The Algorithmic Stylist

Exploring the impact of AI-driven personalization on consumer buying behavior in fashion e-commerce.

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ABSTRACT

The research analyzes the impact that AI-driven personalization can have on consumer behavior, linking it to the Big Five personality traits. The present study tests whether or not AI personalization improves consumer engagement with personalized content to increase purchase intent. As part of the quantitative research, data collected from the survey was subjected to a multivariance analysis (MANOVA) to highlight a possible relationship between personality traits and preferences for AI personalized clothing and slogans. The results are convincing for extraversion and openness to experience, partially confirmed for neuroticism and not significant for agreeableness and conscientiousness. This research is useful in that it complements existing knowledge to some extent, as the fashion sector is not generally addressed in this context.

Keywords: AI-driven personalization - Consumer behavior -Big Five personality traits -Fashion marketing

TABLE OF CONTENTS

CHAPTER 1 Introduction

In this digital age, with the arrival of numerous technological innovations such as artificial intelligence, many professions are undergoing radical and accelerated transformation. The use of AI is becoming increasingly widespread in business operations, with an increase of over 250% since 2017 (HubSpot, 2023). Marketing is no exception to this rule, and could even see a revolution in digital marketing thanks to the development of new tools. According to a 2022 study by IBM, 22% of marketers are using AI in their business, and this percentage is only increasing year on year. AI is revolutionizing marketing as we know it, especially when making this discipline more targeted and personalized for the consumer.

Today, companies are starting to use AI to implement personalized marketing strategies to get closer to their customers and bring them to a conclusion. Personalized marketing is becoming the norm for companies, and is more and more accepted by consumers. Research shows that 71% of consumers expect companies to deliver personalized experiences, and 76% feel frustrated when they don't (Adobe Experience Cloud Team, 2023). One example is Spotify, the well-known Swedish music company, which uses artificial intelligence algorithms to examine its users' listening habits to create personalized playlists based on their preferences. A study by McKinsey in 2023 estimates that personalized marketing can increase a company's sales by 5-15%, and increase return on investment (ROI) by 10-30%. Thanks to AI's ability to predict consumers' complex personalities and preferences, companies can now design far more targeted ads that speak to them in a more personal way, increasing their engagement and thus their purchase intentions.

AI-driven personalization basically involves studying buyer behavior to create detailed consumer "personas". These "personas" represent typical psychological profiles that reflect all dimensions of consumer preferences, habits and behaviors. In other words, by understanding the subtleties of individual consumer profiles, AI will be able to predict the type of language, images and content that will most effectively influence a specific consumer to make the decision to buy the product (Rafieian et al, 2022). This predictive capability derives from perpetual learning and adaptability, whereby AI systems learn and improve their recommendations through constant interaction with target consumers.

The accuracy and effectiveness of AI-generated personas can be improved by incorporating personality models, such as the Big Five Personality Traits, which provide greater understanding into consumer preferences through traits like openness, conscientiousness, extraversion, agreeableness, and neuroticism (Costa & McCrae, 1992). By integrating data relating to these personality types into the AI tool, marketing strategies can be better oriented towards consumer preferences. Product recommendations and marketing messages are more targeted, and the relevance and effectiveness of

corporate marketing policies are improved, strengthening the emotional bonds between consumers and brands (Matz et al., 2016). The study done by Shumanov et al (2021) demonstrates that AI, based on contextual data, can predict consumer personality traits and match these traits to targeted advertising messages. In fact, this study shows that personalized advertising based on personality traits as generated by AI strongly improves consumer engagement and purchase behavior. The results of this study highlight the potential of AI to align the content of a company's marketing policy with the personality types of a target audience, with a view to improving the influential power of advertising campaigns.

However, the application of this knowledge to the e-commerce sector of the fashion industry remains largely unexplored. Numerous studies have proven the effectiveness of AI in marketing personalization tasks, but it is important that the fashion sector takes an interest and supports this new technology, especially as the sector is undergoing transformation and facing new challenges. A consumer's fashion choices are linked to very personal considerations, rooted in the individual's identity, reflecting personality, style and taste. The accuracy and precision of the identification of the customer's personality and individual differences in clothing will have important consequences for his or her buying behavior in general and on e-commerce platforms in particular. The added value of this study lies in the sector studied, the fashion sector, which is still very little studied by researchers.

This research aims to answer two questions: firstly, is AI a promising tool for predicting people's personalities using linguistic cues; secondly, can we prove the existence of a link between consumer personality and purchasing behavior in the fashion industry. The main question of the study will thus be: " How can AI-driven personalization using personality traits influence consumer buying behavior in the fashion industry? ". This question wants to investigate the significant role and impact AI could have in refining marketing personalization - a function in which predictive analytics, machine learning and natural language processing are used to produce highly personalized experiences for consumers.

CHAPTER 2 Theoretical Framework

As we look at the revolutionary potential of AI, it's important to first understand its applications in personalized marketing, which has redefined traditional marketing practices.

2.1 Artificial Intelligence (AI) in Marketing Personalization

In today's marketing environment, it's more and more difficult for companies to stand out from the crowd. Consumers are inundated with messages and ads, each more similar than the last, without any real personal engagement on the part of the consumer. The arrival of artificial intelligence has offered these companies a new solution, enabling them to deliver hyper-personalized marketing to their customers. (Babatunde et al, 2024).

Personalized marketing is defined as "designing and delivering tailor-made products and services to individual customers. In other words, personalized marketing involves differentiated offerings for individual customers, and thus, it has often been described as one-to-one marketing and customerization[1] " (Chandra et al, 2022, p.1534). Adopted for many years in all sectors, this marketing strategy enables companies to propose targeted offers personalized to the needs of each individual customer (Pepper et al, 1995). Thanks to their customer databases, companies can analyze individual preferences and carry out mass personalization to offer and adapt the products and services they provide to the profile of each customer (Goldsmith and Frieden, 2004). All the information collected by companies on their customers, such as purchasing habits or personal data like gender and age, represents a phenomenal amount of data to be processed.

With the arrival of the Internet and, more recently, artificial intelligence, this practice is being democratized with the help of these new tools, particularly in e-commerce, and is taking precedence over traditional mass marketing, which often relies on basic segmentation and data analysis, thus limiting its effectiveness (Mandapuram et al, 2020). To better understand why, let's first define what artificial intelligence is. Artificial Intelligence (AI) is "the use or study of computer systems or machines that have some of the qualities that the human brain has, such as the ability to interpret and produce language in a way that seems human, recognize or create images, solve problems, and learn from data supplied to them" (cf. Cambridge Dictionary, 2023).

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[1] Customerization refers to the customization of products or services through personal interaction between a company and its customers. Any company is customerized if it can establish a conversation with all individual customers, or at least sectors of their market segments, and accordingly adapt its products, services, and message (Yoram Wind, 2001)

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AI-driven systems can automate and optimize marketing activities in real time, reacting dynamically to changes in consumer behavior or market conditions. This translates into greater responsiveness and precision in personalizing recommendations and communications to the individual user, improving the customer experience and, at the same time, increasing conversion rates. One example is at Netflix and Amazon, where AI powers recommendation engines that, based on behaviors and tastes, can suggest more relevant products to their user base to increase customer satisfaction and loyalty. (Gomez-Uribe & Hunt, 2015).

Using complex algorithms and machine learning techniques, AI allows the gathering of large volumes of customer data and its proper analysis. The ability to find the most likely patterns and trends that would otherwise remain invisible to the human analyst's eye, and to make relevant predictions about consumer behavior and preferences, is very useful for businesses. AI has therefore become a very powerful and integral tool for companies in their marketing strategies. This data, collected and created by its algorithms, enables marketers to focus much more on the customer and their needs. At a glance, it's possible to see what needs to be aligned with what type of content, and which are the key channels to use for optimal consumer engagement. AI's capabilities go now further than simple automation. From predictive analytics to outright personalization and customer journey optimization, the multifaceted role of AI in creating personalized marketing strategies needs to be understood to fully understand its impact.

