52	< .001
Total Effect	0.82	0.60	1.03	< .001
Prop. mediated	0.56	0.42	0.73	< .001
Engagement				
Indirect effect	0.26	0.160	0.36	< .001
Direct Effect	0.17	0.04	0.37	.098
Total Effect	0.43	0.22	0.64	< .001
Prop. mediated	0.60	0.36	1.16	< .001
WoM				
Indirect effect	0.38	0.25	0.51	< .001
Direct Effect	0.21	0.03	0.40	.029
Total Effect	0.59	0.38	0.80	< .001
Prop. mediated	0.64	0.45	0.94	< .001

Note. LL = lower limit; *UL* = upper limit

4.2.4 Hypothesis 6

To test H6a, a single mediation analysis was conducted with Skepticism as the mediator, between DPP Presence and Transparency. Both the direct (coeff. = 0.40, 95% CI [0.20, 0.36], $p = .014$) and indirect effect (coeff. = 0.40, 95% CI [0.27, 0.53], $p < .001$) was significant, indicating partial mediation. The total effect was 0.59 ($p < .001$) and about 66.8% of the total effect is explained by the mediator. Thus, H6a is supported.

H6b-d were tested using three serial mediation models, testing the indirect effects of DPP Presence on Trust, Engagement and WoM through Skepticism and Transparency. The results

in Table 8 show that for all dependent variables the total indirect effect was significant ($p < .001$), the direct effect of DPP Presence on Engagement and WoM was non-significant, and the direct effect for Trust remained significant. This indicates that the effect of DPP Presence on Engagement and WoM is fully mediated by Skepticism and Transparency, whereas Trust is partially mediated. All specific indirect paths and their serial combinations were significant ($p < .05$), explaining the importance of both mediators. Thus, H6b-d are supported.

Table 8

Serial Mediation Results for H6b-d

	Total Indirect Effect (coeff., *SE*, *p)*	Direct Effect (coeff., *SE*, *p)*	Total Effect (coeff., *SE*, *p)*
Trust			
DPP→Skepticism→Transparency→ Trust	0.63, *SE* = 0.10, $p < .001$	0.19, *SE* = 0.07, $p = .008$	0.82, *SE* = 0.12, $p < .001$
Engagement			
DPP→Skepticism→Transparency→ Engagement	0.33, *SE* = 0.06, $p < .001$	0.10, *SE* = 0.10, $p = .325$	0.43, *SE* = 0.11, $p < .001$
WoM			
DPP→Skepticism→Transparency→ WoM	0.59, *SE* = 0.11, $p < .001$	0.09, *SE* = 0.09, $p = .323$	0.59, *SE* = 0.11, $p < .001$

4.3 Brand Type Comparison

To explore the second research question and the brand-type differences, each hypothesis was reanalyzed by adding the second factor, Brand Type. Table 9 shows that for all dependent variables, the DPP L group displayed the highest mean scores, while the No DPP FF group displayed the lowest.

Table 9

Descriptive Statistics for the 2x2 Groups

Group	DPP FF		DPP L		No DPP FF		No DPP L	
	n = 151		*n* = 138		*n* = 150		*n* = 156	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Trust	3.60	1.37	4.27	1.40	2.74	1.37	3.44	1.24
Engagement	3.70	1.34	4.13	1.22	3.28	1.31	3.67	1.22
WoM	3.54	1.36	4.09	1.31	3.08	1.33	3.34	1.28

Note. FF = Fast Fashion, L = Luxury

To retest H1, three two-way ANOVAs were conducted with DPP Presence and Brand Type as independent variables and Trust, Engagement and WoM as dependent variables. As summarized in Table 10, both DPP Presence and Brand Type showed significant main effects across all three dependent variables, while the interaction effect between DPP Presence and Brand Type was consistently non-significant. The main effects were of small to medium size, whereas the interaction effects were negligible. These results suggest that both DPP Presence and Brand Type individually influence Trust, Engagement, and WoM, but that their effects do not significantly interact.

Table 10

Two-Way ANOVA Results

	$F(1, 591)$	p	η^2
Trust			
DPP Presence	54.45	< .001	.084
Brand Type	38.10	< .001	.061
Interaction	0.02	.901	.000
Engagement			
DPP Presence	16.67	< .001	.027
Brand Type	15.28	< .001	.025
Interaction	0.04	.848	.000
WoM			
DPP Presence	29.39	< .001	.047
Brand Type	13.75	< .001	.023
Interaction	1.80	.181	.003

Note. Interaction refers to DPP Presence × Brand Type

Although the retest of H1 showed no significant interaction effect, we still retested H2-H6 to examine if potential differences might appear across the full conceptual model. To retest H2, a combined moderation analysis was conducted, with DPP Presence and Brand Type as the independent variables, Innovativeness as the moderator, and Trust, Engagement, and WoM as dependent variables. For all three dependent variables, Trust ($F(7, 587) = 15.33$, $p < .001$, $R^2 = .15$), Engagement ($F(7, 587) = 7.19$, $p < .001$, $R^2 = .07$), and WoM ($F(7, 587) = 9.39$, $p < .001$, $R^2 = .09$), the overall models were significant. However, none of the interaction terms involving Brand Type such as the three-way interaction between DPP Presence, Innovativeness, and Brand Type were statistically significant ($p > .05$). These results suggest no significant

difference in the moderating effect of Innovativeness between brand types. Full details of the regression analyses are provided in Table G1 in Appendix G.

To further explore H3, a linear regression analysis with an interaction was conducted with DPP Presence as the independent variable, Brand Type as a moderator, and Transparency as the dependent variable. The overall model was significant ($F(3, 591) = 19.83$, $p < .001$, $R^2 = .09$), with significant main effects for both DPP Presence and Brand Type. However, the interaction between DPP Presence and Brand Type was not statistically significant ($p > .05$). These results suggest no significant differences in the DPP Presence-Transparency relationship for the two brand types. Full details of the regression analyses are provided in Table G2 in Appendix G.