2.1.1 The multifaceted role of AI in personalization

AI plays a very varied role and manifests itself in different ways in marketing personalization. This disruptive new technology, which has become an important part of everyone's daily life even if we don't notice it much, has been used much more intensively in recent years. Thanks to machine learning and so that this intelligence learns from the data it processes, it is constantly evolving and new ways of using it continue to be found, whether in marketing or in all sectors in general.
Table 1 discusses the different ways AI can be used to personalize marketing, particularly digital marketing.

Table 1

Application of Artificial Intelligence (AI) in the personalization of marketing

S. No	Application	Description
1.	Predictive analysis	AI predictive analysis uses past information about consumers to determine their future behavior. Thanks to this, marketers can be there to respond to a trend, or exploit it as it happens. This means analyzing consumers' buying habits or search histories, but also going so far as to monitor social media activity to anticipate a need before a consumer expresses a particular desire. (Reddy , 2021)
2.	Artificial intelligence and the use of personality-based advertising	AI can enable marketers to create more personal ads based on targets' personality profiles, as AI is able to analyze people's personality traits through the digital footprints they leave on the internet. This will give marketing a personal resonance and make the whole advertising campaign more effective. (Shumanov et al., 2021)
3.	Improving the customer experience	AI delivers a complete customer experience as intelligent systems are synchronized with the customer service offering. Anticipatory personal support along with service modification become possible as AI-based automated responses not only help to immediately solve the customer's problem, but also personalize the intervention according to individual customer profiles. (Singh, 2024).

| 4.. | Customised content creation | Content creation is personalized according to its subsequent use in marketing. These artificial intelligence tools based on natural language processing and accompanied by adaptive learning algorithms enable real-time generation of content optimized to users' interests and needs, to initiate user engagement and conversion (Vashishth et al, 2024) |

To effectively exploit AI for marketing personalization, it's important to understand consumer buying behavior.

2.2 Consumer Buying Behavior and Personality Influence

Consumer behavior is defined as "the decisions people make to buy or not to buy a product, and the factors that influence their decisions". (cf. Cambridge Dictionary, 2023). Understanding consumer buying behavior is important for companies, particularly in the online fashion sector, where competition is important and consumer preferences vary. An individual's character traits have an impact on potential consumer behavior, as they determine how they will possibly react to marketing stimuli and they represent their decisions and attitudes towards the brand. Studying these characteristics will provide important information for shaping and adapting marketing strategies to meet the needs of a unique consumer segment.

2.2.1 Theoretical Models and Key Constructs

To fully understand consumer buying behavior, this theoretical framework incorporates the Big Five personality trait model. This model will help us understand how personality traits and their internal psychological processes influence consumer behavior.

The Big Five Personality Traits

The Big Five personality traits, often referred to as the Five Factor Model (FFM), offer a reasonably broad perspective on human personality. These traits are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (Costa & McCrae, 1992). All these traits characterize a spectrum of behaviors and attitudes that distinctly influence the way an individual relates to the world, including his or her buying behavior.

- *Openness to Experience* is a personality trait that refers to the ability and enthusiasm to be imaginative, creative and willing to try new things. It is thus associated with people who try to find an original experience. As a result, these people are early adopters of innovation (Matz et al., 2016).
- *Conscientiousness:* Reflects the individual's degree of organization and reliability. Highly conscientious people tend to plan their purchases carefully and prefer products that correspond to their values of reliability and efficiency (Mulyanegara et al, 2007).
- *Extraversion:* Sociable, assertive and energetic personality. An extrovert is likely to prefer brands that help to improve their social status or increase their popularity in the social environment in question (Costa & McCrae, 1992).
- *Agreeableness* reflects an individual's propensity for compassion, cooperation and trust. People with high levels of agreeableness may associate more with a brand they see as ethical, sincere and socially responsible, around customer engagement and community business approach. (Mulyanegara et al, 2007)
- *Neuroticism* is a set of temperamental traits characterized by emotional instability and a propensity to experience negative emotions. The high level of neuroticism suggests that the people concerned may be attracted to products that offer comfort and security, perhaps acting to meet emotional needs and relieve stress (Hur et al., 2022).

2.2.2 Big Five and Preferences in Fashion

As a result, the Big Five personality traits are likely to have a major impact on individual consumer preferences, from color choices to styles. Understanding these preferences enables marketers in fashion industry to develop more targeted and effective marketing campaigns.

Openness to Experience: People who score high on openness are mainly attracted by very bright, unconventional colors such as purple, turquoise and green. They like artistic and imaginative styles that reflect the creativity and curiosity (Hur et al., 2022).

Conscientiousness: Highly conscientious people prefer more neutral colors, such as dark blue, gray and white. They search for formality, structure and timelessness in their styles, which relate to the values pursued by individuals with efficient and reliable natures through their modes of dress (Wieloch et al., 2019).

Extraversion: Extraverts are attracted to strong, bright colors like red, orange and yellow (Pazda et al., 2018). They opt for trendy, eclectic and urban styles that will allow them to stand out in a crowd, bring out the special person they are inside and thus improve their social status.

Agreeableness: Agreeable people prefer soft, warm colors, such as light blue and pastel yellow. They favor casual, simple clothing styles that are comfortable to show their warmth and friendliness. (Jue & Ha, 2022).

Neuroticism: With a high level of neuroticism, this person will prefer colors that calm or soothe, such as green, blue and dark blue. They'll like cozy, comfortable styles that soothe some of their anxiety and envelop them in warmth, comfort and reassurance (Hur et al., 2022).

The table below summarizes the relationship between personality traits, colors, styles, and overall preferences.

Personality Trait	Colors	Styles	Overall Preferences
Extraversion	Red, Orange, Yellow, Bold and Bright Colors	Urban, Trendy, Noticeable Accessories	Energetic, Sociable, Playful, Attention-Grabbing
Agreeableness	Light Blue, Pastel Yellow, Soft and Warm Colors	Casual, Comfortable,	Warm, Friendly, Approachable, Calming, Cooperative
Conscientiousness	Dark Blue, Grey, White, Neutral and Subdued Colors	Formal, Structured, Classic	Professional, Reliable, Organized
Neuroticism	Green, Blue, Dark Blue, Black, Calming Colors	Comfortable, Cozy, Soft	Secure, Comforting, Anxiety-Reducing, Relaxing, Simple
Openness	Purple, Turquoise, Green and Unconventional Colors	Artistic, Creative, Original, Imaginative	Imaginative, Curious, Unconventional, Original

Table 2: Personality Traits, Colors, Styles, and Preferences based on studies by Jue & Ha (2022), Pazda et al (2018) and Hur et al (2022).

2.2.3 The Ability of AI to Predict Big Five Personalities

Artificial intelligence has a huge potential to improve the predictability of the Big Five, which would greatly improve personalized marketing. This section examines the theoretical foundations of AI's ability to predict these types of personality traits, deriving on several studies.

Sun et al (2021) investigated the ability of AI chatbot to estimate Big Five personality through the assessment of sophisticated linguistic features. The authors applied AI algorithms to large text datasets

based on users' personality profiles and found significant correlations between linguistic patterns and personality traits. Using machine learning models, this study proved that AI could relatively reliably infer personality traits from social media posts or written communications. These results are corroborated by Kosinski et al (2013), who had already proved that it was possible to make accurate personality predictions from a person's digital footprint - in fact, from "likes" on Facebook.

In addition, a study by Mereu (2021) demonstrates that AI can effectively predict the Big Five personality traits. The resulting research showed fairly good accuracy of the traits predicted using AI on data derived from 2,697 questionnaires, mainly extraversion and agreeableness where ICC values, with significant correlation.

According to a study by Halim and Zouq (2021), artificial intelligence can guess the Big Five personality traits in the light of images chosen by individuals. In this case, the study used AI classifiers with the IPIP-NEO-120 personality test to establish that several personality traits, such as agreeableness which was the most reliable, can be identified. This suggests that artificial intelligence can derive personality traits from visual preferences - a relatively new method for personality analysis.

Ramon et al (2021) investigated whether artificial intelligence could help predict personality traits from financial transaction data. In this research, AI was used to improve transparency throughout the prediction process. Spending habits were analyzed and AI models were able to predict personality and demonstrates that non-social data can be also very useful in elucidating personality traits.

These findings underline AI's potential to improve personalized marketing by predicting consumer personality expression through language use, leading to better and more effective marketing strategy.

Based on the premise that AI is predictive and so are the Big Five Personality Traits, what has to be established is a direct link between AI-driven personalization and consumer buying behavior. This relationship is important to understand how personalized marketing efforts can influence consumer decisions and generate business results.

2.3 Relationship Between AI-Driven Personalization and Consumer Buying Behavior

AI personalization has a powerful effect on consumer buying behavior, making marketing policies more relevant and appealing. Individualized AI-driven recommendations increase product discoverability, maximizing customer interest, with click-through rates and conversions. AI-driven messaging improves the customer experience by delivering relevant content at the right time.

A large amount of previous empirical research has documented the influence of AI personalization on consumer buying behavior. In their study, Shumanov et al (2021) demonstrated that AI personalized

ads congruent with consumer personas increased click-through rates and consumer engagement rates. Their findings showed the effectiveness of AI in predicting consumer personalities and returning relevant messages to create a much more engaging shopping experience and greater consumer satisfaction.

Singh et al (2024) examined the role of AI-driven customer service platforms in improving consumer satisfaction and loyalty. Artificially intelligent platforms designed to predict consumer needs using machine learning algorithms provide personalized assistance, thereby increasing customer satisfaction and loyalty.

In a study conducted by Padovano et al. in 2020, the focus was on how these ads affect customers when personalized according to personality traits that AI is able to determine from digital footprint analysis. The results showed that this type of advertising increased emotional engagement and response rates, indicating that consumers respond more effectively to personality-based marketing messages. In addition, recent research by Matz et al. (2022) establishes a distinct relationship between people spending money on things that match their personality and increased reports of happiness. Their findings showed that personalization not only has an impact on purchasing behavior, but also on the consumer's overall satisfaction and even happiness.

Vashishth et al (2024) corroborate that AI-generated optimized content based on interests and behavior increased user engagement with high conversion rates, as it can generate relevant content in real time. This, in turn, helps fashion e-commerce marketers keep consumers engaged by driving sales.

Empirical evidence strongly supports the idea that AI personalization has an influence on consumer buying behavior. These methods, which include personalized recommendations, predictive analytics, personality trait-based advertising and personalized content creation, play a very important role in customer engagement and satisfaction. This is remarkably true in the case of fashion e-commerce, where individual tastes and differentiating personality traits determine purchasing decisions. AI-driven personalization improves the shopping experience, resulting in high conversion rates and long-term customer loyalty.

2.4 Conceptual Model: The S-O-R Framework

This research will identify AI-generated personalization and its impact on consumer buying behavior in fashion e-commerce through the S-O-R model. This model is used to explain how personalized marketing affects consumer decision-making through internal psychological processes triggered by AI-generated stimuli.

Stimulus-Organism-Response (S-O-R) Model Overview

The Stimulus-Organism-Response (S-O-R) model, originally proposed by Mehrabian and Russell (1974), is a psychological framework that explains how external stimuli affect internal states and subsequent behavior. This model proposes that external stimuli (S) produce internal reactions in an individual (O), which in turn lead to behavioral responses (R). This systematic model makes it possible to explain the flows and stages involved in the processing of external information by the consumer, and their influence on purchasing decisions.

1. **Stimulus (S):** These may occur in various forms, most of which relate to marketing messages, product attributes, or environmental cues. For example, the stimuli could be provided through the form of an advert message, promotional offer, product design, smell, or even a sound. According to Mehrabian and Russell (1974), stimuli represent one's initial triggers that activate the attention of a consumer towards motivating a specific response.
2. **Organism (O):** The organism component signifies the internal processes and states of the consumer, which include emotions, perceptions, attitudes, and cognitive evaluations. This phase is important as it involves the interpretation and assessment of the external stimuli. The consumer's emotional and cognitive responses to the stimuli determine their following behavior (Jacoby, 2002).
3. **Response (R):** Response phase comprises the consumer's actual behavioral reactions, such as purchase, interest in a product or indifference to stimuli. As a direct and immediate consequence, this phase is strongly influenced by the internal state of the organism formed by the preceding stimulus phases (Eroglu, Machleit, & Davis, 2001).

Integration of Big Five Personality Traits

Integrating the Big Five personality traits - openness, conscientiousness, extraversion, agreeableness and neuroticism - deepens the S-O-R model by providing an understanding of how personalized stimuli affect each consumer differently.

Stimulus (S)

AI-driven personalization serves as stimulus through relevant product recommendations, personalized advertising and a personalized in-store experience. For example, using AI to design a personalized clothing range based on the Big Five personality traits tests consumers' propensity to choose products that best describe their personality.

Organism (O)

The "organism" component corresponds to the internal psychological processes that occur after the presentation of a personalized stimulus. This is the most important stage, as it involves the process of evaluating and interpreting external stimuli according to the individual's personality traits.

- **Extraversion**: Extroverted people are likely to be more interested in bold, bright marketing messages.
- **Agreeableness**: Highly agreeable users will appreciate messages promoting personalized compassion, friendliness and warmth.
- **Conscientiousness**: Conscientious consumers appreciate the reliability and practicality of marketing messages.
- **Neuroticism**: Neurotic people need to be comforted and reassured by personalized information.
- **Openness to Experience**: Open-minded people will appreciate original and unique marketing approaches.
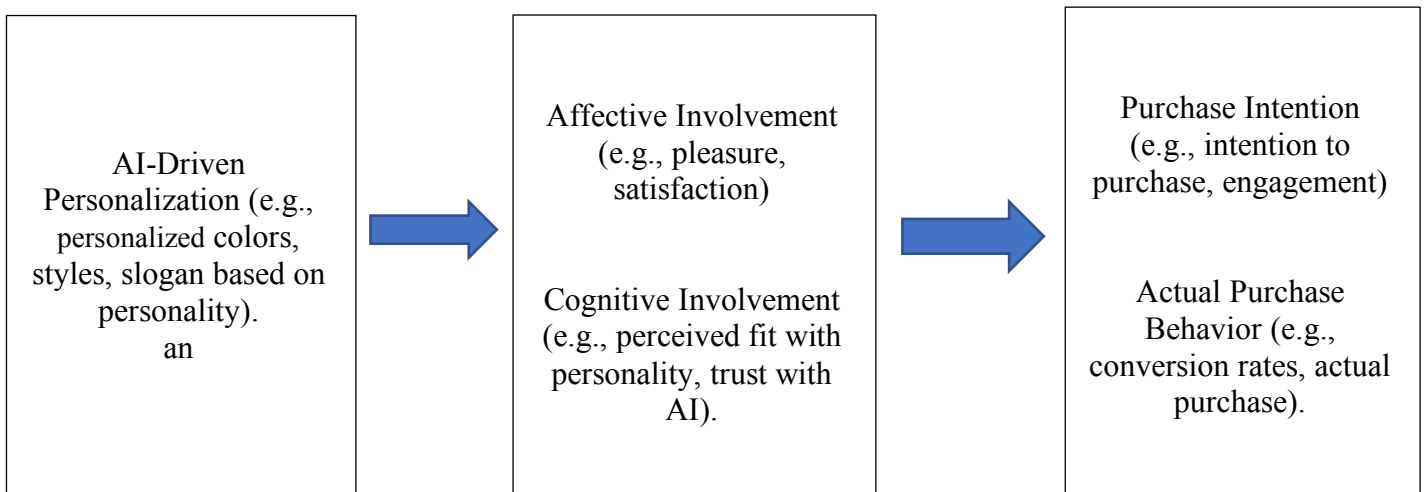
Response (R)

This response phase includes the actual behaviors that customers will show by taking an action, for example making a purchase or engaging with personalized content.