To retest H4, linear regressions with an interaction were conducted, with Transparency as the independent variable, Brand Type as a moderator, and Trust, Engagement and WoM as dependent variables. The overall models were significant for Trust ($F(3, 591) = 193.20$, $p < .001$, $R^2 = .49$), Engagement ($F(3, 591) = 46.55$, $p < .001$, $R^2 = .19$), and WoM ($F(3, 591) = 108.20$, $p < .001$, $R^2 = .35$). However, in all models, the main effect of Brand Type and the interaction between Transparency and Brand Type were non-significant ($p > .05$), suggesting that the positive relationship between Transparency and the dependent variables did not differ between brand types. Full regression details are presented in Table G3 in Appendix G.

For the retest of H5, multi-group mediation analyses were conducted to compare brand types. The mediation models were tested separately for Trust, Engagement, and WoM, with DPP Presence as the independent variable and Transparency as the mediator. Across all three variables, the indirect effect coefficients were identical between groups (Trust: 0.46; Engagement: 0.26; WoM: 0.38), and the chi-square difference test showed no significant difference between the brand types ($\Delta\chi^2(0) = .000$, $p = 1.00$). These results suggest that the mediation effects do not differ by brand type.

To explore H6a in relation to brand type, a multi-group mediation analysis was conducted with DPP Presence as the independent variable, Skepticism as the mediator, and Transparency as the dependent variable. The indirect effect was identical between groups (0.40), and the chi-squared difference test showed no significant differences in the mediation effect between brand types ($\Delta\chi^2(0) = .000$, $p = 1.00$). Therefore, no further serial mediation comparisons (H6b-d) between brand types were made.

4.4 Summary of Hypotheses Results

Table 11 shows a summary of all hypotheses and test results.

Table 11

Overview of Hypotheses Results

	Hypotheses	Results
H1a	The presence of a DPP leads to higher brand trust compared to no presence of a DPP	Supported
H1b	The presence of a DPP leads to higher customer engagement compared to no presence of a DPP	Supported
H1c	The presence of a DPP leads to higher WoM intention compared to no presence of a DPP	Supported
H2a	The greater the personal innovativeness, the stronger the relationship between the presence of a DPP and brand trust	Rejected
H2b	The greater the personal innovativeness, the stronger the relationship between the presence of a DPP and customer engagement	Supported
H2c	The greater the personal innovativeness, the stronger the relationship between the presence of a DPP and WoM intention	Rejected
H3	The presence of a DPP leads to higher perceived transparency compared to no presence of a DPP	Supported
H4a	Perceived transparency is positively related to brand trust	Supported
H4b	Perceived transparency is positively related to customer engagement	Supported
H4c	Perceived transparency is positively related to WoM intention	Supported
H5a	The relationship between the presence of a DPP and brand trust is mediated by perceived transparency	Supported
H5b	The relationship between the presence of a DPP and customer engagement is mediated by perceived transparency	Supported
H5c	The relationship between the presence of a DPP and WoM intention is mediated by perceived transparency	Supported
H6a	The relationship between the presence of a DPP and perceived transparency is mediated by brand skepticism	Supported

H6b	The relationship between the presence of a DPP and brand trust is serially mediated by brand skepticism and perceived transparency	Supported
H6c	The relation between the presence of a DPP and customer engagement is mediated by perceived transparency	Supported
H6d	The relationship between the presence of a DPP and WoM intention is serially mediated by brand skepticism and perceived transparency	Supported

5. Discussion

In the first section of the discussion, the primary research question will be explored through a discussion of the hypotheses test results.

- RQ1: How does the introduction of Digital Product Passports influence post-purchase customer responses in the fashion industry?

It will be followed by exploring the secondary research question:

- RQ2: How does this differ between fast fashion and traditional luxury fashion brands?

5.1 Discussion of the Hypotheses Results

5.1.1 Post-Purchase Customer Responses

The results from the study showed that introducing a DPP increased both brand trust, customer engagement and WoM intention. Kim et al. (2020) and Yang and Battocchio (2020) have previously shown that information availability and transparent communication, the foundations of a DPP, positively affects brand trust. By H1a being supported, this conclusion is strengthened and extends the knowledge on brand trust by connecting it to the DPP. Balaska et al. (2025) have further proposed that new digital introductions can increase customer engagement, and the significant results of H1b show that DPPs can be an example of this. The DPP is a digital tool not even introduced yet by most brands, making it an extremely new digital introduction. WoM is an opportunity to share experiences in the post-purchase stage. The significance of H1c shows that DPP presence leads to increased WoM intention, which speaks for DPPs providing experiences worth sharing. Previous literature has shown that DPPs influence CX (Lojacono, 2024), but our findings add that the experiences are also worth sharing with others. It has also been suggested that DPPs could lead to several customer benefits, however, mainly from a theoretical standpoint (Adisorn et al., 2021; Psarommatis et al., 2024). Even though this study only examined three customer outcomes, the significance of them all suggests that DPPs are beneficial for customers.

The mean values were low overall, indicating that participants were not overly positive. However, the differences compared to having no DPP present were still significant, and the effects were medium or large for all variables, indicating that introducing a DPP in the fashion industry has a strong impact on brand trust, customer engagement and WoM intention.