Stimulus (S):	Organism (O):	Response (R):
AI-Driven Personalization (e.g., personalized colors, styles, slogan based on personality). an	Affective Involvement (e.g., pleasure, satisfaction) Cognitive Involvement (e.g., perceived fit with personality, trust with AI).	Purchase Intention (e.g., intention to purchase, engagement) Actual Purchase Behavior (e.g., conversion rates, actual purchase).

Using the S-O-R (Stimulus-Organism-Response) model to understand the relationship between AI-driven personalization and consumer buying behavior is relevant because of its ability to explain how

personalized stimuli influence consumer psychology and behavior. AI-driven personalization acts as a stimulus by providing personalized product recommendations, improving the relevance and accuracy of the shopping experience (Adwan et al, 2022). These personalization efforts have an important influence on consumers' internal states, such as perceived value and emotional engagement, which play a key role in shaping purchase decisions.

When integrated with AI personalization, the Big Five personality traits bring additional nuance, as the recommendation presented becomes more relevant, resulting in stronger emotional resonance for the consumer. The S-O-R model associates these personalized external stimuli with internal cognitive and emotional responses that correspond to observable behaviors such as purchase intentions. (Yin & Qiu, 2021). It provides a solid framework for analyzing how AI personalization - customized on individual personality traits - can be maximized to boost consumer engagement and sales in fashion e-commerce.

Hypotheses

- **H1:** Extraverted consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
- **H2:** Agreeable consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
- **H3:** Conscientious consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
- **H4:** Neurotic consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
- **H5:** Open consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).

These hypotheses analyze the importance and effect of AI-driven personalization on consumer behavior, highlighting the influence of personality characteristics. The aim would be to empirically test the effectiveness of AI personalization in attracting consumers and promoting greater engagement.

CHAPTER 3 Methodology

Research Design

This study uses a mixed-methods approach, consisting of a qualitative interview and a quantitative survey, to assess AI-driven personalization in the online fashion sector. This approach provides an analysis of the impact of AI on consumer behavior.

Quantitative Research

The quantitative component involved designing and administering a structured survey to test the impact of AI-personalized fashion recommendations on customer engagement and buying attitudes. The data collection period ran from 13th June to 26th June 2024.

Sample Description

The questionnaire was completed online using SurveyMonkey, and various social media sources were used to guarantee the best possible demographic distribution. The sample was made up of a very varied customer base, with 55.56% of participants reporting that they were male, while 44.44% were female (Appendix A, Figure 1). The age distribution of respondents was as follows: 18-24 years - 43.92%, 25-34 years - 17.46%, 35-44 years - 14.81%, 45-54 years - 10.05%, 55-64 years - 8.99%, and 65 years or over - 2.12% of respondent (Appendix A, Figure 2). This broad representation should confirm that the survey results are not biased in favor of any particular demographic group. Participants came from a wide range of countries, allowing the results to be placed in a general cultural context (Appendix A, Figure 3).

Data Collection Method

The various survey questions were designed to address demographic information, personality traits and consumer preferences that could be incorporated into personalized clothing recommendations. This is a structured approach to collecting sufficient data to analyze the relationship between AI-driven personalization and consumer buying behavior.

Variables

The primary variables examined in the study were clothing preferences, slogan preferences, cognitive biases and personality scores obtained using the BFI-10 (Big Five Inventory-10) scale.

- **Clothing Preferences**: Participants were asked to select their preferred clothing associated with various slogans.

- **Slogan Preferences**: Respondents were presented with a number of different slogans and asked to indicate the one they considered most effective and influential in their decision to purchase the product or service.

- **Personality Scores**: Personality traits were assessed using the BFI-10 scale developed by Rammstedt (2007), which measures five personality dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience. The BFI-10 is a very brief form of the Big-Five Inventory and has proven to be a good measure of the five main personality dimensions. Each of these traits is operationalized by two items, rated on 5-point Likert scales ranging from "Strongly Disagree" to "Strongly Agree". For instance, to measure Extraversion, participants were asked to rate statements such as "I see myself as someone who is outgoing, sociable" and "I see myself as someone who is reserved." This tool is often used in psychological research because of its efficiency.

- **Cognitive Biases**: The survey studied participants' cognitive biases through statements about social influences on purchasing decisions.

Survey Structure

The survey was divided into several parts:

1. Demographic Information :

This section included questions on the general information of the respondent, such as the respondent's gender, age, country of origin, and so forth

2. Personality Assessment:

- Tool: A pre-validated personality test such as the short 10-question version of the Big Five inventory by Rammstedt et al (2007).

- Purpose: Determined the personality traits of each interviewee, which then allowed us to see the correlation between their personality and their choice of clothing.

3. Consumer Preference:

Sub-Part 1: Clothing Choice

- Content: A series of images of fashion items in various colors and styles, different according to the respondent's gender, designed by an AI Designer (The New Black AI). Participants chose the clothing they preferred from the various options created by the AI. Each type of clothing was designed to represent one of the five personality traits.

- Examples of Clothing Prompts. The different clothing items are personalized to each of the Big Five personality traits. Here are some examples for men's jackets:

Neuroticism:
- Prompt: "Design a jacket for men with high levels of neuroticism to make them feel at ease. For this type of design, use calming colors such as green and blue to give a soft, comfortable look and reinforces feelings of security and comfort."

Agreeableness:
- Prompt: "Create a soft knit jacket for a man who shows an agreeable personality. Colors should be soft and warm, like light blue or pastel yellow. The design should be casual and comfortable"

- Purpose: To understand the relationship between personality traits and clothing preferences. The clothing items were created on the basis of research into how individual personality can influence clothing choices with regard to the character of color, style and background. (Jue & Ha, 2022; Hur et al., 2022).

Sub-Part 2: Slogan Choice
- *Content:* A neutral, non-personalized clothing was shown to the participants, after which they chose one of five slogans, each corresponding to a personality dimension, which they thought would be most effective in persuading them to buy this cloth.

- *Purpose:* To assess the impact of personality-targeted marketing slogans on consumer purchase intentions. This approach is motivated by the procedure applied in the article by Shumanov et al (2021), which established proof that individualized marketing messages using Big Five personality have a great impact on consumer behavior.

Measuring the Impact:

Consumer Preference Analysis:
- o Preference Ranking: Participants chose their preferred clothing items and slogans.
- o Sample Questions:
  - "Below you will find a list of clothing items with corresponding slogans. Select the combination that you find most appealing and would be most likely to purchase." (Appendix A, Figure 4.1 & 4.2).
  - "Which slogan appeal to you most and are most likely to influence your decision to buy this white sweat?" (Appendix A, Figure 5).

4. Cognitive Biases in Clothing Choices:

- *Content:* Questions designed to understand the cognitive biases that consumers may have in their clothing choices. These questions were measured using a 5-point Likert scale.
- *Sample Questions:*

    i. "How important is the opinion of others in your choice of clothing?" (1 = Not important at all, 5 = Extremely important)

    ii. To what extent do you agree with the following statement "I am more likely to buy a clothing item if I see that many people around me are wearing similar styles " (1 = Not important at all, 5 = Extremely important)

Statistical Analysis:

- The survey data was analyzed using statistical software SPSS and a Multivariance analysis (MANOVA) on the relationship between the different personality traits score and purchase intention of the different personalized clothing/slogan was conducted.

Qualitative Research

Qualitative information was also gathered from an interview with David Hermelin, Global Brand Director for Celio. With over 1,300 stores in 50 different countries, Celio is a leading company in the men's fashion sector. The main objective was to get an idea of how AI-driven personalization is applied in practice in the fashion world, by interviewing an expert. The interview took place on June 21 2024, lasted 20 minutes and was conducted via Teams video calls (See Appendix B). Hermelin provided valuable insights into how AI is being used to analyze consumer behavior, predict fashion trends, design clothing and personalize marketing strategies at Celio.

CHAPTER 4 Results & Discussion

Advances in artificial intelligence in the fashion e-commerce environment are increasing consumer engagement through more personalized marketing approaches. This article examines the impact of AI-driven personalization in e-commerce on consumer buying behavior, moderated by personality conceptualization via the Big Five model.

4.1 Qualitative Study

On 21 June 2024, an interview was conducted with David Hermelin, Brand Director of Celio (See Appendix B). Having gained a solid reputation in the fashion world for its broad spectrum of clothes and accessories, Celio positioned itself as one of the largest fashion companies. The aim of the interview was to understand from an expert's point of view how AI is applied in the fashion industry and within the strategic framework of Celio.

Initially perceived as a competitor to creative roles, he explained that AI is now accepted as a tool complementing human creativity by extending the options of designers with new means to find and realize creative ideas. AI has been used in creative work, project ideation, content creation, and graphic design at Celio. This helps in quickly coming up with design prototypes before the finalization of designs by human designers, quickening the pace of the design process, and ensuring the final product is very well received by the target market.

Celio also uses AI to provide a customized marketing strategy for every consumer profile, studying purchasing history, browsing data, and social media activity. Relevant content will reach the target consumers through this sort of personalization at the right time—whether through a more personalized email or much better ad targeting. Hermelin commented that when the adoption pace was good, it remained slower than wanted for building skilled AI professionals, requiring time and careful management.
Hermelin also provided broader trends in the fashion industry with AI, particularly the high-end luxury goods segment, where AI-driven design is becoming more and more present. While Celio is using AI currently for marketing and prototype design, there may be future integration into clothing design. He noted that, progressively, AI is helping to shape the aesthetics of marketing materials and store displays, demonstrating the effect of AI on the visual aspects of fashion.

The qualitative results of the interview with Hermelin provide a better understanding of the impact of AI and its application in the fashion industry. They illustrate how AI is improving creative processes at Celio, but also marketing strategies.

4.2 Quantitative Study

Multivariate Analysis

The interpretation of the data was conducted using a Multivariate Analysis of Variance (MANOVA). This statistical method is used to test for differences between groups, and to understand the interaction between several dependent variables – Clothing Choices 1 & 2, and Slogan Choice - and the independent variables - the Big Five personality traits score (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) - that influence consumer preference for AI-customized clothing and marketing slogans. Multivariate tests and between-subjects effects tests were used to better understand these relationships.

Table 3: Multivariate Test Results Using Wilks' Lambda to Assess the Effect of Personality Traits on Combined Dependent Variables (Clothing Choices 1 & 2, and Slogan Choice)

Personality Trait	Wilks' Lambda Value (Λ)	df1	df2	F	Sig.
Extraversion	.689	1	190	2,904	**< .001**
Agreeableness	.888	1	190	1,035	.419
Conscientiousness	.881	1	190	.944	.533
Neuroticism	.777	1	190	1,685	**.023**
Openness	.719	1	190	2,556	**< .001**

Note.

- Wilks' Lambda (Λ) measures the effect of the personality traits on the combined preferences for Clothing Choices 1 & 2 and Slogan Choice.
- df1 is the degrees of freedom for each independent variable (personality trait), and df2 is for the error term.
- Significant p-values ($< .05$) are highlighted

The multivariate tests indicated significant effects of certain personality traits on the dependent variables:

- *Extraversion:* This trait showed a significant influence on clothing and slogan choice ($< .001$). Extroverts, being known for their sociability and assertiveness, responded well to the directed marketing effort and suggest that AI-driven personalization strategies align with these traits in a way that can considerably improve engagement and purchase behavior.
- *Openness:* People with high levels of openness - who tend to be curious and open to discovering new experiences -also showed important engagement with personalized content

(<.001). This shows that open-minded people are likely to be receptive to the creativity and originality of personalized marketing communications.

- *Neuroticism:* This trait had a significant effect on the dependent variables (<.001), indicating that individuals high in neuroticism, who are like emotional instability, responded positively to AI-driven personalization.
- *Agreeableness, Conscientiousness:* These personality traits seem to have less consistent effects on the variables. This could be evidence of a more complex interaction between these traits and the content of personalization, and probably requires further contextual elements to be fully understood.

Table 4: Tests of Between-Subjects Effects on the Influence of Personality Traits on Clothing and Slogan Choices

Source	Dependent Variable	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Clothing Choice 1	35	3.664	2,940	**< .001**	.399
	Clothing Choice 2	35	2.699	1,658	**.020**	.272
	Slogan Choice	35	3,452	2,614	**< .001**	.371
Intercept	Clothing Choice 1	1	238,992.	191.78	**< .001**	.553
	Clothing Choice 2	1	233,713	143.53	**< .001**	.481
	Slogan Choice	1	258,120	195.49	**< .001**	.558
Extraversion	Clothing Choice 1	7	7,506	6.023	**< .001**	.214
	Clothing Choice 2	7	4,696	2.884	**.007**	.115
	Slogan Choice	7	3,388	2.566	**.016**	.104
Agreeableness	Clothing Choice 1	6	,687	.551	.769	.021
	Clothing Choice 2	6	2,112	1.297	.262	.048
	Slogan Choice	6	1,776	1.345	.240	.050
Conscientiousness	Clothing Choice 1	7	1,547	1.241	.284	. 053
	Clothing Choice 2	7	1,243	.763	.619	.033
	Slogan Choice	7	1,362	1.032	.411	.045
Neuroticism	Clothing Choice 1	8	2,100	1.685	.106	.080
	Clothing Choice 2	8	1,875	1.151	.332	.056

Source	Dependent Variable	df	Mean Square	F	Sig.	Partial Eta Squared
Openness	Slogan Choice	8	3,094	2.343	**.021**	.108
	Clothing Choice 1	7	3,951	3.170	**.004**	.125
	Clothing Choice 2	7	3,046	1.870	.078	.078
	Slogan Choice	7	6,839	5.180	**< .001**	.190

- *Note.* Significant p-values (< .05) are highlighted.

The table "Tests of Between-Subjects effects" represents the interaction of personality traits from the Big Five model with clothing choices and slogans in AI-driven personalization in fashion e-commerce. This makes it possible to analyze how each of these traits affects consumer preferences, thus playing a very important role in the adaptation of marketing strategies.

Corrected Model: All dependent variables showed significant effects with large partial eta-squared values, indicating much of the variation explained by this model of consumer preference for clothing choices and their slogans.

Extraversion: Extraversion has a significant effect on clothing choice 1 (p<0.001) and on clothing choice 2 (p=0.007). These results imply that extraverted people like bold, bright clothes. In addition, the high effect on slogan choice (p=0.016) implies a preference for dynamic, attractive marketing messages.