5.1.2 Personal Innovativeness

According to Hoyer et al. (2020), new technological advancements can affect both interactions, perceptions and expectations of CX, and the degree of personal innovativeness affects how receptive one is to these changes. H2a and H2c not being supported thus seems to stand in contrast to this. Personal innovativeness showed to strengthen the effect of DPP presence on customer engagement, but not on brand trust or WoM intention. In this study, engagement was measured through how much you would think about the purchase in the post-purchase stage. One reason for this hypothesis being supported could be that a customer who is more open and curious about new technology also naturally would think more about and be more willing to interact with new technology such as DPPs. For trust, there is no indication in literature that it would be affected by personal innovativeness level, and hence the insignificant results were no surprise. One reason could be that since the DPP is just presented through a standard QR-code, the customers might not see the new technology behind it, built on blockchain and AI technology, which makes it more user-friendly but also might decrease the perception of it being new. Thus, it is reasonable to believe that if you do not see the technological aspect of the DPP, your trust level is not dependent on how open you are to new technology. This could also explain the insignificant effect on WoM intention. On the other hand, WoM not being supported is still an interesting finding, as thinking about the purchase (customer engagement) more could be seen as connected to also talking more about it. However, these findings indicate that even though DPPs are interesting enough to create internal thought processes, it does not mean it is also communicated to the surroundings. The decision to share an experience with others is affected by several external factors such as social environment, whereas cognitive engagement only relies on the individual. Personal innovativeness entails how open and innovative the specific person is but does not consider the complexity of WoM intention.

5.1.3 Transparency

The results from the study are further aligned with Balaska et al. (2025), who claim that the introduction of digital technologies can increase perceived transparency. Ospital et al. (2023) and Psarommatis et al. (2024) have previously stated that DPPs increase supply chain transparency. Even though the DPP was created to be a transparency tool, it does not ensure that it will also be perceived as transparent by the customers. For example, Kim et al. (2020) argue that for customers to perceive information as transparent, fairness of the information is more important than the actual amount. However, our findings suggest that the DPP is not only a transparency tool but is also perceived as transparent by the customers. According to Zhang

and Seuring (2024) it is uncertain how DPP-enabled transparency affects customer behavior and trust. Our results, however, showed that perceived transparency fully mediated the relationship between DPP presence and customer engagement, and partially mediated the relationship to brand trust and WoM intention. This connection is an important finding since it highlights the foundational importance of transparency within the DPP. If the DPP is not perceived as transparent, it would thus not yield the same positive effects.

5.1.4 Skepticism

The findings showed that brand skepticism significantly mediates the relationship between the presence of a DPP and perceived transparency, as well as indirectly influencing brand trust, customer engagement and WoM intention. These results are aligned with previous research, which shows that a DPP that provides detailed and transparent product information can offer a new way to increase trustworthiness (Adisorn et al., 2021; Marchesi et al., 2022). The fashion industry has always faced strong skepticism claims (Skarmeas & Leonidou, 2013; Tickle et al., 2024) and for both fast fashion and luxury brands, the increased distrust, accusations of greenwashing, and complex supply chains have fueled customer doubts (Alexa et al., 2022; Sansome et al., 2024). Our findings show that DPPs can effectively address these issues. When customers are provided with detailed and transparent product information, skepticism is reduced, which in turn improves perceptions of transparency and strengthens brand trust, customer engagement and WoM. Interestingly, the serial mediation analysis also showed that reduced skepticism indirectly increased brand trust, customer engagement, and WoM intention, highlighting its broader role in shaping post-purchase customer responses beyond its effect on perceived transparency. Skepticism is not simply a background variable but a central mechanism in how customers process new digital transparency tools. Moreover, these results suggest that the effectiveness of DPPs in improving post-purchase customer responses depends on the customers' level of skepticism. Simply adding digital information is thus not enough, and it needs to also be perceived as fair and trustworthy.

One interesting finding is that the mediation patterns differ between H5 and H6. In the serial mediation in H6, the inclusion of brand skepticism as a mediator resulted in full mediation for WoM intention, contrasting to H5. Trust was constantly partially mediated, which could be explained by DPPs not only providing transparent information but also signaling, for example, initiative, innovativeness and regulation compliance, which could increase brand trust independent of how transparent or skeptical the brand is perceived. The DPP itself did not directly influence customer engagement in H5 nor H6. However, by reducing skepticism and

increasing perceived transparency, the brand perception changes, which in turn triggers customer engagement, thus explaining the full mediation. The difference for WoM intention between the H5 and H6 tests could be explained by not only examining impression of the brand but also feelings and beliefs. Even if a customer perceives the DPP as transparent, they also need to believe in the information and not be overly skeptical to share information about the brand with others.

5.2 Fast Fashion versus Luxury Brands

This study also explored if introducing DPPs influenced post-purchase customer responses differently between brand types. Existing literature has conflicting views regarding which brand type would benefit most. Some suggest that fast fashion brands have more to gain from transparency due to higher skepticism levels, while others argue that despite the CSR-luxury paradox, luxury brands can benefit more due to stronger alignment with brand values (Grazzini et al., 2021; Jestratijevic et al., 2024; Sun et al., 2025; Tickle et al., 2024; Vock, 2022). However, this study found no statistically significant differences between brand types in how DPPs influence post-purchase customer responses. While the DPP luxury condition consistently showed the highest mean score across all dependent variables, and the No DPP Fast Fashion group the lowest, the follow-up tests did not reveal any significant differences between brand types. This could imply that introducing a DPP could be beneficial regardless of brand type. One possible explanation for the insignificant differences may be the nature of the experimental stimuli, where the absence of existing brand familiarity may have limited participants emotional or attitudinal perceptions. Brands that are on the extreme side of the fashion spectrum are usually connected to strong associations and opinions which are difficult to replicate in an experiment. This is also reflected in the manipulation check question, where mean scores centered around the midpoint. Since the scenario is hypothetical, the absence of statistically significant differences does not necessarily prove that there is no difference between brand types but rather highlights the complexity of the fashion industry.

6. Conclusion

6.1 Theoretical Contribution

This thesis expands on the literature on sustainable transparency practices in the fashion industry. Previous DPP research has mainly focused on the electronics and battery industries, conceptually examining the regulations and requirements from a business perspective. By adopting a customer-centric perspective and empirically testing these effects, this research contributes with new insights into how DPPs function as customer-facing tools, rather than solely as compliance mechanisms.

Specifically, this study advances the understanding of transparency by showing the importance of customer perceptions. DPPs have previously been described as a transparency tool, but to gain the benefits from post-purchase customer responses, solely displaying transparent information is not enough if the customers do not perceive it as transparent and have high skepticism levels. This contributes theoretically to the concept of transparency by highlighting its context-dependency. The findings in this thesis show the importance of transparency, since beyond being a consequence of the DPP, it is also a driver of post-purchase customer responses.

Furthermore, this study theoretically contributes to the understanding of how transparency mechanisms influence post-purchase customer responses. Previous research within both the fashion industry and the DPP realm has largely focused on the pre-purchase customer journey stage. This thesis extends into the post-purchase stage and bridges the gap between post-purchase experience and transparency tools. These are often separated but are in this thesis merged, which suggests that DPPs are not only operational tools but also relational, and shape how customers feel and behave after the purchase.

Literature on CX theory suggests that new customer interaction touchpoints (Gallardo-Garcia et al., 2023) and new technology introductions (Hoyer et al. 2020) could positively affect the CX. We contribute by empirically showing that the DPP as a new brand-owned digital touchpoint alters the CX and provides benefits for both the customers and the brand. This broadens the conceptualization of CX by showing that informational transparency enabled by digital transparency tools such as DPPs is now a meaningful part of how customers evaluate and engage with a brand after the purchase. This study further expands on CX theory by exploring it in a new context. When DPPs are present they positively influence CX, which in turn positively influences post-purchase customer responses. The empirical evidence in this

thesis validates this chain in the new context of DPPs within the fashion industry and thus broadens the scope of CX theory.

6.2 Practical Implications

This thesis provides several practical implications relevant for fashion brands. Firstly, the presence of a DPP is shown to positively increase post-purchase customer responses, specifically brand trust, customer engagement and WoM intention, which proved to be consistent for both fast fashion and luxury brands. All these variables have previously been linked to increased loyalty (Bilgihan et al., 2016; Khan et al., 2020; Sahin et al., 2011), and together with our findings, this suggests that DPPs are loyalty drivers which in turn could increase profitability. Thus, all fashion brands can leverage DPPs to gain competitive advantage over other actors. Since the regulation is mandatory, all actors will need to implement DPPs to some extent. However, based on our findings a DPP perceived as transparent and fair will create more benefits than one simply meeting basic requirements. Therefore, we recommend that fashion brands take advantage of the benefits early and do not wait until it becomes a requirement. Additionally, implementing a DPP before the regulation date can signal that a brand is proactive and genuine when it comes to sustainability, and that it is not only implemented because of the regulation. This aligns with the demands of customers who increasingly seek sustainable and trustworthy brands and could thus provide additional benefits for fashion brands implementing DPPs as soon as possible.

It is important that DPPs are perceived as transparent and trustworthy. For customers to believe a brand is truly sustainable and transparent, a standard third-party certification for all brands would be needed (Bhaduri & Ha-Brookshire, 2011). One solution is integrating DPPs using blockchain technology, which ensures and validates that the information provided is truthful (Marchesi et al., 2022). Thus, from a managerial perspective it is important to communicate and educate customers on the validation gained from the underlying technology, to ensure that they trust the information, especially since the findings from this study indicate customers do not see the underlying technology clearly. However, this should only focus on the validation aspect and not excessive technical details. Since the DPPs proved to be beneficial for all users, not only the ones showing the highest personal innovativeness, it speaks for the importance of user-friendliness. DPPs being accessible through QR-codes is a great way to increase adoption and reach, as it is not presented as a technologically advanced tool. This is important for businesses to remember also in the future. Even though it is important to communicate the

validation aspect of the underlying technology, it is crucial to keep the simple adoption of DPPs to attract all customers.

6.3 Limitations

This study used a quantitative approach, which enabled statistical testing of relationships and comparison across groups. However, this may have limited the understanding of the insights, especially regarding underlying motivations and emotional reasoning behind participants responses. Furthermore, the artificial context of the experiment, where participants assessed hypothetical scenarios, made it difficult to completely replicate a real-world post-purchase experience. In a real post-purchase setting, customers almost always have associations with the brand and the touchpoints used. However, in this study an unknown brand and a new and unfamiliar touchpoint were used, which made the study less realistic, which might have affected the participants' answers. Additionally, using the same DPP format for both fast fashion and luxury brands could be a limitation since it does not reflect a unique brand identity. Even though the empirical tests provided significant results, we cannot eliminate the possibility that the effects would not be completely replicated in a real purchase setting.

The study focuses solely on the post-purchase stage of the customer journey, excluding pre-purchase constructs such as purchase intention, brand attitudes and perceived value, which are commonly studied in digital transparency research. Additionally, the study only compared fast fashion and luxury brands, representing two extremes of the fashion industry spectrum, for clear comparison. It excluded mid-range and premium brands, which might give different results of customer responses, limiting the generalizability of the findings across the broader fashion market.

The conceptual framework did not include constructs such as customer satisfaction or loyalty, which are often studied and used together with CX research (e.g. Brakus et al., 2009; Lemon & Verhoef, 2016). Customer satisfaction is a well-known concept that is still one of the most robust predictors of customer loyalty and may also be relevant in the DPP context. However, due to the artificial setting, satisfaction and loyalty are hard to capture since it lacks the realism of an actual purchase and experience. Furthermore, this study focused on individual outcomes of the DPP and thus did not assess their relation to each other. CX literature is fragmented and multiple connections between the different post-purchase constructs have been proposed to exist, thus capturing every possible connection between relevant variables is beyond the scope of this thesis.