Agreeableness: Clothing and slogan choices are independent of agreeableness, as indicated by the non-significant F-values.

Conscientiousness: Conscientiousness has no significant impact on clothing and slogan choices, as indicated by the non-significant F-values.

Neuroticism: Neuroticism has a significant effect on slogan choice (p=0.021), but not on clothing choice.

Openness to Experience: Openness has a significant effect on clothing choice 1(p=0.004) and on slogan choice (p<0.001), but it has no significant effect on clothing choice 2, even if it is very close to it (p=0.078). This confirms that open-minded individuals are attracted by unique and original products.

Cognitive Biases

The survey also measured cognitive biases that affect influences consumers' clothing choices, especially social proof. The results supported the fact that a high percentage of the respondents are influenced by others when making clothing choices. Especially, 40% of the respondents indicated others' opinions to be "very important" in clothing choice (Appendix A, Figure 6), and 38% agreed with the statement, "I am more likely to buy a clothing item if I see that many people around me are wearing similar styles." (Appendix A, Figure 7).

These findings suggest that personality factors such as extraversion and openness to experience have an important influence on clothing and slogan preferences. The overall model explained variance in these choices, but there was still a great deal of unexplained variance. These results suggest that while personality traits are important predictors of consumer behavior, other factors play an important role, such as social proof.

Discussion

In this discussion section, the results of the study will be contextualized in relation to existing literature, showing both the similarities and differences of these findings to previous research. The aim of the study was to identify how AI-driven personalization - guided by the Big Five personality traits - influences consumer preferences in the fashion e-commerce sector.

The results showed a strong influence of extraversion and openness to experience on consumer preferences. For example, Matz et al (2016) found that people who rank high on the extraversion trait are sensitive to personalized marketing characterizing their sociable and assertive nature. The current study confirmed this hypothesis, as extroverts were found to have a penchant for bold, bright clothing, highly saturated colors, as suggested by Pazda et al. (2018), and dynamic marketing messages. The partial eta squares for extraversion and openness, showed the importance of the effect that AI-driven personalization can have on the activation of these personality traits.

In addition, the results concerning openness to experience are in line with the contributions of Shumanov et al, who reported in 2021 that people with high openness scores are easily affected by new and creative marketing strategies. This research also proved this through suggesting that open-minded individuals like original and distinctive clothing items, in tune with their imaginative, originality-seeking nature.

The study also highlighted certain deviations from previous research with regard to the personality traits of agreeableness, conscientiousness and neuroticism. The influence of agreeableness,

conscientiousness and neuroticism on consumer preferences was different from what was expected from personalized marketing. Unlike other research, e.g. Shumanov et al (2021) and Hur et al (2002), in which distinct preferences for clothing styles, colors or slogans can be attributed to these traits, the current results did not reveal the same influences in their choices. The absence of effect for agreeableness and conscientiousness may result from cognitive biases and the complexity of consumer behavior itself. One hypothesis could be that social proof and conformity could have an impact on consumer choice. For example, people might choose a cloth or slogan based on what is preferred by others in their social circles, rather than inherent personality traits. It is then possible that the relationship between personality traits and personalized marketing effectiveness involves more complex, contextual and thus exploratory aspects to understanding exactly how these traits interact with consumer behavior in these contexts.

The qualitative study from David Hermelin's interview supports these quantitative findings through explaining the importance of AI in improving customer experience in the fashion industry. Hermelin reported that at Celio, AI is applied to the analysis of consumer behavior to predict fashion and personalize marketing strategies. This global use of AI aligns with the study's findings that personalized marketing is effective at attracting interest from certain personality traits.

Examination of Hypotheses

1. **Hypothesis 1:** Extraverted consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
   - **Result:** Supported. Extraversion had a significant effect on choice of clothing 1 ($F=6.023$, $p<0.001$) and choice of clothing 2 ($F=2.884$, $p=0.007$), as well as on choice of slogan ($F=2.566$, $p=0.016$). These results suggest that extroverts show greater commitment and purchase intention when exposed to trendy, bold marketing content with colors like red, yellow or orange, suited to their sociable, assertive nature.

2. **Hypothesis 2:** Conscientious consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).
   - **Result:** Not supported. Conscientiousness had no significant effect on choice of clothing or slogans. This indicates that conscientious consumers may require different types of personalized content or additional factors to improve engagement and purchase intent.

3. **Hypothesis 3:** Agreeable consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).

   - **Result:** Not supported. Agreeableness had no significant effects on clothing or slogan choice. This suggests that agreeable people may not respond strongly to AI personalization in the context of fashion e-commerce, or that they may require a different approach to personalization.

4. **Hypothesis 4:** Open consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).

   - **Result:** Supported. Openness had a significant effect on the choice of clothing 1 ($F=3.170$, $p=0.004$) and the choice of slogan ($F=5.180$, $p<0.001$). These results are in line with the hypothesis that open-minded, curious and imaginative people prefer original, unique personalized content that satisfies their desire for novelty and creativity.

5. **Hypothesis 5:** Neurotic consumers (O) are more likely to show higher engagement and purchase intent (R) when exposed to AI-driven personalized marketing content based on their personality (S).

   - **Result:** Partially supported. Neuroticism had a significant effect in slogan choice ($F=2.343$, $p=0.021$), but not clothing choice. This indicates that neurotic people respond more to personalized marketing messages that meet their emotional needs and reassure them, thus increasing their engagement and purchase intention.

The results of this research include practical suggestions for marketing strategies in the fashion e-commerce sector. Marketers should leverage AI to create highly personalized marketing campaigns that respond to specific personality traits to engage the consumer in a more personal way and better reflect their tastes and style in fashion.

CHAPTER 5 Conclusion

This thesis focused primarily on how AI-driven personalization influences consumer purchasing behavior in the context of fashion e-commerce, showing particular interest in mediating effects through personality traits as defined through the Big Five model. This research was conducted in response to the growing importance of personalized marketing strategies in a highly competitive market, with a view to better understanding how personalized marketing efforts can improve consumer engagement and purchase intentions. More particularly, the research sought to establish how AI can better utilize personality in its marketing and product recommendations, fundamentally answering this research question: How can AI-driven personalization using personality traits influence consumer buying behavior in the fashion industry?

To answer this research question, this mixed-methods study combined quantitative and qualitative research methods. Quantifying the relationship between the Big Five personality traits and consumer preferences for AI-customized clothing and marketing slogans was achieved through means of a survey; analyses were based on MANOVA to understand interaction effects. In addition, an in-depth interview with David Hermelin, Celio brand director, provided qualitative information into the application of AI in the fashion sector.

Results indicate among the Big Five personalities, Extraversion and Openness responded very positively to AI-personalized marketing efforts. For instance, extroverts showed a strong taste for bold, bright clothes and dynamic messages. Open-minded people liked original, unique products. Neuroticism has a visible effect on the choice of slogans. It underlined the need to formulate emotionally re-assuring marketing messages to address this class of customers. In comparison, neither of the other two personality traits—agreeableness and conscientiousness—made any significant difference in how personalized marketing worked. That is a tricky interaction worth further investigation.

These findings add to a growing number of publications in the field of marketing personalization, which incorporate AI-based strategies to achieve higher levels of consumer engagement through personalized content. This study focused on the fashion sector, which has been little studied in research based on AI-driven personalization and personality traits. This study provides empirical evidence specific to the fashion sector, offering information that could be directly applied by fashion marketers. It enables fashion e-commerce specialists to develop much more person-centric campaigns, which will be highly sensitive to different personality traits, thereby increasing customer satisfaction and conversion rates.