6.4 Future Research

From the findings and limitations from this study, several future research areas could be investigated. Future research could test brand-specific versions of DPPs, ensuring consistency in core elements while reflecting unique brand identities. This would allow for better simulation of real-life DPPs without additional variance that could undermine comparisons. As DPPs become more widespread and familiar, future research could examine how DPPs influence decision making before the point of purchase, including for example purchase intentions, brand attitudes, or perceived value. Even though previous literature on transparency exists within the pre-purchase stage, it is lacking within the DPP context and would does offer a more comprehensive understanding of DPPs impact across the entire customer journey. Future research could also explore if the benefits gained from DPPs are consistent across other industries, and in other countries not covered by the EU regulation.

Furthermore, future studies could examine whether DPPs contribute to customer satisfaction and in turn, to customer loyalty, thereby testing the feedback loops often proposed in CX literature. Obtaining empirical evidence of the link between DPPs, loyalty and profitability could provide even more actionable insights by quantifying the proposed benefits. It would also be valuable to investigate how the different post-purchase constructs interact and how DPPs influence the chain of customer experience events over time, to provide a more detailed understanding of the mechanisms at play.

Finally, as the DPP remains an emerging innovation, several new research areas open up. Future studies could explore the role of DPPs in the second-hand market, where they could function as authenticity tools verifying product origin and ownership history. Additionally, future research could investigate how DPPs can enrich the post-purchase customer experience through added services like care instructions, repair services, or recycling options, to understand how DPPs can actively support more sustainable consumption behaviors beyond the initial purchase.

6.5 Concluding Summary

This study aimed to explore how the introduction of Digital Product Passports influences post-purchase customer responses in the fashion industry, with particular attention to differences between fast fashion and luxury brands. The findings show that DPPs enhance brand trust, customer engagement, and WoM intention, and that the effect of DPPs is similar across brand types. By integrating DPPs as a touchpoint in the customer journey, companies could differentiate themselves beyond regulatory requirements. This creates competitive advantages by increasing perceived transparency and reducing brand skepticism, ultimately driving post-

purchase value. As the fashion industry moves toward more transparent business models, and customers' expectations around sustainability continue to rise, the DPP should not only be seen as a legal obligation, but as a valuable tool to enhance customer experience.

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Appendices

Appendix A.

The Stimuli Tested in Pre-Study 1







1



2



3

Appendix B.

The Stimuli Used in the Main Study

The pictures below show both the DPP stimuli picture and standard clothing tag stimuli picture used in the main study.

The DPP stimuli included: general fictional product information, carbon footprint, water usage, energy consumption, material recyclability, traceability details covering the entire value chain (from raw materials to manufacturing), care instructions and end-of-life recommendations (aligning with the DPP's circularity objectives).

The standard clothing tag stimuli contained: basic product details and care instructions, omitting sustainability, traceability and circularity features, to reflect current industry norms.



Note. The DPP in the Main Study



Note. The Standard Clothing Tag in the Main Study

Appendix C.

Main Study Questionnaire

Start of Questionnaire

Start of Block: Introduction

Dear Participant,

We are two master's students from Stockholm School of Economics. We are currently writing our master's thesis, in which we are studying customer attitudes within the fashion industry. You will first read a scenario and then answer a few questions about your perceptions and attitudes. Please read through the scenario carefully before proceeding with the questions. The survey takes approximately 7 minutes to complete.

All responses are completely anonymous and will be treated confidentially. Please read the GDPR information on the next page and confirm that you have reviewed the information.

Questions? If you have any questions regarding the survey or the thesis, you can contact us at: 25145@student.hhs.se 50733@student.hhs.se

This survey is conducted entirely in English. If you agree to proceed, please select 'Yes.' If not, select 'No,' and the survey will end.

- ○ Yes
- ○ No

GDPR – Consent to participation in the student survey

The student's project. As an integral part of the educational program at the Stockholm School of Economics, enrolled students complete an individual thesis. This work is sometimes based upon surveys connected to the subject. Participation is naturally entirely voluntary, and this text is intended to provide you with the necessary information that may concern your participation in the study. You can at any time withdraw your consent and your data will thereafter be permanently erased.

Confidentiality. Anything you say or state in the survey will be held strictly confidential and will only be made available to supervisors, tutors and the course management team.

Secured storage of data. All data will be stored and processed safely by the SSE and will be permanently deleted when the projected is completed.

No personal data will be published. The thesis written by the students will not contain any information that may identify you as a participant in the survey subject.

Your rights under GDPR. You are welcome to visit https://www.hhs.se/en/about-us/contact/data- protection/ in order to read more and obtain information on your rights related to personal data.

I have read the GDPR information above and consent to participate in this study

- ○ Yes
- ○ No, I do not consent to participate in the study.

End of Block: Introduction

Start of Block: Scenario Introduction

Next, you will see a short text and an image, followed by a few questions. Please review the scenario carefully before moving to the next page. You don't need to remember all the details—just focus on your overall feelings or perceptions of the image. The button to proceed will appear after a short delay.

End of Block: Scenario Introduction

Start of Block: DPP Fast Fashion

You have just purchased a **very low-priced** piece of clothing from a **fast-fashion** retailer known for its common designs, mass production, and everyday lifestyle fashion. The products are known to be of **low quality** and the brand is synonymous with wide availability and **fast fashion** styles. Because of its **low price and low quality**, you see this purchase as something quick, easy, and likely to be replaced soon.

Upon arriving home, you examine your purchase and notice a QR code on the wash tag. Scanning it with your phone, you access this information:

"Picture of the DPP"

End of Block: DPP Fast Fashion

Start of Block: DPP Luxury

You have just purchased a **very high-priced** piece of clothing from a prestigious **luxury** retailer renowned for its exclusivity, heritage, and timeless fashion. The products are known to be of **superior quality** and the brand is synonymous with rarity and **luxury**. Because of its **high price, superior quality and luxuriousness**, you really see this purchase as a way to treat yourself to something special.

Upon arriving home, you examine your purchase and notice a QR code on the wash tag. Scanning it with your phone, you access this information:

"Picture of the DPP"

End of Block: DPP Luxury

Start of Block: No DPP Fast Fashion

You have just purchased a **very low-priced** piece of clothing from a **fast-fashion** retailer known for its common designs, mass production, and everyday lifestyle fashion. The products are

known to be of **low quality** and the brand is synonymous with wide availability and **fast fashion** styles. Because of its **low price and low quality**, you see this purchase as something quick, easy, and likely to be replaced soon.

Upon arriving home, you examine your purchase and find the information tag below:

"Picture with the information tag/wash tag"

End of Block: No DPP Fast Fashion

Start of Block: No DPP Luxury

You have just purchased a **very high-priced** piece of clothing from a prestigious **luxury** retailer renowned for its exclusivity, heritage, and timeless fashion. The products are known to be of **superior quality** and the brand is synonymous with rarity and **luxury**. Because of its **high price, superior quality and luxuriousness**, you really see this purchase as a way to treat yourself to something special.

Upon arriving home, you examine your purchase and find the information tag below:

"Picture with the information tag/wash tag"

End of Block: No DPP Luxury

Start of Block: Manipulation Check

Based on the described experience with the brand, I believe that the product I just purchased is

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
highly priced	○	○	○	○	○	○	○
luxurious	○	○	○	○	○	○	○
of superior quality	○	○	○	○	○	○	○

End of Block: Manipulation Check

Start of Block: Questions

In the next section, we will ask you to answer some questions about your described experience. Please answer each question as honestly and instinctively as possible without overthinking. Your first reaction is usually the best one.

Based on the scenario and the information provided, how do you perceive this brand?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This brand makes a strong impression on my senses	○	○	○	○	○	○	○
This brand induces feelings and sentiments	○	○	○	○	○	○	○
This brand is action oriented	○	○	○	○	○	○	○
This brand makes me think	○	○	○	○	○	○	○

Based on the scenario and the information provided, how do you perceive the brand?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This brand makes me feel safe and secure	○	○	○	○	○	○	○
I know this brand will be responsible for its behaviors	○	○	○	○	○	○	○

I think this brand is trustworthy	○	○	○	○	○	○	○

Based on the scenario and the information provided, how much do you agree with these statements?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Purchasing this brand gets me to think about this brand	○	○	○	○	○	○	○
Purchasing this brand stimulates my interest to learn more about it	○	○	○	○	○	○	○
I will think about this brand a lot after the purchase	○	○	○	○	○	○	○

Based on the scenario and the information provided, how likely are you to...

	Extremely unlikely	Very unlikely	Somewhat unlikely	Neutral	Somewhat likely	Very likely	Extremely likely
tell others good things about this brand	○	○	○	○	○	○	○

recommend this brand to someone I know	○	○	○	○	○	○	○
share information about this brand with someone I know	○	○	○	○	○	○	○

I believe that the information provided by the brand is...

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
fair	○	○	○	○	○	○	○
reasonable	○	○	○	○	○	○	○
justified	○	○	○	○	○	○	○
humane	○	○	○	○	○	○	○

Based on the information provided, I believe that

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It is doubtless that this is a socially responsible brand	○	○	○	○	○	○	○

It is certain that this brand is concerned to improve the wellbeing of society	○	○	○	○	○	○	○
It is sure that this brand follows high ethical standards	○	○	○	○	○	○	○
It is unquestionable that this brand acts in a socially responsible way	○	○	○	○	○	○	○

To understand your experience, please indicate your level of satisfaction with the product information provided by brand

	Extremely dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither satisfied nor dissatisfied	Slightly satisfied	Moderately satisfied	Extremely satisfied
How satisfied or dissatisfied are you with the product information provided?	○	○	○	○	○	○	○

End of Block: Questions

Start of Block: Consumer Insights

In this next section, we will ask some general questions about your habits and opinions. There are no right or wrong answers — please answer as honestly as possible.

A Digital Product Passport (DPP) is an EU initiative to improve product transparency and sustainability. It stores key information about a product, such as its materials, production process, environmental impact, and recycling options, accessible through for example a QR code. The EU will require DPPs for certain industries starting in 2026, beginning with textiles, electronics, and batteries.

Before this survey, how familiar were you with Digital Product Passports (DPPs)?

- ○ I had never heard of it
- ○ I have heard of it but don't know much about it
- ○ I know a little about it
- ○ I am quite familiar with it
- ○ I am very familiar with it and understand how it works

Have you ever seen or used a DPP before?

- ○ Yes
- ○ No

Please indicate how much you agree or disagree with the following statements about your approach to new technology.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
When I hear about a new technology, I search for	○	○	○	○	○	○	○

a way to try it							
Among my friends or family, I am usually the first to try new technologies	○	○	○	○	○	○	○
I like to experiment and try new technologies	○	○	○	○	○	○	○

How likely are you to scan a QR code on a piece of clothing to access product information?

- ○ Very unlikely
- ○ Unlikely
- ○ Somewhat unlikely
- ○ Neutral
- ○ Somewhat likely
- ○ Likely
- ○ Very likely

How often do you purchase new clothing?

- ○ Never
- ○ Once a year or less
- ○ A few times a year
- ○ Every few months

- ○ About once a month
- ○ Multiple times a month
- ○ Very frequently (weekly or more often)

Which of the following best describes your clothing purchases? Please drag and rank the alternatives.

_____ Ultra-Fast Fashion (e.g., Shein)

_____ Fast Fashion (e.g., H&M, Zara, Uniqlo)

_____ Premium (e.g., COS, Filippa K, Ralph Lauren)

_____ Luxury (e.g., Gucci, Prada, Chanel)

How knowledgeable would you consider yourself to be about the journey of clothing—from raw materials to production and ethical practices?