In conclusion this present research provides practical use for marketers with these findings and sets a stage for future studies by examining personality, AI, and consumer behavior in various contexts. By placing AI at the core of their business and using personality insights, fashion e-commerce companies can produce a much more personalized and appealing shopping experience that will help in building further the consumer-brand connection.

Limitations

This study that provides understanding into AI-driven personalization in the fashion e-commerce sector, has some limitations. There are biases from reliance on self-reported surveys, such as social desirability and inaccurate self-assessment. The sample size and demographic diversity were limited, thereby reducing generalizability. The focus on an area like the fashion industry also reduce the general applicability of the findings. In addition, there are other determinants than personality in clothing preference, as they are influenced by very personal and particular factors: cultural trends, social influences, personal experiences, et cetera. This would mean that samples should be more varied in the future and would cover different contexts within which to further validate and extend these findings.

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APPENDIX A: Survey data
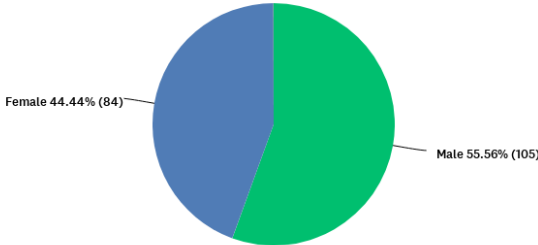
Figure 1. Gender Distribution of Respondents
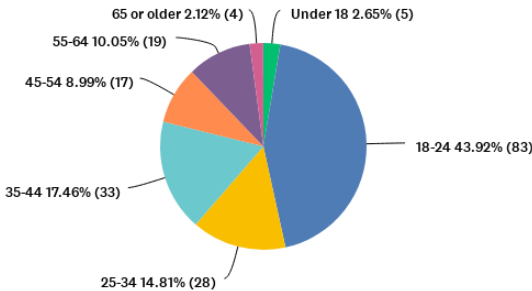
Figure 2. Age Distribution of Respondents

Figure 3. Country of Residence of Participants

* 4. Below you will find a list of clothing items with corresponding slogans. Select the combination that you find most appealing and would be most likely to purchase
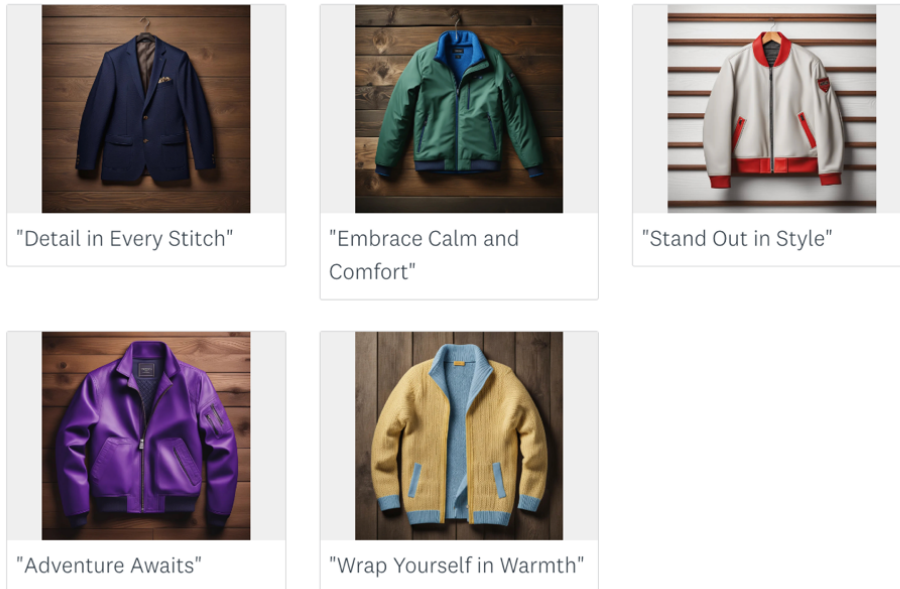

"Detail in Every Stitch"

"Embrace Calm and Comfort"

"Stand Out in Style"

"Adventure Awaits"

"Wrap Yourself in Warmth"

Figure 4.1 Survey Question: Consumer Preference for Men for Personalized Clothing Items with Marketing Slogans

* 4. Below you will find a list of clothing items with corresponding slogans. Select the combination that you find most appealing and would be most likely to purchase
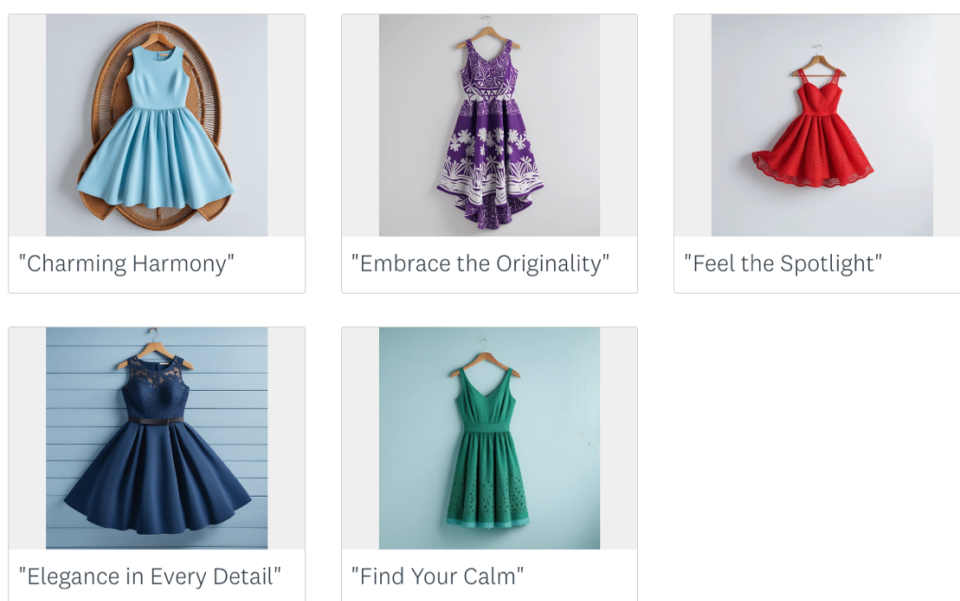

"Charming Harmony"

"Embrace the Originality"

"Feel the Spotlight"

"Elegance in Every Detail"

"Find Your Calm"

Figure 4.2 Survey Question: Consumer Preference for Women for Personalized Clothing Items with Marketing Slogans

* 6. Which slogan appeal to you most and are most likely to influence your decision to buy this Sweat?

◯ "Pure Comfort, Pure You"

◯ "Every Detail Matters"

◯ "Bring the Energy"

◯ "Explore Beyond"

◯ "Relaxed and Refined"

Figure 5. Survey Question: Influence of Personalized Slogans on Clothing Purchase Decisions

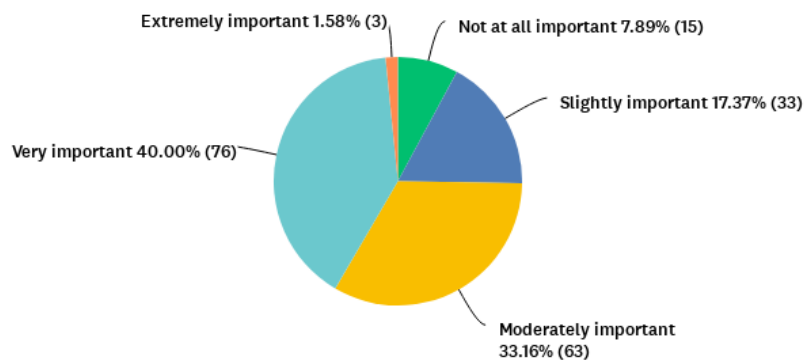Q11 How important are others' opinions in your clothing choices?