- ○ Not knowledgeable at all
- ○ Very little knowledge
- ○ Somewhat knowledgeable
- ○ Moderate knowledge
- ○ Quite knowledgeable
- ○ Very knowledgeable
- ○ Expert level knowledge

End of Block: Consumer Insights

Start of Block: Demographics

What is your gender?

- ○ Female
- ○ Male
- ○ Non-Binary/Third Gender
- ○ Prefer not to say
- ○ Prefer to self-describe: _____

What is your age?

_____

Where do you currently live?

- ○ Sweden
- ○ Another European country
- ○ Outside of Europe
- ○ Prefer not to say

How difficult was this survey to understand?

- ○ Very easy
- ○ Somewhat easy
- ○ Neutral
- ○ Somewhat difficult
- ○ Very difficult

Thank you for taking the time to complete this survey. If you have any additional thoughts or comments, please share them here:

End of Block: Demographics

End of Questionnaire

Appendix D.

Validation of CX and DPP Effects on Dependent Variables

Table D1 shows the detailed results of the linear regression analyses conducted to validate the assumed relationships between CX Dimension, DPP Presence and the dependent variables (Trust, Engagement, WoM). As the Cronbach's alpha was .80, the CX Dimension variable was indexed. These results support the underlying assumption that DPPs act as an underlying construct influencing the CX dimensions and, in turn, the dependent variables of this study.

Table D1

Linear Regression Results Testing Effects of CX Dimension

	Coeff.	*SE*	*t*(592)	*p*
Trust				
Intercept	0.37	0.15	2.51	.012
CX Dimension	0.79	0.04	20.10	< .001
DPP Presence	0.32	0.09	3.45	< .001
Engagement				
Intercept	1.12	0.15	7.73	< .001
CX Dimension	0.69	0.04	17.95	< .001
DPP Presence	-0.01	0.09	-0.07	.941
WoM				
Intercept	0.72	0.15	4.85	< .001
CX Dimension	0.73	0.04	18.53	.155
DPP Presence	0.13	0.09	1.42	< .001

Note. The overall model for trust was significant ($F(2, 592) = 245.1$, $p < .001$, $R^2 = .45$); for engagement, ($F(2, 592) = 173.7$, $p < .001$, $R^2 = .37$); and for WoM intention, ($F(2, 592) = 194.2$, $p < .001$, $R^2 = .40$).

Appendix E.

Cronbach's Alpha by Experimental Group

This appendix presents the Cronbach's alpha values calculated separately for each experimental group to confirm the internal consistency of the indexed variables across all conditions used in the study. As reported in the main text, the overall alpha for the full dataset was acceptable and Table E shows that reliability holds consistently across all groups.

Table E

Cronbach's Alpha for Indexed Variables for all Groups

Group	DPP	No DPP	DPP FF	DPP L	No DPP FF	No DPP L	# items
Variable	*n* = 294	*n* = 301	*n* = 151	*n* = 138	*n* = 150	*n* = 156	
Trust	0.90	0.89	0.88	0.92	0.89	0.87	3
Engagement	0.85	0.81	0.86	0.83	0.79	0.82	3
WoM	0.91	0.83	0.91	0.90	0.79	0.87	3
Transparency	0.90	0.91	0.90	0.90	0.91	0.91	4
Innovativeness	0.88	0.87	0.89	0.88	0.87	0.88	3
Skepticism	0.91	0.93	0.91	0.90	0.93	0.92	4

Note. FF = Fast Fashion, L = Luxury

Appendix F.

Correlation Analysis Result

Table F

Correlation Analysis Between the Study's Variables

Variable	Trust	Engagement	WOM	Transparency	Innovativeness	Skepticism
Total Group						
Trust	-					
Engagement	0.50***	-				
WoM	0.70***	0.63***	-			
Transparency	0.70***	0.43***	0.59***	-		
Innovativeness	0.14***	0.13**	0.17***	0.16***	-	
Skepticism	0.79***	0.45***	0.66***	0.66***	0.12**	-
DPP Group						
Trust	-					
Engagement	.54***	-				
WoM	.71***	.62***	-			
Transparency	.68***	.43***	.60***	-		
Innovativeness	.21***	.20***	.20***	.21***	-	
Skepticism	.76***	.44***	.68***	.60***	.18**	-
No DPP Group						
Trust	-					
Engagement	.43***	-				
WoM	.65***	.62***	-			
Transparency	.67***	.38***	.55***	-		
Innovativenes	.07	.05	.14**	.10	-	
Skepticism	.80***	.42***	.61***	.67***	.07	-
DPP FF Group						
Trust	-					
Engagement	.46***	-				
WoM	.71***	.55***	-			
Transparency	.66***	.34***	.59***	-		
Innovativeness	.18*	.08	.13	.16	-	
Skepticism	.72***	.34***	.64***	.60***	.13	-
DPP L Group						
Trust	-					
Engagement	.59***	-				
WoM	.68***	.69***	-			
Transparency	.66***	.50***	.56***	-		

Innovativeness	.21*	.34***	.25**	.24**	-	
Skepticism	.78***	.52***	.70***	.57***	.20*	-
No DPP FF Group						
Trust	-					
Engagement	.36***	-				
WoM	.61***	.56***	-			
Transparency	.62***	.30***	.53***	-		
Innovativeness	.06	.01	.04	.07	-	
Skepticism	.82***	.42***	.66***	.67***	.08	-
No DPP L Group						
Trust	-					
Engagement	.47***	-				
WoM	.69***	.67***	-			
Transparency	.71***	.43***	.56***	-		
Innovativeness	.09	.11	.23**	.14	-	
Skepticism	.75***	.38***	.55***	.64***	.06	-

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix G.

Additional Tables for Brand Type Comparison Analyses

Table G1

H2 Retest: Brand Type Linear Regression Results

	Coeff.	*SE*	*t*(297)	*p*
Trust				
Intercept	2.75	0.11	25.09	< .001
DPP Presence	0.86	0.16	5.58	< .001
Innovativeness	0.06	0.08	0.71	.477
Brand Type (Luxury)	0.67	0.15	4.55	< .001
DPP Presence x Innovativeness	3.13	0.11	1.14	.254
DPP Presence x Brand Type (Luxury)	-0.08	0.22	-0.37	.714
Innovativeness x Brand Type (Luxury)	0.03	0.11	0.24	.813
DPP Presence x Innovativeness x Brand Type (Luxury)	0.01	0.16	0.05	.958
Engagement				
Intercept	3.28	0.10	31.73	< .001
DPP Presence	0.43	0.15	2.93	.004
Innovativeness	-0.01	0.07	-0.17	.879
Brand Type (Luxury)	0.40	0.15	2.79	.006
DPP Presence x Innovativeness	0.09	0.11	0.87	.384
DPP Presence x Brand Type (Luxury)	-0.21	0.21	-0.13	.894
Innovativeness x Brand Type (Luxury)	0.10	0.10	1.11	.313
DPP Presence x Innovativeness x Brand Type (Luxury)	0.15	0.16	0.83	.404
WoM				
Intercept	3.09	0.16	20.69	< .001
DPP Presence	0.47	0.15	3.08	.002
Innovativeness	0.04	0.08	0.54	.588
Brand Type (Luxury)	0.27	0.15	1.78	.075

DPP Presence x Innovativeness	0.09	0.11	0.81	.418
DPP Presence x Brand Type (Luxury)	0.23	0.22	1.07	.284
Innovativeness x Brand Type (Luxury)	0.09	0.17	0.15	.121
DPP Presence x Innovativeness x Brand Type (Luxury)	-0.05	0.16	-0.31	.760

Note. "Brand Type (Luxury)" refers to the comparison between the Luxury condition and the reference category Fast Fashion.

Table G2

H3 Retest: Brand Type Linear Regression Result

	Coeff.	*SE*	*t*(591)	*p*
Intercept	3.51	0.10	36.34	< .001
DPP Presence	0.54	0.14	3.96	< .001
Brand Type (Luxury)	0.39	0.14	2.88	.004
Interaction	0.13	0.19	0.69	.492

Note. Interaction refers to DPP Presence × Brand Type (Luxury)."Brand Type (Luxury)" refers to the comparison between the Luxury condition and the reference category Fast Fashion.

Table G3

H4 Retest: Brand Type Linear Regression Result

	Coeff.	*SE*	*t*(591)	*p*
Trust				
Intercept	0.28	0.19	1.50	.135
Transparency	0.76	0.05	15.97	< .001
Brand Type (Luxury)	0.08	0.29	0.27	.788
Interaction	0.06	0.07	0.84	.402
Engagement				
Intercept	2.10	0.22	9.61	< .001
Transparency	0.37	0.05	6.75	< .001
Brand Type (Luxury)	-0.35	0.33	-1.05	.295
Interaction	0.14	0.08	1.74	.082
WoM				
Intercept	0.93	0.20	4.59	< .001
Transparency	0.63	0.05	12.29	< .001

Brand Type (Luxury)	-0.08	0.31	-0.27	.790
Interaction	0.05	0.07	0.62	.538

Note. Interaction refers to Transparency × Brand Type (Luxury).“Brand Type (Luxury)” refers to the comparison between the Luxury condition and the reference category Fast Fashion.

Appendix H.

The Use of AI

For the process of this thesis, AI tools have been used to an extent. NotebookLM was used during the literature review process. Relevant articles were found by the authors and uploaded to the website, as a tool to find relevant information within the articles. Prompts to find specific arguments within the many articles were used to create alignment between the points in the different articles. It was, however, based on the authors' initial understanding of the article content and used an extension for deeper analysis and to find specific examples of points found by the authors.

ChatGPT was used throughout the writing process as a sounding board for idea discussion. For summary sentence ideas and arguments, ChatGPT was used for input based on the author's own text. For contributions and sentence formulation, the tool was further used to generate ideas that were then discussed by the authors and built out on. It thus provided a starting point for more advanced discussions, arguments, contributions and summaries, based on the already generated text by the authors. For the study's data interpretation, it was used to discuss the interpretation of the findings and help put it into words, as well as discuss what tests were the most suitable for the specific approach and hypotheses of this study. Since the thesis was written in Microsoft Word, the built-in spell check based on AI was further used to ensure grammatical correctness and flow in the text. The references were compiled using Zotero, but checked by the authors to ensure it was correct.

The use of these tools has provided a deeper analysis and flow of the paper, as well as grammatical clarity. It has mainly contributed by being a discussion partner, and a starting point for idea generation that could be built out by the authors. It also contributed by finding connections and important points from the already written text. By using AI tools, there is always a risk of it providing false information or making up results. However, all use was in this study based on the author's own text input and thus decreased the risk of made-up sources or statements since it solely acted as a way to interpret and deepen the existing text. Additionally, all results from NotebookLM highlighting quotes from different articles were checked by the authors in the original article, to ensure it aligned with the actual content. Using AI as part of the thesis process highlighted the importance of human input and not solely relying on AI. For example, finding connections and arguments in literature was a great help by AI, but the quality and reliability was still checked by the authors to ensure the right interpretation and connection to the thesis. Additionally, AI provided a great starting point for discussion and

contribution, but to deepen the arguments and clearly connect them to the thesis and topic, the authors had to work with the input to enhance the quality. Thus, AI works great as a partner to discuss with and help with basic grammar and input, but the human touch is what takes the quality to the next level.