Extremely important 1.58% (3)

Not at all important 7.89% (15)

Slightly important 17.37% (33)

Very important 40.00% (76)

Moderately important 33.16% (63)

Figure 6. Role of Other's Opinions in Fashion Purchasing Decisions

Q12 To what extent do you agree with the following statement: "I am more likely to buy a clothing item if I see that many people around me are wearing similar styles"?
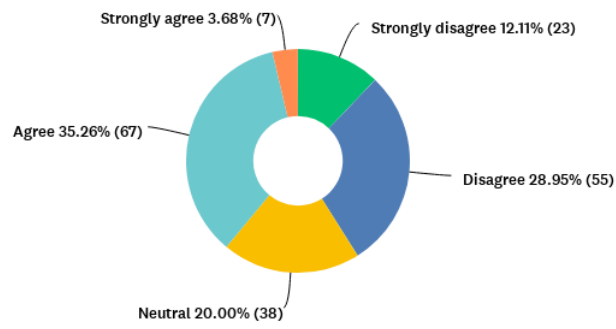

Figure 7. Influence of Social Conformity on Clothing Purchase Decisions

APPENDIX B: Transcript of the Interview

Transcript of Interview with David Hermelin conducted on June 21, 2024 in Rotterdam

Guillaume Servais: I'd like to ask you a few questions about the way you do things with AI in your company. At Celio, are you using this new technology that arrived not so long ago? If Celio uses it, I guess so.

David Hermelin: So firstly AI wasn't immediately welcomed as something that complements creative actions, but rather it was seen as a competitor in the first, in the first approach, in. So, firstly we had to explain to the teams that it wasn't a competitor, but that it was a new industrial transformation, in the same way that computer-aided creation didn't exist before and we drew by hand or painted.

David Hermelin: Yes. So, it's a new evolution that doesn't replace man, but is there to make him better and stronger. So I use it a lot, but I still use it very badly. I'm pretty bad at it, but I use it a lot for creative work, for content creation or for thinking about projects, as well as for graphic design. It's a way of trying to go a little beyond my imagination and get into areas we wouldn't have thought of evaluating.

Guillaume Servais: So, it also serves as a tool, precisely because for my thesis, I used AI designers to create clothes that I suggested to people in my survey, and see what they could prefer. With slogans personalized to each person's personality, to see how this can influence consumers. Is this something you're already using to help you create new clothes and that sort of thing?

David Hermelin: At the moment, we mainly use AI for communication and design prototypes. For clothing, we're sticking to a more traditional approach, as we're not looking to explore an overly complex imagination with very basic clothes at Celio. However, we use it extensively to create mock-ups and design activation marketing campaigns.

David Hermelin: It's about thinking about loyalty programs, for example. We try to avoid using it as a search engine, because the machine isn't fed with enough information, but on the other hand, we use it a lot as a thinking tool.

Guillaume Servais: So, this collaboration is becoming more and more important at Celio and in the company in general?

David Hermelin: I think it's inevitable for us. We can't ignore this evolution, we have to use it. I'm not convinced that the creative professions are the first to be affected, or the most affected, at least by being replaced by machines. I'm not worried about that.

Guillaume Servais: So you can see what's happening in this fashion industry. Well, not necessarily for you, but is there this trend, for example, in the fashion world, which is precisely, you know, a trend that's coming with this AI?

David Hermelin: Yes, absolutely. I see two two trends. In fact, I see a trend towards the use of AI in organizations, and the other trend I see is AI-influenced creation. In other words, today, if you look at the world of luxury goods for example, which is not the one I work in, if you take Pharrell Williams' latest collections for Louis Vuitton, there's an aesthetic that seems to be thought out in 3D, in 3D design I mean, and very, very close to the imaginary of artificial intelligence. So, in fact, today we're trying to. I mean, I can feel it. And in fact, to tell you the truth, the Christmas project I'm working on for next year in communications, the guideline was to say I'd like us to work on an aesthetic inspired

by artificial intelligence. So today, we have a simple approach, in other words, we've asked the machine to work on window elements and graphic elements that we'll have in the windows. And today, we're having them manufactured. So we're in the process of trying to make concrete the creations of humanity carried by AI. So we're correcting them, obviously, we're adapting them, but in any case, yes, it's the approach to aesthetics and how it's going to be felt in design. Not in our clothes today. But in the future, in our imagery, in our photos.

Guillaume Servais: And so what do you use, for example, that Célio has developed?

David Hermelin: We only use available tools. Absolutely. I've seen some interesting things recently with startups that offer variations on collections. I take my best model, I put it into the machine and ask it to be declined into summer models and winter models. Decline me this product by keeping these elements and making it the best summer model, which could be a request I make to a stylist. And then there's a series of variations that can even have a very photographic rendering and be tested directly on the site without having been ordered, without having been produced.

Guillaume Servais: Because I used designers who, in my opinion, were very good, called The New Black. AI. And I have to admit, it was pretty amazing. You can put your nationality, age, etc. on the models. It's pretty advanced now, and I can still see this thing. Anyway, I'd like to ask you a few questions about how you use your products, not in terms of design, but rather in terms of marketing. I talk a lot about AI's ability to predict people's personalities. Whether it's linguistic clues, their habits or cookies, what they buy, what they often watch. Even today, we have technologies that can see where people put their eyes on their hands, where they look at their screens, so we can know where they focus their attention. So, is this something Celio uses for its recommendations, for its advertising on Instagram, for example, and for social networks that analyze consumer data to some extent, or is it pretty generic, or do you send the same thing to pretty much everyone?

David Hermelin: We have, we have, we really have a whole mix. So yes, but with caution. We have a well-defined strategy that uses data on buying behavior and consumer preferences to personalize our communication. On the other hand, we also have to work hard to know who is targeted, who is stopped, who is cut and who is thought out in a calendar way too. In other words, we're going to work on a younger back-to-school period, we're going to work and we're going to target the messages through our choices of collaboration, or products, or terrain or distribution platforms.

Guillaume Servais: So it's not something you do with cookies, but you send back things that people see. If someone types in these places on the Internet, you end up with ads for these places in their news feed or that sort of thing.

David Hermelin: Not really for the moment we mainly use our database. This database contains simple information, such as gender and age, and that's enough for us. But actually, it's just starting. We also have a tracking system for all our customers' purchases.

Guillaume Servais: It's true that you also have your database and I imagine that's enough. I won't take up any more of your time, which is already very kind of you to have granted me. So, just a quick question: we may have talked about the good sides of AI, but what about the bad sides, or the challenges that will arise in the future with AI for businesses in general?

David Hermelin: Time to see the downside. The only downside I can see is the reception it gets and the risk of not getting involved. That's the only warning I have today. And I also think that the downside is that it's likely to be quite slow, because training is slow. It's not yet something that's considered in everyday life. So, before we have good AI professionals, it's going to take quite a long cycle.

Guillaume Servais: That's true. It's true that it's fairly new.

David Hermelin: Me, if I were your age. I'd do exactly what you're doing today. I'd be very interested in this subject because you'll need it when you go into professional life. For the world of tomorrow, if you're particularly interested, it's a really good thing.

Guillaume Servais: And I think I'm going to go into marketing and yes, I think it's going to help a lot and change the marketing of the future, digital marketing in any case. But thank you very much, it was very kind of you. I'm not going to ask you any more questions, but thank you very much for your time. It was very kind of you. You've got a lot on your plate and.! Thank you very much and have a great day. Have a good weekend.

David Hermelin: Yes, no problem, it's always a pleasure to answer students' questions. Have a nice day